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Guest Editors: **Alan Brown - Don E. Schultz**

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Aphorisms

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1. *We wanted nature and light to accompany the company so as not to transform anyone into a being who was too different from the one that entered.*
   (Adriano Olivetti)

2. *Fortune is slow, but ruin is rapid.*
   (Seneca)

3. *The greatest waste in the world is the difference between what we are and what we could become.*
   (Ben Herbster)

4. *We do not inherit the Earth from our ancestors, we borrow it from our children.*
   (Native American saying)

5. *Anyone who believes in indefinite growth in a physically finite planet, is either a madman or an economist.*
   (Kenneth Boulding)

Sustainability, stakeholders and business. Editorial

Alan Brown - Don E. Schultz - Claudio Baccarani
Gaetano M. Golinelli Corrado Gatti - Loredana Volpe

Over the past 20 years, there has been an increasing attention on the drivers of value in organizations. Both the strategic management literature and practice have remarked on the importance for managers to be aware of the impact of firm activities, products and services on both the external and internal environment and, more generally, on all firm stakeholders. The emergence of the notions of "sustainable development" and "sustainability" reflects a profound change in global thinking, which forces firms to move beyond trade-offs between business and society.

At the macro level, sustainable development advocates the interconnection among three inextricable principles, those of environmental protection, social equity and economic prosperity. These principles are reflected in the World Commission on Environment and The original definition of sustainable development as development that "meets the needs and aspirations of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 43).

Indeed, sustainability advocates a more general principle of "respect" towards future generations related to the use of resources, which are not unlimited. This principle is clearly and effectively synthesized in a Native American's quote that clarifies how "we have not inherited the world from our fathers but borrowed from our sons".

At the organizational level, the notion of sustainable development has been translated into that of "corporate sustainability (CS)," which is based on the premise that a firm's success and health of communities around it are closely intermingled (Porter and Kramer, 2006; 2011). It is argued that, without integrating sustainability into business management, society will never achieve sustainable development as firms represent the productive resources of the economy (Bansal, 2002, p. 124). Hence, a sustainable firm is often qualified as one that undertakes "actions that appear to further some social good, beyond the interests of the firm and that which is required by law" (McWilliams and Siegel 2001, p. 117).

This notion has gained widespread acceptance in business practices and a prominent position within general management and strategic management literatures (cf. Atkinson, 2000; Bansal, 2002; Carroll, 1999; Cerin and Karlson, 2002; Dyllick and Hockerts, 2002; Gladwin et al., 1995a, 1995b; Hart, 1997; Jennings and Zandbergen, 1995; McWilliams and Siegel, 2001; Shrivastava, 1995).

However, "sustainability" can mean different things to different organizations. In particular, organizations might equate corporate sustainability to achieving environmental sustainability or see it as a compliance issue, a cost to be minimized or yet an opportunity to gain competitive advantage. Hence its implications for firms may vary.

In our viewpoint, "corporate sustainability" represents the turning point, which allows transforming the firm from a mere means for making profit into "the most creative human experiment that aims at improving life" (Csikszentmihaly, 2003). Embracing sustainability opens up new ways to create harmonious and consonant relationships between the firm and all its stakeholders, relationships based on a vision going beyond ourselves by looking for the highest shared benefit in order to build a better world. Such a vision interprets profit as the residual value derived from the production and diffusion of wellbeing created by the firm in a long-term action perspective in which corporate value and societal value will be aligned (KPMG International, 2014).

The goal of this special issue is to encourage, develop, and expand discussions regarding how sustainability is developed and maintained in business organizations with a particular emphasis on the application of various strategies, tactics, techniques and tools arising from research on the evolving approaches and concepts of sustainability.

The seven articles in this special issue address a diversity of topics, which show the multi-faceted and complex nature of sustainability. The papers cluster into five thematic groups: (i) stakeholders strategy and sustainability; (ii) sustainable innovation and business; (iii) sustainability and risk management; (iv) cooperative strategies and network dynamics induced by sustainability and their evolution; (v) sustainability communication.

Next, we provide a summary of each of these contributions.

Articles

Starting from the first group (i.e. stakeholders strategy and sustainability), in their article titled "Sustainability and stakeholder approach in Olivetti from 1943 to 1960: a lesson from the past", *Sciarelli and Tani* use the interpretative framework proposed in the literature by Carroll (1979) to analyze the entrepreneurial choices made by Adriano Olivetti. Based on theoretical antecedents from the Stakeholder Management Theory (Freeman, 1989) and by linking - methodologically - the pyramid of Corporate Social Responsibility defined by Carroll (1979) to the stakeholder management approach proposed by Goodpaster (1991), the authors elaborate on how managing relationships with stakeholders can enhance the company's value creation process, in terms of both its economic dimension and social dimension. Some important points emerge from this contribution. First, corporate sustainability starts from the top and implies that top managers put effort in integrating the various complementary stakeholders' interests. Second, by adopting a multi-fiduciary approach to reduce potential and latent conflicts, the sustainable firm is also a profitable firm. As the authors comment: "The drive towards innovation was considered as a way to make the employees conditions' better…At the same time it lead Olivetti to increase its profits by keeping its products ahead of those of the competitors, as a main element to satisfy economic responsibilities towards both the employees and the shareholders".

In terms of the second group (i.e. sustainable innovation and business), *Tencati and Pogutz* emphasize the need to introduce a new conceptual framework in order to identify key drivers of change necessary to embracing sustainability, and to overcome the limits of the corporate greening approach. Although the authors seem to refer to a mostly ecological view of sustainability, they address four relevant areas of intervention: creating distributed production units and internal processes; designing sustainable products and services; developing sustainable supply chains; deploying radically new business models. These interventions should pave the way to a "new paradigm" grounded on different forms of innovation and on the implementation of shared and participative strategies among different players able to promote the diffusion of innovative practices and technologies.

Commenting specifically from a risk management perspective, in their article titled "Managing risks in sustainable supply chains," *Christopher and Gaudenzi* discuss the emerging challenges that face modern supply chains from the perspective of sustainability. A couple of relevant issues emerge from their paper. On the one hand, the authors attempt to specify what sustainability means in terms of a firm's supply chain: sustainability is "related to "green" - environmentally responsible - supply chains that eliminate waste, reduce pollution and contribute in a positive manner to improving the quality of the environment through eco-friendly processes, subassemblies and finished goods" (p. 3). On the other hand, they elaborate on the relationship between sustainability and risk. In decomposing the general risk management literature, the authors differentiate between "sustainability risk management" and the categorization of "risks in sustainable supply chains", and argue that Supply Chain Management offers opportunities to economize on costs and mitigate risk to the extent that they are part of a more general approach to corporate sustainability. Such an approach includes for instance green product design and packaging specifications that minimize waste, extend life, utilize recycled content and increase recyclability and other activities along the supply chain whereby "being green" and good on reducing risks does eventually pay off the firm.

With reference to the fourth thematic group (i.e. cooperative strategies and network dynamics induced by sustainability and their evolution), *De Chiara* introduces a relational perspective on sustainability by exploring the opportunity to implement a steered collaboration between firms and other public and private actors, which allows facing the complexity of issues related to embracing sustainability. Such opportunity comes through the implementation of a collective impact approach, defined as a "type of collaboration which solicits a separate organization(s) with staff, a specific set of skills and a structured process to create a common agenda, shared tools, a continuous communication and mutually reinforcing activities among all members" (pp. 5-6). By analyzing the case of Agro Caleno, the authors eventually conclude that, in the face of the complex problems (such as environmental pollution) brought on the scene by sustainability, cross-sectoral public and private partnerships should be placed within a more general approach which allows leveraging the relationships between different stakeholders and the progress towards shared goals.

This fourth thematic group combines two other contributions, which focus on a network perspective in addressing how firms seek to become sustainable. Such papers place the debate on sustainability within two distinct sectoral backgrounds. In particular, in their article titled "Sustainability through energy efficiency: An Italian perspective," *Testa and Vigolo* investigate how Italian firms - and Small and Medium Enterprises (SMEs) above all - might identify possible solutions to overcome barriers to energy efficiency, in terms of technology investments and energy management. Their conceptual work thus explicitly relates being sustainable to energy efficiency, or rather to overcoming both the internal barriers (related to the firm) and external barriers (related to the regulatory environment), which prevent SMEs to accomplish energy efficiency. Interestingly, the authors advance some solutions to the energy efficiency gap for Italian SMEs, all of them leading to stress the importance of collaboration between firms in overcoming major economic/financial and informational barriers to efficiency. The solutions proposed also highlight the role of institutional counterparts in creating an energy efficiency culture and in raising awareness. Under this network perspective, the action of firms achieving higher energy efficiency positively cascades on the environment (through the increase of renewable sources) and on society (since decentralization of production would increase competition and reduce energy bills for households).

Martini and Buffa also show a network view of sustainability but with reference to a different sectoral framework, i.e. sustainability in tourism. More specifically, the authors suggest social network analysis (SNA) as an appropriate method to explain the dynamics of interpersonal relationships in tourist areas. To this end, they focus on the sustainable firm operating in tourism as one that "tries to balance the economic returns of tourism with the conservation of the non-renewable resources consumed by the tourist industry" (p. 2). Given such definition, in the authors' opinion, the analysis of corporate sustainability in the tourism sector calls for investigating the network of relationships between the various actors, and understanding the nature and strength of their connections. More specifically, according to the authors, when referred to tourism, sustainability calls for a different territorial governance system, which should provide direction for both organizational and institutional behaviours, and become an integral part of the management of a territory. Framing sustainability through the social network analysis lens thus allows identifying the nodes within a community that are capable of conveying information, influencing behaviours and decision-making, governing effectively and taking political action in order to foster participative governance in accordance with sustainability principles.

In terms of the fifth group of issues (i.e. sustainability communication), *Eagle*, *Low* and *Vandommele* review the literature on social marketing based on the premise that a focus on sustainability requires behaviour change from individuals and communities. The authors detail the complexity of factors, which might either positively or negatively impact on communication of the need for behaviour change, which is related to embracing sustainability. They eventually call for a multidisciplinary, interdisciplinary and transdisciplinary research agenda, seeking input from different disciplines and leveraging synergistic effects in applying multiple research approaches and analytical methods to the interpretation of findings. A multidisciplinary, interdisciplinary and transdisciplinary approach allows developing shared conceptual frameworks that integrate and transcend individual disciplines.

Conclusions

Each of the thought-provoking articles included in this special issue indicates that the field of corporate sustainability has made important progress in terms of bridging different theoretical perspectives and methodological approaches. However, much progress still remains to be achieved. In particular, future research could address additional key issues that have the potential to provide useful, specific, and actionable suggestions in sustainability research but have not yet been addressed in the existing literature.

Concerning this, it is interesting to notice how some areas of research on corporate sustainability still appear somehow left under-attended. These areas can be mostly referred to two domains of interest. On the one hand, the relationship between the sustainability notion and the theory of the firm still needs further inquiry. On the other hand, the need emerges to bridge theory and business practice in explaining the transition of both the academic world and the professional world towards sustainability. Under this viewpoint, a merely eco-centric view of sustainability, although essential, does not seem sufficient to transform the competitive landscape and stimulate business organizations to radically change their current ways to think about products, processes, cooperative relationships, technologies and business models.

Conversely, placing sustainability within a higher-level systemic approach might provide the ideal setting for theory building and a critical research agenda. Such an agenda leads to thinking of sustainability as a true "management philosophy" which calls for renovating the traditional profit culture in firm management and focuses on the importance of some key and interdependent pillars which qualify the "sustainable firm": top management commitment toward sustainability principles, the role of sustainability networks in defining the guidelines of value creation and exerting pressures on the firm and its governance to adopt the new rules of sustainable firm behaviour; the drivers of consonance and competitiveness revisited under a three-fold (economic, social and ecological) light; finally, the need for a new and interdependent governance of the firm and its multiple stakeholders. When incorporated into a more systemic approach, all the mentioned factors naturally bring sustainability beyond the merely ecological and philanthropic circuits, and place it within a real "corporate" domain. Under such an approach, the sustainable firm becomes a fundamental component of a network of relations and interdependencies among a number of entities that, although remaining independent from each other, yet cooperate to a shared value creation project.

The authors in this special issue have made a considerable effort towards understanding the new sustainability philosophy. They address some relevant concerns about how sustainability relates to firm behaviour and survival by focusing on relevant yet specific issues of ecological efficiency, supply chain management, risk management, and communication. However, to look at sustainability from a corporate and more systemic perspective allows noticing that, on the one hand, there is little evidence to draw definitive conclusions, whereas on the other it is enough clear that we need to know more. Many questions concerning sustainability have already been addressed but many others still remain that ask for a mix of (a) a critical debate on sustainability to sort out the inherent limitations and the potential of the current approaches, and (b) the capacity to go further in the current debate and integrate multiple perspectives in a more systematic and systemic approach.

With the concept of sustainability still defined in multiple and distinct ways, we believe that the most relevant contributions to this nascent field should come from scholars placing additional effort on theory building. In this context, the articles in this special issues pave the way to achieve such progress but also emphasize that more qualitative and quantitative testing would also be helpful for areas such as "the business case" for sustainability, the voluntary nature of the initiatives that firms undertake in its name in contrast to the formal regulatory mechanisms historically employed to govern firms, and last but not least, the fact that integration of sustainability principles in firm management still has many doubters and critiques. We hope this special issue will serve as a catalyst for further integrative research efforts in the field of sustainability. We believe that such integration will help fill not only the gaps in current literature but also, and more importantly, to bridge the much lamented science-practice gap in management.

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Sustainability and stakeholder approach in Olivetti from 1943 to 1960: a lesson from the past[1]

Mauro Sciarelli - Mario Tani

Abstract

Purpose of the paper: *The sustainable enterprise focuses on its stakeholders' interests. Today this perspective is a central one in the dialogue on enterprise goals and on the nature of the firm but it was already clear in the past history of some enlightened entrepreneurs like Adriano Olivetti. This important entrepreneur was able to balance economic responsibility and social ones in his managerial model and he showed that the pillars of sustainability, as we call them today, were internally coherent.*

Methodology: *We apply an interpretative framework (Carroll's pyramid) to analyze the entrepreneurial choices by Adriano Olivetti according to the various perspectives of Corporate Social Responsibility. Our analysis is based upon Adriano Olivetti's texts and the transcriptions of his speeches, his biographies, and on interviews to managers that were active during the years of Adriano Olivetti's administration of the Olivetti Group or later experienced the values left in the company after his untimely death.*

Findings: *This article highlights how their extraordinary experience has demonstrated the full compatibility between social and economic responsibilities. Moreover, the article proves that the various dimensions of corporate social responsibility are tightly connected. Finally, it shows how good stakeholder management practices are a successful strategy.*

Research Limits: *The article's main limitation is that it is mostly based on anecdotal evidence and secondary sources.*

Practical implications: *The analytical framework we employ can be useful in driving responsible management processes for modern managers and entrepreneurs.*

Originality of the paper: *This article proposes two modified versions of a classic model on corporate social responsibility.*

Key words: stakeholder management; corporate social responsibility; Olivetti; community; relationships

1. Introduction

The idea of managing firms' value creation process, engaging all stakeholders, has become widespread in strategic management literature (Freeman, 1984; Ackermann and Eden, 2011; Verbeke and Tung, 2013).

This attention to focus on the economic and social dimensions of

[1] Even if this article can be considered as the result of a shared effort, the paragraphs can be attributed to the authors as follows: n. 1, 3 and 5 were shared between the authors, n. 2 and 4.1 to Mauro Sciarelli, n. 4, 4.2, 4.3 and 4.4 to Mario Tani,.

performance has become stronger due to the current economic and financial crisis. Recent events have shown the limits of current managerial principles, which are mostly directed towards profit maximization (Ghoshal, 2005). According to some authors today firms need to close the gap between economic and social value creation (Sciarelli, 1999; Sen, 1987).

In the past decades several scholars have carried out various studies on the relationship between these two topics without finding a clear answer to the question of the real impact of social performance on the financial one. Some have found that increasing expenses on activities linked to corporate social performance does reduce financial performance (Wright and Ferris, 1997), while others have found a positive relationship between them (Orlitsky *et al.,* 2003). Finally, some authors have found that there is no significant relationship between these two aspects (Patten, 1992; McWilliams and Siegel, 2000). Wood (2010) sustains that the lack of a clear relationship depends on an incorrect perception of what performance really is. Wood (2010) reckons that financial performance is just one of the various ways a company can "perform" in society by taking into account the complex web of relationships that tie the social structure together. Wood (2010) also states that the prominence of the financial dimension is due to the shareholder value myth (Stout, 2012) - i. e. the concept that shareholders are seen as the first, and often the only, actors managers should answer to. Shareholder prominence is just the consequence of a *separation fallacy* (Freeman *et al.,* 2010) - the false idea that business decisions have no ethical content or implicit ethical point of view. By using a stakeholder perspective, performance has to be redefined in a broader perspective as the value that a company creates for the whole set of stakeholders. According to this theory we can analyze how managers relate with company stakeholders to better understand the roots of its value creation process. The Stakeholder Management perspective can help us figure out the various interactions between the different dimensions of Corporate Social Performance (Carroll, 1979).

The purpose of this article is to show that a similar approach to stakeholders' involvement in firm management has already been used by some enlightened entrepreneurs way before the 80s. In the years in which Adriano Olivetti was CEO, the Olivetti group clearly shows how the stakeholder approach can affect value creation. At the same time this business case study shows that a strong company-community relationship can create and share value for all involved stakeholders.

Furthermore, this study is coherent with Ghoshal's consideration on bad managerial practices. As management scholars and professors, we have a particular social responsibility towards our stakeholders in developing new, socially oriented, managerial models, as in recent decades "our ideas and theories have done much to strengthen those managerial practices that now we are openly condemning" (Ghoshal, 2005).

2. Literature review

The debate on the real nature of corporate responsibility is still strong in managerial studies. It is related to two mutually-influencing main arguments. On one hand, there are studies on the stakes that managers have to answer to, on the other there are the different research streams on firm performance. The stockholder theory sees profit maximization as the only responsibility of firms (Friedman, 1962). From this point of view, management's decision making process should take into account only the needs of shareholders (Friedman, 1970; Eisenhardt, 1989). On the contrary, the Stakeholder Theory widens management perspective. According to Clarkson (1995, p. 112) "*the economic and social purpose of the corporation is to create and distribute increased wealth and value to all its primary stakeholders' groups, without favoring one group at the expense of others*".

This perspective should enable firm management to make decisions while considering all the actors affected by the company's actions and those that can affect them – i. e. the company's stakeholders (Freeman, 1984). At the same time, this theory urges managers to include not only economic results in terms of wealth, but also social ones in terms of value in the value creation process of the firm (Sciarelli, 2012) Stakeholder Management Theory - an approach to strategic management developed by R. E. Freeman (Freeman, 1984) - advances the idea that the firm's success depends on the behavior of the various groups that are interrelated with the company and on their contribution to organization activities (Simon, 1947; Cyert and March, 1963). This theory is linked to *resource-dependence theory* (Pfeffer and Salancik, 1978) as it sees the firm's survival in the long run as a consequence of the support that it receives from the above-cited actors. Stakeholder management theory is grounded on an ethic of capitalism that is mainly based on freedom, cooperation, and responsibility for undertaken actions. It is rooted in a more complete vision of individuals (Evan and Freeman, 1988) - labeled as *stakeholder capitalism* - and provides a useful framework to combine the ethical and the economic dimensions within the goals of the firm. This is a managerial theory as it guides managers towards a broader perspective on performance, including all the actors for which the firm should create and share value in its strategic vision (Rusconi, 2007). The firm itself is seen as being embedded in a network of mutually influencing relationships with various stakeholders (Sciarelli and Tani, 2013). Thus, managers have to consider these relationships in their strategies in order to achieve a successful value creation process (Freeman *et al.,* 2010, p. 24). The Stakeholder Management theory approach is descriptive, instrumental, and normative (Donaldson and Preston, 1995). It is descriptive, as it sees the firm as a constellation of interests, both competitive and cooperative. It is instrumental, as it assumes that being strategically responsible to stakeholders can increase economic performance (Jones, 1995). It is normative, as it considers profit as the mere consequence of a conscious behavior aimed at stakeholders' value creation. Managers can enhance this process by engaging stakeholders to increase their collaboration and trust (Clarkson, 1995). What should be noted is that the boundaries of the stakeholder concept are still being debated to date, as different definitions lead to different perspectives on the theory itself[2]. In this regard it is worth highlighting that - according to our view - using an excessively rigid perspective on stakeholder definition - i. e. limiting it to actors that are influenced by corporate activities or only to relationships based on a legal right - does not represent a proper managerial approach. In fact, using a rigid perspective constrains the theory scope too much and does not help managers correctly consider the entire set of relationships in which the firm is embedded. Furthermore, in the category of "stakeholder" we could also include the actors that influence the other stakeholders of the company without actually having a direct relationship with the firm (Sirgy, 2002; Phillips, 2003). According to Goodpaster (1991) stakeholders management can be divided into two main phases: stakeholder analysis and stakeholder synthesis. In the first phase managers have to identify the firm's stakeholders, the stakes they care for (Freeman, 1984), and the relative network of relationships (Rowley, 1997). The concept of *salience* is central in this phase; it leads to the use of the stakeholders' legitimacy, power, and the urgency of their stakes to classify them (Mitchell *et al.,* 1997). Stakeholder synthesis, instead, deals with the strategic management of these relationships. Some authors approach it by looking at the potential impact that each stakeholder can exert on the performance (Savage *et al.,* 1991), while others refer to resources interdependence (Frooman, 1999). During the stakeholder synthesis phase managers have to balance economical aspects and ethical values (Goodpaster, 1991), going beyond economic rules to implement ethical principles of behavior (such as justice, transparency, equity) in business activities. The adoption of a systemic view implies that managers should put more effort into integrating the complementary stakeholders' interests, rather than trying only to minimize the risks related to relationships. They should adopt a multi-fiduciary approach to reduce potential and latent conflicts. Rusconi (2007) maintains that Freeman's approach to stakeholder management paves the way for introducing ethical principles and social responsibility in the strategic management domain. Ethics concern the behavior of the individual, his moral principles and his choices and, therefore, enter his decision-making process and behavior towards individual stakeholders. Conversely, social responsibility refers to the configuration of relationships between people and to the sphere of obligations and commitments linking the company to internal and external stakeholders.

Chirieleison (2002) analyzed the genesis and evolution of corporate social responsibility over the last decades, finding a tight link with stakeholder management theory. According to the stream of research on Corporate Social Responsibility, companies are expected to respond to society's needs and to respect the social norms that the actors deem as relevant in their socio-cultural context (Bowen, 1953). When the

[2] Hinna (2002) groups the various stakeholder definitions according to the actors' engagement in the value creation process. The categories Hinna identifies are: actors that are affected by the firm's activities; actors that are affected or can affect the firm's activities; actors with a legal right on firm's activities; actors with a close relationship with the firm; and actors that are an active part of the value creation process. (see Hinna, 2002, p. 7).

company is not able to answer to these external requests it slowly erodes its own power in society as a whole, leading to a lower than expected profitability, and threatening its own survival in the most extreme cases (Davis, 1960).

At the same time, firms' responsibility towards society is not only the consequence of a threat but it represents the result of the process to acknowledge the role that companies have in society. This role is not limited to new wealth creation, but it aims at increasing the community's well-being (Frederick, 1960) while firms operate as a *true citizen* (McGuire, 1963).

Sethi (1975) defines responsible behavior as the combination of three elements: a social obligation - which emerges out of respect for legal and market norms; a social responsibility - which derives from the company's system of values, traditions and expectations; and social responsiveness - i. e. how the company answers to society's requests and how it anticipates still unfelt social needs. Accordingly Clarkson (1995), building on Carroll (1979), and Wartick and Cochran (1985), classify corporate social responsiveness strategies within a four levels scale: the RDAP scale[3]. This scale ranks managers' approach in relation to stakeholders' requests from those denying the firm's responsibility, i. e. the reactive level, to proactive ones that not only acknowledge its responsibilities but also try to respond to them, going beyond stakeholders' direct requests. Wood (1991) states that there are three main sets of reasons leading companies to a responsible behavior: institutional, organizational, and individual motivations. The firm, as an institution, has to use power in a responsible way or it will likely lose it in the long run (Davis, 1973). The company, as an organization, is responsible for solving the problems that it causes, even indirectly (Preston and Post, 1981). Managers should lead the company while considering the interests of stakeholders and they should take responsibility for the consequences of their choices. According to the Integrative Social Contract Theory (Donaldson and Dunfee, 1994) firms operate in a system of constraints governing how individuals and organizations define their behavior. These constraints are the results of a set of explicit and implicit moral norms that are diffused among all actors in a given society. In 1979, Carroll proposed an interpretative model of CSR. The model distinguishes four stages of increasing responsibility: economic, legal, ethical, and discretionary. The first two are mandatory while the others are voluntary. Management has the responsibility of creating economic value for shareholders by delivering goods and services to the market. Also, managers have to comply with existing laws. Yet, there is ethical responsibility, i. e. conformity with the system of principles, values and social norms of the society. In the end, discretionary responsibilities (e. g. philanthropy) are not based on society's expectations and needs, and are therefore entirely voluntary. A similar model (Sciarelli, 2007) defines the *firm's comprehensive social responsibility*. This model is built on the premise that economic viability is one of the managers' fundamental responsibilities. In this manner, a firm should be able to give to the community more value than it has taken from it. Its second level refers to the firm's ethical responsibility as the requests that firm's decision making

3 The RDAP scale rates the managerial posture on four levels: Reactive - Defensive - Accomodative - Proactive

process aims to create value and to share it between all stakeholders in a balanced way. The third stage concerns the responsibility that each organization has towards the community it operates in. This last level encompasses both environmental and social responsibility and concerning the damages that may be caused by the company and, looking at the bright side, the benefits that a firm's growth can create in terms of economic and social welfare. Finally, there is an optional responsibility, coinciding with discretionary philanthropic interventions that are not directly linked to the main company's activities but extend its actions into social, cultural, and recreational areas.

The strong relationship between the two streams of research has been made clear by Carroll and Bucholtz (2003) who show, in their Corporate Social Performance model, a connection between the pyramid of corporate social responsibility and social issues that are directly linked to stakeholders.

3. Methodology

In this study we employ an analytical framework, linking the pyramid of Corporate Social Responsibility defined by Carroll (1979) with the stakeholder management approach proposed by Goodpaster (1991). Our model uses the lens of Corporate Social Responsibility (Carroll, 1979; Clarkson, 1995) to understand how the management of relationships with stakeholders can enhance the company's value creation process, in both the economic and social dimensions.

In particular, the adopted approach is similar to the one chosen by Carroll and Bucholtz (2003) to analyze Corporate Social Performance. We do not focus on the social issues that managers have to face while answering the firms' stakeholders, rather we prefer to adopt a more direct approach following Goodpaster's (1991) vision of stakeholder relationship management. Accordingly, we map the decisions that managers make to answer stakeholders' demands or needs. Only in a later phase do we use this information to understand the firm's strategic stance towards each stakeholder group (Clarkson, 1995), and the relative strategy that management has formulated (Savage *et al.,* 1991). We rely upon a stakeholder-oriented perspective for two main reasons: on the one hand, we hold that this perspective helps us understand the role that managers have assigned to each stakeholder's group in their strategies; on the other hand, we hold that shifting the focus on specific stakeholders groups, in spite of the more general idea of social issues adopted by Carroll and Bucholtz (2000), makes it easier for managers to implement it.

Furthermore, we adopt a modified version of Carroll's pyramid of Corporate Social Responsibility (1979) in the following analysis. Specifically, we do not consider Carroll's level of *legal responsibilities*, i. e. those responding to the company's need to abide by the law. We took this "step" out as we hold that law-abiding should be considered as a fundamental principle of any good managerial practice. Moreover, the decisions made by all managers to comply with legal norms should not be evaluated using an ethical perspective, as they are not voluntary choices.

The above-described analytical framework was applied to the Olivetti Group from 1943 to 1960, the years in which Adriano Olivetti was at the helm. We focus on this specific case for several reasons. First, the managerial model created by Adriano Olivetti was not only oriented towards profit maximization but it was also designed to increase the value created by the company for the community as a whole. We sustain that Adriano Olivetti's management approach, at least if we focus on some relationships, was really similar to the one that would have been called stakeholder relationship management several decades after his death. Another reason to select the case of the Olivetti Group in the Adriano Olivetti years, is related to the meaningful role that personal ethics had in his approach to management. It was so strong that it was still diffused in the company long after his death.

When Adriano Olivetti managed the Olivetti Group, it was not only able to obtain amazing results in the social dimension but also to achieve impressive economic results. This shows that he was not sacrificing one dimension of performance to attain results in another one. Adriano Olivetti's life has already been the subject of several studies, which have revealed his brilliant and multifaceted personality. Furthermore, Adriano Olivetti was a prolific writer who gave many speeches so we can use his own words to understand his model of an ideal society. Moreover, thanks to the archives of the Adriano Olivetti Foundation we had access to several valuable sources on him. We have had the opportunity to complement these secondary sources with the memory of those who worked at the Olivetti company and breathed its extraordinary cultural model long after Adriano Olivetti's untimely death[4].

4. Sustainability and stakeholder approach in Olivetti from 1943 to 1960

The managerial model designed by Adriano Olivetti was strongly influenced by his own personal ethics and political perspective. He dreamed a firm governance model that was similar to a foundation where stakeholders (shareholders, employees and local community) would have a direct role in managing the company. His death interrupted this project, which would have inevitably found strong resistance in the shareholding structure of the Group itself.

Adriano Olivetti has been labeled as a visionary with a concrete project that was achieved for the most part. He was a man with many interests but, above all, a great entrepreneur (Maggia, 2001). In 1932, when he was just over thirty, he became General Manager and, in 1938, he became chairman and later the CEO of Olivetti when his father Camillo died in 1943. He remained at the helm of the company until 1960, when he suddenly died from a heart stroke. He left behind a strong company that was widely acknowledged as the world leader in the industry of mechanical technology for office products. In 1958, the Olivetti group employed more than 24,000

[4] We would like to thank Beniamino de' Liguori Carino, member of the Adriano Olivetti Foundation Board, and Engr. Bruno Esposito, quality manager at Olivetti since the 1980s.

people all over the world (Ochetto, 2013). When he died, the group had several foreign branches in Europe, South America and the USA (Arrigo, 2003). Adriano Olivetti's "social" vision of the firm is well rooted in his personal history and it shines through his actions and his speeches since the mid-forties when, after coming back to Italy after his forced exile in Switzerland during the Second World War, he returned to lead the Olivetti group in Ivrea. He was really concerned about the firm's goals, social responsibility, and the basis of the relationship between the firm and human beings, and between technology and labour[5]. Adriano Olivetti's managerial vision was to push the company's mission well beyond mere shareholder value creation. According to Gallino (2001), the value creation process was mostly about creating wealth and welfare for the local area and its communities. His understanding of the firm's purpose and social function was rooted in a strong industrial culture. He organized these excellent human resources with a model, derived from Taylor's organizational paradigm, that he studied in the United States. His way to manage the company merged the efficiency principles of the Taylorist model of production with his deep respect of the value of human beings. He integrated these elements by using both organizational models and technical innovations; they were the roots of fruitful relationships between the local context and the company. Adriano Olivetti's attention for innovation made him a man ahead of his times. In the mid-50s he started investing in electronic, computing, data processing, and word-processing (Conti, 2006). He invested in the creation of two laboratories in Pisa and in New Canaan (USA) to carry out research in electronics and computing; later he funded another laboratory in Borgolombardo that was focused on computing. The results of these research activities made Olivetti a pioneer in the transistor-based computer market when it started to produce the Class Elea in 1959 way before IBM and other competitors.

Olivetti, under Adriano Olivetti's guidance, can be considered as a stakeholder-oriented and socially responsible company. In Olivetti the relationships between the company and its stakeholders were based on shared ethical values. These relationships were driven by his own values: equity, justice, and respect for the others (i. e., a win-win condition). Adriano Olivetti's social vision of the company was mainly oriented to involve two main groups of stakeholders in the value creation process: employees and the local community. A stakeholder oriented approach to

[5] In some speeches he expressed his doubts: "Can a company set its goals? Do they merely lie in a profitability index?" (in Italian: "Può un'industria darsi dei fini? Si trovano questi semplicemente nell'indice dei profitti?" – Olivetti, 2013a, p. 100); "We would like to remember in [the factory] rational rigor, in its organization, in the precise ripetitivity of its cultural and assistential services, the indissoluble unity binding [the factory]… to a technique that we want to serve men, so that they, far from being slaves, will be lead to higher goals" (in Italian: "Abbiamo voluto ricordare nel rigore razionalista [della fabbrica], nella sua organizzazione, nella ripetizione esatta dei suoi servizi culturali e assistenziali, l'indissolubile unità che lega [la fabbrica]… a una tecnica che noi vogliamo al servizio dell'uomo perché questi, lungi dall'esserne schiavo, ne sia accompagnato verso mete più alte" – Olivetti, 2013a, p. 102).

strategic management can be used to analyze relationships with other classes of stakeholders, such as other shareholders, especially the Olivetti family, the unions and the entrepreneurial community in Italy. These stakeholders were less involved in the firm's management, therefore Adriano Olivetti did not deal with them frequently.

4.1 Employees

In Adriano Olivetti's vision employees represented the main stakeholders of the company. He believed that a strong relationship with the employees was a necessary step towards the creation of a stable and fruitful network of relationships with other stakeholders. His vision of the relationship between the company and employees was guided by two main principles. He inherited the first one from his father and it led him to see involuntary unemployment as "the most terrible evil that afflicts the working class". The second principle was that progress and technology had to serve people as "the company asks a lot of employees and we have the duty to give back a lot" (Olivetti, 2013a). In order to comply with these two principles he introduced the Taylorist organizational model and the employees increased from 5,500 in 1946 to more than 24,000 in 1958. Olivetti's production was a labor-intensive one and Adriano Olivetti considered human resources as the company's prominent asset (Conti, 2006). For this reason he organized the factory as a way to increase their well-being. The factory as a whole was organized as a comfortable meeting place and the windows were big to give employees the chance to see all the surrounding buildings. These solutions were adopted to avoid employees' alienation, reduce their stress, and improve cooperation. Employees had free access to the library where they could read more than 90,000 volumes, newspapers and journals.

Employee engagement represented an essential part of Adriano Olivetti's vision as he stated in a speech to workers at Ivrea: "a factory may lose its humanity, made of knowledge and understanding. But for this understanding to have real value, it must be mutual and, for this to happen, you have to be able to know where the factory goes and why it goes there. " (Un discorso di Adriano Olivetti, giugno 1945, Archivio Storico Olivetti, Ivrea). It is clear that his perspective on employee engagement was based on the principle of transparent information. In order to attain this condition he published the group's main strategic directions in a newsletter for all employees. The Olivetti hiring process was developed to select the best human resources in Italy and abroad. Adriano Olivetti personally interviewed each graduate potential employee before hiring him[6] or her in order to evaluate not only his or her competences but also his or her potential. Also, he used to evaluate candidates' cooperation capabilities by means of graphological analysis and by looking at their posture.

Olivetti also cared for schooling its employees by providing both training and career opportunities. The Olivetti group's internal school, Centro Formazione Meccanici, was used to school the kids leaving the

[6] Conti (2006) states that in the second half of the 50s, when the group was too big for Adriano Olivetti to personally interview all potential candidates, this activity was carried on with the cooperation of his son Roberto and Engr. Tchou.

primary school. Furthermore, they were taught not only subjects related to their job but also those related to the humanities and arts as a way to increase their education and culture[7]. Accordingly, the best students were encouraged and supported to graduate. In Olivetti's perspective human resources were not only workers but also co-producers of value. In Olivetti, managers usually guided employees through a shared set of values and encouraged them to consider themselves as real team members. They were driven towards excellence and expected to cooperate in order to reach the highest results possible. Managers were asked to reward employees for their cooperation capabilities and give bad marks to people incapable of cooperating.

The cooperation among employees went far beyond the firm's boundaries as demonstrated by the Internal Solidarity Fund. This fund was used to provide additional support in case of illness or accidents and each employee funded it with a small monthly contribution. Blue-collars were directly involved in defining the pace of work. Employees were encouraged to participate in conceiving and designing products (Piol, 2004). In this way Olivetti was able to market some of the best products of that time. All employees had the same opportunities so even blue-collars could be promoted to managerial positions according to their own merits.

In 1948 Adriano Olivetti established the Consiglio di Gestione (Management Council), an independent internal body made up of company and worker representatives. This council had advisory powers regarding work organization, planning manufacturing plants and production, as well as initiatives to improve workers' living conditions also outside of the factory. The Council opinion was binding on allocating resources to social services and influencing business management.

Moreover, Adriano Olivetti established a Center of Psychology in order to increase workers' motivation and reduce stress. He provided better conditions for his workers than his competitors and, consequently, the employees were loyal and committed to Olivetti[8]. Furthermore, he established several social services such as economic, cultural, and moral compensation for the employees' hard work. The Olivetti group had a Carta Assistenziale (Social Welfare Charter) stating "every employee contributes to the company's life [. . .] and will therefore be able to access social services and related benefits without considering them a personal concession. Using this perspective we can frame the various initiatives that were introduced in the field of social services for workers. These included: nursery and pediatric services; health care services; a company canteen that employees' families could also attend, and almost free transportation. Another way through which he contributed to his employees' welfare were the housing services that could support employees' families in purchasing and restoring their houses. According to Gallino (2001) Olivetti's social services were living proof of a constant

[7] Ferrarotti (2013) reports a sentence Adriano Olivetti usually said on training and education: "Animals are trained. People are educated".

[8] Arrigo (2003) states that Olivetti's employees enjoyed, among other benefits, shorter working hours without pay-cuts, paid Saturdays to work in the fields, and longer maternity leave.

tension towards quality, combining the search for beauty - an aesthetic component - and caring for people.

The central role that sales skills had in his vision deserves a special mention. During the 1953 crisis, instead of cutting assembly-line jobs, Adriano Olivetti decided to invest in educating the sales force. Sales force headquarters were moved to Milan and he chose to open Olivetti stores around the world. In 1955 he founded the *Centre for Specialized Education of Sales Force* in Florence, which is a school where sellers' training was not limited to selling techniques but encompassed studies of various fields of the humanities such as history, the arts, and philosophy, as a way to make them more complete human beings.

4.2 Community

For Adriano Olivetti, firms were a prominent actor in a local area's economic and social development. He claimed that managers should take an active role in the local area's life helping the the community to get the better out of the firm's growth (Olivetti, 2014).

The company's duty was to be rooted in a given community as an institution (Gallino, 2001). He built a company-town in Ivrea focusing on urbanism and architectural culture and he used the firm as a driving force for the local area's social development. In 1954, Olivetti founded the Institute for Urban and Local Renewal, a non-profit organization created to promote depressed areas like the Canavese one by fostering entrepreneurship (i. e., opening new factories and creating new and innovative agricultural cooperatives). He took charge of employees' housing problems, designing and building new residential areas near Ivrea such as Borgo Olivetti, Canton Vesco, la Sacca, and Bellavista. These neighborhoods were endowed with main infrastructures like roads and a supply network, to connect them with Ivrea. Furthermore, Olivetti organized a service of low cost transport system to avoid unsustainable urban development. For the same reason Adriano Olivetti encouraged the new recruits' farming activities by giving employees a paid leave on Saturdays.

Olivetti's initiatives for the local area's community were many and diverse, going beyond the factory's surroundings. He financed the Ivrea Civil Hospital and helped open several free clinics for obstetric care and antenatal prophylaxis in the Canavese area. Olivetti's idea that the firm was to be tightly linked with the local area was also evident in the plants' design and architecture chosen for the group's factories. These were built respecting the morphological characteristics of the land and therefore blended in seamlessly with the neighborhood, as shown by the Olivetti plant in Pozzuoli. It was designed to follow the contours of the land and the coastline of the Gulf in front of it. He had a harmonious vision of the relationship between nature and technology, believing that production and culture were two sides of the same coin. In order to enhance the cultural value of his factories Olivetti entrusted many famous architects to design them and filled them with works of art.

Olivetti organized several cultural and artistic events for he wanted "to share culture, aesthetics, and harmony of shapes in the plant's surrounding," (Gallino, 2001, p. 8). He saw culture as a way to promote the development and empowerment of people so, between 1950 and 1964, the Cultural Center Olivetti was used to host 249 conferences, 71 concerts, 103 art exhibitions, and 52 other events such as political and social debates, and literary presentations, featuring prominent personalities such as Salvemini, Moravia, De Filippo and many others.

Publishing was another way he had developed to fulfill his own philanthropic responsibility. He published Italian editions of seminal works in many fields such as architecture and urban planning, social sciences, economics, sociology, and political science. Moreover he took an active role in founding various scientific journals on several topics such as technology, management and organizational sciences, and the arts. The concept that the various actors present in a given local area should be tightly connected was so central in Adriano Olivetti's vision that it became the cornerstone of its political party: "Movimento di Comunità" (Olivetti, 2013b; 2014).

4.3 Shareholders

Olivetti was a classic example of a family business. The Board of Directors was chosen by the family and its members were often selected within the family. Some shareholders accused him to spend too much in social services for the employees. They took advantage of the failure of the Movimento di Comunità political party to ask for his resignation as CEO.

Adriano Olivetti was firmly convinced that the key to sustaining competitive advantage was product innovation both in terms of technology and design. Being successful in the market created a virtuous circle based upon his products' excellence. In this circle the higher profits Olivetti obtained from selling technologically advanced products were invested to find further innovation and growth.

This business model was sound, as shown by the capital turnover of the 1946 - 1958 period which grew 6 times in Italy and 18 times abroad. Even if the dividends were modest and in line with the interest paid on the employees' deposits that were held by the company during his administration (Maggia, 2001) shareholders were able to achieve a clear advantage from their equity share, as the share value grew 22-fold, in real terms, in the years from 1924 to 1960.

4.4 Other stakeholders

The other stakeholders we address are the Italian Union and the Italian entrepreneurial community.

Adriano Olivetti had a mixed-feeling relationship with the unions as well. His way of managing relationships with workers somehow diminished unions' role and decreased their legitimacy as it often anticipated their ideas (Arrigo, 2006). Later on, he encouraged employees to create an association (called Comunità di Fabbrica) to engage the stakeholders in the factory's organization. Even if Comunità di Fabbrica was not a union, it was criticized by CGIL and UIL. Nevertheless, the relations between Comunità di Fabbrica and the other unions were friendly. Comunità di Fabbrica was, in his vision, "a first step towards granting greater power to the company's employees" (Gallino, 2001 p. 80).

The relationship between Olivetti and Confindustria, the most important association of manufacturers and service providers in Italy, was however a conflictual one. The more prominent members of Confindustria saw Olivetti as a threat to "orthodox" business principles, as he allowed employees better conditions than other Italian entrepreneurs. As a consequence, Confindustria asked its members to boycott Olivetti's products. Another difference between Adriano Olivetti and the other Italian entrepreneurs, often more oriented towards an Italian perspective than an international one, consists in the different role they attributed to electronics and computing. When he died, the electronic division was a strong competitor to IBM but the steering committee that was created to overcome the Olivetti crisis, decided to sell it to General Electric about 4 years later. The steering committee was composed by the managers of the most important Italian companies like Fiat, Pirelli, Mediobanca, and IMI.

5. Discussion of findings and further research opportunities

Adriano Olivetti managed various relationships with the stakeholders, engaging them in a value creation process that was able to increase performance in both the social and the economic dimensions. Furthermore, this case highlights how managing a firm with a stakeholder focus could be a condition for sustainable excellence. In table 1 we summarize findings related to the different levels of responsibility that the various Olivetti's policies have, according to the Pyramid of Corporate Social Responsibility (Carroll, 1979).

Tab. 1: Olivetti's policies in the Corporate Social Responsibility's pyramid

Responsibility	Policies
Economic	Product and Process Innovation - Organizational Innovation - Human Resource Management - Reinvestment of Profits - Growth Orientation
Ethical	High consideration of labour - Human Resource Management - Investments in rural areas - Social Services - Factory architecture
Philanthropic	Cultural activities - Research funding (e.g. sociological studies)

Source: our elaboration

If we consider the activities that were carried out by Olivetti's managers when Adriano Olivetti was at the helm, in looking at the results the group reached in international markets we find that this company was a clear example of doing well by doing good (Key and Popkin, 1998). During his administration the Olivetti Group was managed as a stakeholder oriented company. We may find clear evidence of this in his own words: "*To say it all, the real common benefit in the factory is a complex function of: the individual* *and direct interests of those working in the enterprise, their supportive and social spiritual interests; the common interests of the community around the firm that are defined and its raison d'etre; the interests of the territory near the firm*" (Olivetti, 2014, p. 50).

As proposed by stakeholder management theory, Adriano Olivetti did not manage the relationships with all stakeholder groups in the same way. The most important stakeholders were clearly the employees - as a source of competences and creativity - that were the innovation cornerstone in Olivetti. Moreover, Adriano Olivetti was able to drive employees to cooperate, not on the basis of their position on the job, but rather by looking only at the employee's capabilities and competences. According to Conti (2006) managers were asked to involve their own employees in their decision-making processes and to evaluate them for their capability to cooperate. This prominence was reflected in a deep engagement strategy. Employees were asked to take an active role in managing the company and they were richly rewarded in terms of salary, career opportunities, and social services. This relationship was managed with a proactive approach (Carroll, 1979) in order to anticipate the potential needs of employees and provide them with services that answered their still unfelt needs before they become manifested. We can clearly classify employees as a friendly stakeholder (Savage *et al.,* 1991). Adriano Olivetti saw a solid relationship with employees as the first step in creating a stable network of win-win relationships with all other stakeholders, especially those of the local area community. Even the community could be reckoned a friendly stakeholder and Olivetti gave back to the communities by supporting town urbanization and developing social services that all citizens could access. His position towards the community was clearly a proactive one, as he started to care for infrastructures and residential areas way before they became needs. On the other hand, he used a different stakeholder strategy with other groups. For example other Italian entrepreneurs, and their main association Confindustria, were seen as non-supportive stakeholders as they did not share the same vision of the enterprise as a social actor having not only the economic responsibility to increase profit, but more broadly that of increasing the general level of well-being in the community. Adriano Olivetti was considered a dangerous example and he was boycotted in order to avoid his perspective on the nature of the firm as a community becoming an example for other entrepreneurs. Relationships with unions and shareholders could be considered monitoring strategies but the position was an accomodative one. Moreover some of Olivetti's policies, were designed to answer the needs of several stakeholder groups. For example, by giving financial support to employees so they could buy their homes in new residential areas with good infrastructure helped employees but it was a useful practice for the local community as well. It helped them avoid urban sprawl, plan urbanization and increase social services for all citizens. The Olivetti Group was innovation-driven and it used innovations to meet its own responsibilities towards several stakeholder groups. On the one hand it adopted, and further developed, an innovative work organization as a way to improve employees' conditions, making their work less repetitive and more interesting; on the other hand, the focus on innovation helped Olivetti market advanced products keeping a sustained stream of new successful products. Innovation was instrumental in attaining the ethical responsibility that Adriano Olivetti felt towards his employees and, at the same time it was used to create a sustainable competitive advantage to create, and share, value.

In table 2 we outline the different stakeholder strategies that Adriano Olivetti used to manage each stakeholder group. In the table we point out the managerial position for each issue that Adriano Olivetti addressed in the company's policies in the RDAP scale by Clarkson (1995) and the general stakeholder relationship management strategy according to the model by Savage *et al.* (1991).

The case study shows how Adriano Olivetti, in the 50s, was able to create both economic and social value demonstrating that social and financial performances are not diametrically opposed. Moreover, Adriano Olivetti was able to engage stakeholders and manage the related relationships in a way that is really similar to the principles that became widespread as stakeholder engagement in the 80s.

Tab. 2: Olivetti's position and stakeholder strategy

Stakeholder	Issues	Position*	Stakeholder Strategy
Employees	HRM	P	Stakeholder Involvement
	Welfare System	P	
	Cultural Services	P	
Community	Cultural Activities	P	Stakeholder Involvement
	Housing	P	
	Hospital	P	
	Research Funding	P**	
	Publishing	P**	
Shareholders	Low Dividend Policy	D	Stakeholder Monitoring
	Social Services' Costs	D	
	Reinvestment of Profits	A	
Unions	Comunità di Fabbrica (Alternative Internal Employees Association)	A	Stakeholder Monitoring
Italian Entrepreneurs Association	Different vision of corporate responsibility	D	Defensive Strategy

*: This column gives the evaluation of the position on the RDAP scale (Clarkson, 1995)

**: This policy has been considered proactive for the general Italian community.

Source: our elaboration

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Recognizing the limits: sustainable development, corporate sustainability and the need for innovative business paradigms

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Abstract

Purpose of the paper: *The study provides a theoretical analysis of the implications of sustainability in business, with a specific focus on the ecological dimension. In particular, we introduce key concepts from natural science and ecological economics into the field of management in order to highlight the limits that characterize the natural capital and our individual and organizational dependence on it.*

Methodology: *The paper draws upon a mix of literature review (management, ecology and ecological economics), action research and field studies.*

Findings: *The study presents the reasons for a profound transformation of the dominant business paradigm in order to address sustainability challenges. Furthermore, it introduces a conceptual framework to position and analyse corporate actions to manage environmental issues and identifies four areas of intervention and research as key drivers of transformational change.*

Practical implications: *By stressing the managerial importance of concepts like carrying capacity, critical natural capital, and ecosystem services and by pointing out the need for collaborative approaches, the paper advances innovative perspectives to analyse and develop sustainable business strategies and operations.*

Research limitation: *The paper shares the limits of conceptual works based on a deductive method. However, to address this limitation, the study is also supported and complemented by the empirical experience gained in more than two decades of fruitful collaboration with companies and institutions.*

Originality of the paper: *The study introduces concepts that are mainly developed in scientific disciplines. This provides an insightful contribution to the current debate on the real soundness of mainstream management theories and business practices, and to the quest for fitting alternatives.*

Key words: carrying capacity; collaborative enterprise; critical natural capital; ecosystem services; limits of nature; sustainable development

1. Introduction

Our planet is becoming more fragile. The financial and economic crisis that started in 2007 is only the most visible signal of the unsustainability of the current pattern of development at the global level. The interdependency between human organizations and nature that is characterizing the current epoch has been labelled Anthropocene, a neologism introduced by the Dutch Nobel Laureate P.J. Crutzen (2002) to capture the magnitude of the quantitative shift of the impact of humans on the global environment. The majority of natural scientists converge in considering the anthropogenic pressure on ecological systems close to a scale where abrupt transformation can no longer be excluded. Some global trends, illustrated in Table 1, provide further context:

Tab. 1: Some unsustainable global trends

Issue	Trend
Planetary boundaries	Mankind has already transgressed three of the nine interconnected planetary boundaries identified by scientists: climate change, rate of biodiversity loss, and interference with the global nitrogen cycle (Rockström *et al.*, 2009).
Ecosystem degradation	The *Millennium Ecosystem Assessment* (MEA, 2005) points out that, over the past 50 years, approximately 60% (15 out of 24) of ecosystem services have been degraded or used unsustainably. These services are fundamental for the well-being of the current and future human generations and other living species.
Climate change and global warming	The atmospheric concentrations of greenhouse gases have all increased since 1750 due to human activity, reaching the level of 391 ppm (part per million) and exceeding pre-industrial levels by about 40% (IPCC, 2013) in 2011.
Ecological Footprint	According to the Living Planet Report 2014 issued by the WWF and the latest available data (until 2010), humanity's Ecological Footprint, that is, our impact on the Earth, exceeds our planet's biocapacity, that is, the area that is really available to produce renewable resources and absorb CO_2, by around 50% (WWF, 2014). In parallel, the Global Living Planet Index shows a consistent loss of biodiversity: in fact, between 1970 and 2010 vertebrate species populations have decreased by 52% (WWF, 2014).
Inequalities in wealth distribution	Inequalities in wealth distribution are increasing: in 2014 only 408 million people (8.6% of the world adult population) own 85.3% of the global wealth while only 35 million people (0.7% of the world adult population) control 44% of the total wealth (Credit Suisse AG Research Institute, 2014, p. 98).
Undernourishment	About one in eight people in the world (12% of the world global population) is estimated to be suffering from chronic hunger, regularly not getting enough food to conduct an active life (FAO, IFAD, WFP, 2013, p. 8; United Nations, 2013, p. 4).

Source: Authors' elaboration

The presented evidence points out that the world is facing a multiple (that is, not only financial but also economic, environmental, social, cultural, and institutional) crisis. After about thirty years of absolute dominance (Crouch, 2011), the mainstream business model, based on a narrow focus on monetary results, strong short-termism, and a disruptive competitive approach which benefits few (especially financial investors and top managers) at the expense of many (comprising society, local communities, ecosystems and ecosystem services, and future generations) is strongly criticized (Birkinshaw and Piramal, 2005; Ghoshal, 2005; Stiglitz, 2012; Tencati and Pogutz, 2011; The Economist, 2011).

Several arguments have been used to explain this failure in terms of environmental and social results, exploring both the theoretical weaknesses of the *sustainable development* (SD) concept and its pragmatic fragility (Sneddon *et al.,* 2006). At the same time, in spite of the growing urgency of the trends illustrated above, the currently prevailing management theories and business practices do not even recognize the crisis of mainstream models and continue to foster selfish, highly competitive, unsustainable behaviours (Tencati and Zsolnai, 2014).

The present article aims to provide an insightful contribution to the current debate on the need for alternative business paradigms (Golinelli and Volpe, 2012; Pascucci, 2011) by introducing the key concepts of carrying capacity, natural capital, and ecosystem services derived from natural science and ecological economics while underlining the limits of "business as usual" approaches to environmental sustainability and opening new perspectives in order to identify how business can effectively pursue the goals of SD.

Thus, we first analyse the evolution of the SD idea, focusing in particular on the environmental challenge. After that, we carry on a twofold analysis, investigating deficiencies and challenges at the macro level and the major limits of the "corporate greening" approach. Then, we examine possible initiatives and actions that businesses can carry out to address environmental and social problems. Finally, we highlight structural changes in behavioural patterns and the innovative ways of doing business that are needed to face the sustainability challenge.

2. Evolution of the sustainable development idea

Starting from a strict ecological focus, the SD idea has been developed over at least the last four decades. Among the offered definitions, the most common and established is that provided by the World Commission on Environment and Development (WCED) chaired by Gro Harlem Brundtland, in 1987 at the opening of Chapter 2 of its *Our Common Future* report: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1997). Within this framework, the approach based on the "three pillars" of sustainability, which integrates economic, social, and environmental concerns into the SD model, has been consolidating since the Rio Conference in 1992, influencing both the institutional and corporate paths (Elkington, 1994). Furthermore, since the very beginning the issues of an equitable distribution of resources and benefits within society, and of the widening gap between industrialized and developing countries emerged, as central topics in the SD agenda.

In the decades following the publication of the Brundtland Report, the broad definition of SD advanced by the WCED became helpful in fostering a general awareness of the concept of sustainability, by calling on governments, corporations and society at large for a pragmatic response (Sneddon *et al.,* 2006). Unfortunately, the primary drivers of the environmental degradation - material and energy consumption and a prevailing short-term view in the economic, social and political arenas - have grown worldwide and, as previously underlined, our current economy is deeply unsustainable.

3. Carrying capacity, critical natural capital and ecosystem services: three concepts at the basis of ecological sustainability

The definition promoted by the WCED has strengthened a view based on the principle that the economic, ecological and social pillars of SD are qualitatively and hierarchically equivalent and must be taken into account simultaneously. Although this approach can be considered desirable for several reasons, it has contributed to the marginalization of some specific ecological concepts that are critical conditions for sustainability and therefore need to be reconsidered within a more eco-centric paradigm. Among these concepts, carrying capacity (Costanza, 1991), the unsubstitutability of natural capital (Pearce and Turner, 1990), and the notion of ecosystem services (MEA, 2005) are crucial. A review can help build a better understanding of the interdependencies between businesses and the natural environment.

Carrying capacity can be defined as the population of an organism that an ecosystem can support, given the availability of resources within the ecosystem. This concept has been discussed in scientific domains like ecology, biology, demography, and economics; since the 1970s, the globalization of the environmental crisis has conducted to an intense and broad debate on the Earth's carrying capacity (Seidl and Tisdell, 1999). The importance of this concept in sustainability discourse is clearly expressed by Arrow *et al.* (1995, p. 520):

> "The environmental resource based upon which all economic activity ultimately depends includes ecological systems that produce a wide variety of services. This resource base is finite. Furthermore, imprudent use of the environmental resource base may irreversibly reduce the capacity for generating material production in the future. All of this implies that there are limits to the carrying capacity of the planet".

As several scholars from the ecological economics community (Costanza, 1991; Daly, 1992; Martinez-Alier and Schupmann, 1987), from ecology (Holling, 2001; Levin, 2009), and other scientific domains (Capra, 1996) have pointed out for many years, the biosphere identifies the external limit of the system and contains the social and the economic spheres. This means that economic and social development has to proceed within the limits of the carrying capacity of our planet.

With regard to the notion of *natural capital*, this debate is grounded on the assumptions of neoclassical economics but has been extended by economists to other domains, including the natural and social sciences. A central issue in this discussion is the question of to what extent natural capital is substitutable and can be replaced with man-made capital (Ekins *et al.,* 2003a). Different interpretations of this concept can be grouped into two main schools-weak and strong sustainability (Costanza, 1991; Pearce and Turner, 1990). The first approach posits that all forms of capital are equivalent and any loss in natural capital can be compensated by other forms (Solow, 1986). Therefore, weak sustainability allows the degradation of natural resources if they are covered through an increase in stocks of other forms of capital. The second approach assumes that some types of capital, for example, several forms of natural capital, have no substitute. According to this point of view, different forms of capital are complementary (Costanza, 1991; Costanza *et al.,* 1997; Ekins *et al.,* 2003b). Thus, these forms of capital must be preserved, independently of one another, and man-made capital should not be created to the detriment of natural capital.

Over the years, the debate on the limits to substitutability has led to the introduction of the concept of critical natural capital. Dodds (1995), quoted in Chiesura and De Groot (2003, p. 222), defines it as "those assets that have no ready substitutes, cannot be replaced, and have a unique contribution to present and future well-being". Ekins et al. (2003b, p. 169) identify critical natural capital as "natural capital which is responsible for important environmental functions and which cannot be substituted in the provision of these functions by manufactured capital". Examples of critical natural capital are several life-supporting environmental services, necessary for life production, including the ozone layer or the biosphere and the reduction of carbon dioxide by recombining carbon with other elements (Ayres, 2007). So, the uncertainty about the effects of our impact on critical natural capital should require the adoption of a "precautionary principle" in order to manage the relation between the ecological system and the socioeconomic one.

Ecosystems services consist in the benefits that human populations and organizations derive - directly or indirectly - from proper ecosystem functioning (Costanza *et al.,* 1997). Ecosystems like forests or wetlands provide goods and services such as food, timber, climate regulation, water purification, genetic diversity, and medicines that support our well-being. The concept originated in the late 1970s/early 1980s, but started to generate large interest only in the 1990s with the publication of a landmark paper in the journal Nature by a multidisciplinary group of scholars (Costanza *et al.,* 1997). The study estimated that the Earth's ecosystems provided between 16 and 54 trillion US$ of free services to humans per year, and contributed to a broad and thoughtful debate on environmental sustainability. The popularity of this concept has been further advanced thanks to the massive effort that the Millennium Ecosystem Assessment, an initiative fostered by United Nations Secretary-General Kofi Annan in 2000 and concluded in 2005, carried out worldwide to evaluate the current status and trends of global ecosystem functioning (MEA, 2005). As previously underlined, the study offered a dramatic picture (MEA, 2005, p. 5). Moreover, it provided evidence that unhealthy ecosystems are incapable of supporting the same levels of services as in the past, with clear implications for nature's capacity to continue sustaining our growing economic activities indefinitely.

Carrying capacity and its related limits, critical natural capital, and ecosystem services are still controversial constructs that are complex to assess and measure. In any case, they are absolutely crucial in the SD framework. Our perspective on sustainability cannot be disconnected from the natural ecology view that many scholars acknowledge. These concepts remind us that continuing "business as usual" practices increase companies' dependence on ecosystems and may simultaneously erode their ability to compete and even to operate. In that ecosystems provide the foundations for biological entities like humans - or other species - and organizations, we assume that ecosystem sustainability would have received higher priority than, or at least equivalent to, economic sustainability in the WCED framework (Gladwin *et al.,* 1995; Starik and Rands, 1995). On the contrary, in the current and prevailing interpretation, economic development has precedence over environmental protection, which has simply become part of the development process (Banerjee, 2003). Therefore, there is an urgent need for an alternative paradigm based on a strong sustainability perspective and capable of recognizing that ecosystems and social systems are deeply interrelated. This new awareness could offer a more appropriate and effective theoretical framework that would allow us to successfully reframe markets and production processes in order to fit the logic of nature (Tencati *et al.,* 2009).

4. Going beyond "corporate greening"

Starting from the pioneering works by Post (1991), Schmidheiny (1992), Shrivastava and Hart (1992), and Roome (1992), who first attempted to link management actions with societal and environmental challenges, business scholars have been struggling with the concept of sustainability, trying both to provide theoretical foundations for this emerging field of study, and to spur new independent and rigorous research (Bansal and Gao, 2006; Etzion, 2007). After more than two decades, the diffusion of concepts like "environmental management", "ecology", "greening" and "sustainability" within business literature has proven to be successful (Montiel and Delgado-Ceballos, 2014), although several critical voices contend how much these efforts have contributed to a more profound transformation of management while acknowledging the interconnection between organizations and nature discussed in the previous section (Kallio and Nordberg, 2006; Winn and Pogutz, 2013).

With regard to the world of business practice, since the 1992 United Nations Conference on Environment and Development the adoption of the SD concept has also fostered a process of reform and change in organizations. Environmental issues (e.g., protection of natural capital, reduction of energy consumption, pollution prevention and control, waste management, and so on) have become part of corporate missions and values, and a vast literature has documented how sustainability strategies have been developed by firms (Hart, 1995; Lovins *et al.,* 1999). Similarly, the development of sustainable technologies and products (Hart and Milstein, 1999; Shrivastava, 1995), the diffusion of environmental management systems (European Commission, 2014; ISO, 2013), and the disclosure of environmental and social information through sustainability reports (KPMG International, 2013) seem to be increasingly relevant phenomena, involving multiple industrial and geographical contexts. Montiel and Delgado-Ceballos sustains that: "It is almost impossible to browse a company's website or its official reports without finding references to "sustainability" or "sustainable development" (2014, p. 1). Furthermore, several studies - both qualitative and quantitative - have underlined that, thanks to proactive and innovative environmental strategies, firms might gain competitive advantages in terms of efficiency/ cost savings, product differentiation and new products, strengthened reputation, and risk reduction (Ambec and Lanoie, 2008; Bansal and Kendall, 2000; Porter and van der Linde, 1995; Russo and Fouts, 1997). We can therefore conclude that sustainability issues have become part of the business environment and corporate jargon.

However, despite these greening efforts the overall ecological footprint of corporations has increased. Therefore, a key research question that management scholars have to address in the very next future is to what extent current environmental management practices are compatible with environmental sustainability (Banerjee 2003; Starik, 2006). If we want to build a sustainable pattern of development, business contribution is fundamental (Schmidheiny, 1992; Hart, 1995). So, from a managerial standpoint, we need to understand why present corporate behaviour is still profoundly inadequate and how we can contribute to the sustainability challenge.

First, corporate greening has mainly focused on the opportunities linked to the implementation of environmental strategies and to the competitive advantages associated with these initiatives. The notion of win-win solutions (Porter and van der Linde, 1995), which is at the core of the concept of eco-efficiency (Schmidheiny, 1992), has become the crucial issue in management practice, leading many corporations to important changes in their organizational routines. Most firms have worked on the direct impacts of their activities to minimize the pollutants of production processes and products, improve energy efficiency, and reduce risks. On the other hand, the idea that firms cannot grow indefinitely, but have to respect natural carrying capacity and ecosystem dynamics as a potential limit, has never been seriously taken into account, and the strong increases in volumes of production and sales of many firms have not been counterbalanced by improvements in eco-efficiency.

Most firms, practitioners and scholars in the management field have substantially integrated environmental issues into a "business as usual" approach instead of advancing a radical change in the deep nature of business and markets. Even now, after the financial downturn started in 2007, the mainstream economy is still characterized by short-termism and a competitive model where corporate success is pursued at the expense of nature, society and future generations (Zsolnai, 2006). Although such a critique is considered unrealistic and naïve by many, a pragmatic shift in company targets from eco-efficiency to eco-effectiveness (Dyllick and Hockerts, 2002) and towards a multiple-bottom-line perspective (Perrini *et al.,* 2011; Perrini and Tencati, 2008; Tencati and Zsolnai, 2009) is necessary and might support the diffusion of more environmentally sustainable business models.

Second, until now corporate response to the environmental crisis has been mainly isolated and "egocentric" (Jennings and Zandbergen, 1995). Instead of focusing on collaborative relationships along the whole supply chain (from raw materials suppliers to consumers), many firms have concentrated their efforts on internal solutions aimed at reducing the direct environmental impact generated at the production site level. Furthermore, environmental risks are often isolated, while pollutants coming from many different sources and with various impacts have different time and spatial scales, impacting the resilience of multiple ecosystems (Folke, 2006).

The issue of linking ecosystems to business organizations is of central importance for the analysis of almost any action related to sustainable development. Therefore, environmental sustainability calls for holistic approaches (Golinelli, 2010) and firms have to implement environmental strategies through a "collaborative network" perspective (Frosch and Gallopoulos, 1989; Gallopoulos, 2006; Kelly, 1994; McDonough and Braungart, 2002).

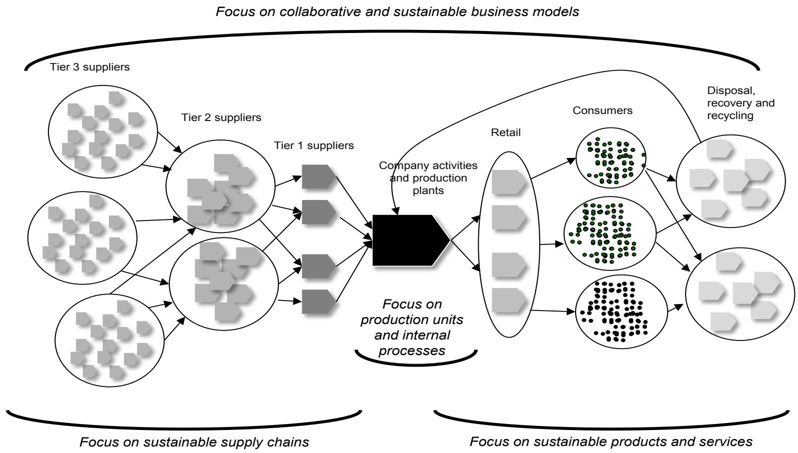
5. Towards sustainable business models: a conceptual framework

To be truly environmentally sustainable a firm, besides respecting social requirements and producing economic value for its stakeholders, should not generate harm to the natural environment. This means that the firm would need to adapt to and align with the ecosystem dynamics where its multiple activities are embedded, as well as contribute to the preservation of the ecosystem services on which its business model strongly depends (Winn and Pogutz, 2013). This section advances a conceptual framework in order to provide scholars and practitioners with a lens to position and analyse the actions that firms are called to make to address the sustainability challenge. These efforts range from the attempt to optimize the environmental impact of production units, to redesigning products, services and supply chains, to the introduction of radically new business models (see Figure 1).

Indeed, these initiatives have different impacts on the organization, on its capacity to successfully compete in the business arena and to create enduring value for its stakeholders. At the same time, they require new knowledge and competencies that are not always available inside the firm.

The first group of actions focuses on *production units* and *internal processes*, and usually requires relatively limited organizational changes and investments. This is the case of companies that are managing sustainability mainly as an eco-efficiency challenge, following the Porter Hypothesis (Porter and van der Linde, 1995) and searching for the benefits deriving from an increase in resource productivity. Environmental management systems (ISO 14001 and the European Eco-Management and Audit Scheme - EMAS) usually support this phase, which is driven by technical departments and engineering competencies and promotes local optimization of environmental factors. This is the case, for example, of Pollution Prevention Pays, the program that 3M started in 1975.

Fig. 1: Business efforts and actions towards sustainability: A conceptual framework



Source: Authors' elaboration

The second set of initiatives refers to *designing sustainable products and services*. This approach extends the notion of corporate sustainability *downstream*, towards the final consumers and the recovery/recycling of the product at the end of its life-cycle. These actions require a much more profound transformation of the organizational culture since they involve the marketing function and modify the product-system and the relation with final consumers. The growing market segment of Lifestyles of Health and Sustainability (LOHAS) consumers in the US and Europe, and an increasing attention towards green brands provide the base for successful green differentiation (Kotler, 2011; Reinhardt, 1998). There are several cases of companies that are trying to win these new market segments or consolidate their reputation and brand value by greening their offer. Examples are Timberland "Earthkeepers" campaign, or General Electric "Ecomagination" program.

At the same time, through designing energy-efficient products and eco-efficient packaging or eliminating potentially harmful substances the company responds to environmental challenges in a much more convincing way. It is broadly known, in fact, among scholars dealing with business sustainability, that a large part of the environmental impact in many product categories (up to 80% in the case of durable goods like cars, household appliances, electronics) occurs during the consumption phase or after the products' disposal, therefore when the goods are transferred to their consumers. Focusing downstream allows companies to significantly reduce their environmental footprint.

The third approach regards the development of *sustainable supply chains* (Linton *et al.,* 2007; Sarkis, 2003). Few companies have extended the sustainability focus upstream, to the very early stage of the raw material production. In any case, for some typologies of environmentally-intensive commodities corporate risks are sharply increasing due to resource scarcity, market prices and stakeholder pressures. At the same time, for several industries the environmental footprint very much depends on the impact generated by second-, third- or even fourth-tier suppliers. Puma has introduced a new method to measure the impact generated by its extended supply chain. The results revealed that 57% of the environmental impact occurred at the raw material production level, while only 6% of the impact derived from Puma's operations (Meyers and Waage, 2014). The response in these cases involved a thoughtful re-design of the supply chain that goes well beyond putting some "sustainable development" into purchasing or introducing some code of conduct into the relation with first-tier suppliers. Unilever provides another example. The Anglo-Dutch company has focused on Lipton, one of the most important brands with over €3.5 billion revenues, and has developed a partnership with an independent NGO specialized in certifying sustainable farming activities, Rainforest Alliance, to deploy an ambitious plan aiming at transforming the tea supply chain into 100% sustainable sourcing by 2015 (Henderson and Nellemann, 2011). Another interesting example is the Sustainable and Integrated Supply Chain program introduced by Barilla. The Italian "pasta company" is targeting a reduction of the overall environmental footprint through the implementation of a series of initiatives in partnership with its farmers. These actions include the introduction of innovative cropping practices that favour an improvement in the productivity of the land, coupled with a relevant reduction in the use of fertilizers, pesticides and water (up to 30-35%) (BCFN and Barilla, 2013).

Finally, the fourth level consists in the development of *radically new business models* grounded in the acknowledgment that the challenge of sustainability asks for path-breaking solutions and requires profound transformations in the way companies are doing business. In several industries over the last couple of decades, companies relying on old business-models have been threatened and challenged by innovative ones that have quickly transformed the "rules of the game". Examples are copious: the decline of print in the media; online shopping in retail; digital music services like Spotify and platforms like iTunes in music; online banking in finance. Managers and entrepreneurs are unceasingly required to find new ways to create and deliver value to final consumers. The sustainability challenge is of course ambitious and risky for a company but it can offer new opportunities to compete, transforming the industry and leading to the greatest environmental and economic results. Well known examples in sustainability management literature include companies like Patagonia, the outdoor-clothing brand founded by the environmental "guru" Yvon Chouinard who has devoted decades to the business of sustainability, or Natura, the leading Brazilian producer of natural cosmetics. Novel examples are related to the diffusion of organic products in sectors like food and textile, or the sharp growth of renewable resources that are shaking the electricity industry in several countries. When resources turn out not to be limitless as they were considered until few years ago and when the idea of endless consumption is no longer affordable, business model innovation might have real system effects, redefining the relations between ecosystems and companies and between humans and nature.

To conclude, most firms still compete considering environmental issues no more than a "cost", or by focusing on the local optimization of pollution emissions according to a compliance approach. In contrast, some large multinationals such as Unilever, Walmart, General Electric, Starbucks, and Toyota have embraced sustainability as a key business challenge and have developed multiple initiatives that combine on-site efficiency with green design and more sustainable supply chains. This is an important step towards a cleaner planet. As previously illustrated, however, in our view a much more profound transformation is needed if we want to address the environmental crisis, harmonizing our production and consumption patterns with ecosystem dynamics and the limits of nature.

6. Conclusions: the need for a paradigm change

In the previous paragraphs we have outlined the conditions which make the current patterns of development unsustainable worldwide. Building on that we tried to challenge the current assumptions which underpin the mainstream paradigm in the management field. In order to do that we have drawn on natural science and ecological economics concepts to provide a more credible and reliable view of the functioning mechanisms characterizing natural capital and its interdependency with business practices.

This innovative approach calls for a redefinition of the prevailing business models which are unable to recognize the biophysical limits of the ecosystems in which firms operate. Therefore we introduced a conceptual framework to systematize the different types of actions that are needed in order to address the sustainability challenge.

In particular, distributed systems of energy production, enabled by local renewables and smart grids, short supply chains and local food economies, zero-emission transport systems, and waste management policies focused on prevention and supported by an effective recycling/recovery industry are all examples of innovative solutions, which require, in any case, new paradigms and approaches. Only the implementation of shared and participated strategies among different players can promote the diffusion of these innovative practices and technologies.

So, what are the lines of action required to really overcome the current unsustainable paradigm? How can we initiate a transformational change (WWF-UK, 2011) that is coherent with a more balanced and interlinked view of the economic, social and environmental dimensions of development? How can we support innovative business models and system innovation (Tukker *et al.,* 2008)? We acknowledge that the answers to the previous questions go beyond the aim of this contribution, but it is possible to outline four areas of intervention and research - firms, markets, civil society and policy makers - as key drivers of change.

Firms. With regard to the firm level, the one dimensional shareholder value approach has demonstrated to be unable to provide effective responses to the ecological and social crisis. A more comprehensive way to measure and assess corporate performance that includes contribution to the "common good" (Jackson, 2012) is therefore required. In parallel, instead of a traditional self-defeating competitive view, a collaborative perspective in business practices could further strengthen more durable processes of value creation capable of rewarding, in different ways, all the constituencies affected by – and involved in – corporate activities (Tencati and Zsolnai, 2009). A new set of key performance indicators (KPIs), capable of intercepting social and environmental impacts, represents a pivotal change in order to align business with sustainability challenges. Furthermore, these KPIs should be embedded into MBO (i.e., management by objectives) systems to foster coherent managerial decision making processes. This kind of non-financial information is needed in order to integrate and complement the traditional financial measures that are clearly unable to assess the quality of management and that provide incentives that are not in line with sustainable targets.

Markets. To overcome the short-termism of financial markets a broader concept of value creation that also takes social, environmental and governance (ESG) issues into account, is necessary. The emerging phenomenon of integrated reporting, the well-established socially responsible investing (SRI) movement, the increasing shareholder activism, and initiatives such as the Carbone Disclosure Project, are forcing firms to adopt higher standards in the accountability field, shifting the corporate focus from the shareholder value idea to a multi-dimensional concept of stakeholder value. These dynamics need to be sustained and further strengthened in order to broadly diffuse in the markets, affect investor behaviour, and impact on the financial community at large.

Civil society. Advocacy groups and nongovernmental organizations have become key forces in the societal environment that are capable of affecting firm behaviour directly and indirectly (e.g., exercising pressure on consumers, media, and policy makers). At the same time, thanks to their specialized knowledge, skills and capabilities civil society groups offer firms critical resources in order to tackle social and environmental issues. Cross-sector forms of collaboration between firms and civil society represent a growing phenomenon which, according to many observers, might support business transformation towards more sustainable approaches (Seitanidi and Crane, 2014).

Policy makers. New policies and regulations are required to foster transformations that change the rules of the game. A recent example of this is represented by the introduction of new requirements with regard to non-financial reporting in several countries and - especially in the European Union - with the recent issue of the European Directive on this topic. Another area where public interventions are crucial is action on climate change. In fact, the attention of the public opinion is concentrated on the expected outcomes of the next United Nations Conference of the Parties in Paris, which will be held at the end of 2015.

Table 2 presents a summary of possible lines of action and related emerging research issues that could support a positive transition.

Tab. 2: Transition towards a new paradigm: Actions and emerging research issues

Areas	Examples of actions	Emerging research issues
Firms	• Introduction of targeted KPIs according to a multiple-bottom-line perspective • Revision of MBO systems for advanced decision-making processes	• What is the real meaning of the value creation concept? • How can we promote a collaborative attitude in business that is capable of developing sustainable value creation processes? • How can we favour the establishment and development of flourishing organizations (Laszlo *et al.*, 2014)?
Markets	• From shareholder to stakeholder value under the pressure of several converging factors (for example, SRI, shareholder activism, new forms of accountability such as integrated reporting, and so on)	• How can markets become agents of change driving sustainability? • How can short-termism be replaced by a more consistent and coherent long-term view? What types of market incentives can support this transition?
Civil society	• Development of cross-sector partnerships towards more sustainable approaches	• What are the enabling conditions to foster cross-sector partnerships? • How can different interests and perspectives converge in effective multi-stakeholder networks to drive advanced and innovative policies?
Policy makers	• New policies and regulations to change the rules of the game: e.g., non-financial reporting and action on climate change	• What new types of governance are required to address global and complex sustainability challenges? • What new tools are needed to lead the change, considering, for example, the failure of current environmental policies?

Source: Authors' elaboration

To conclude, the challenge of SD entails questioning the roots of the mainstream, competitive paradigm and developing really innovative alternatives based on a deep and genuine respect for nature and all parties involved. This should lead to system innovations based on a collaborative approach and the interaction among firms, public authorities and civil society to address sustainability issues.

Therefore, the still prevailing unsustainable attitudes in business should be reoriented towards more caring and collaborative models (see Table 3).

Tab. 3: Mainstream enterprises versus collaborative enterprises

	Mainstream Enterprises	Collaborative Enterprises
Basic motive	Self-interest	Care about others and themselves
Main goal	Maximizing profit or shareholder value	Creating values for all the participants in the network (including the natural environment)
Criterion of success	Growth in monetary terms	Mutually beneficial relationships with stakeholders (including the natural environment)

Source: Adapted from Tencati and Zsolnai (2014, p. 321)

Enterprises can be extraordinary forces for good (Birkinshaw and Piramal, 2005) when they are able to overcome old habits and deeply care about others (including nature, society, and future generations) thanks to broad and sustainable value creation processes.

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CUEIM

Managing risks in sustainable supply chains

Invited paper

Martin Christopher - Barbara Gaudenzi

Abstract

Purpose of the paper: *The aim of this paper is to discuss the emerging challenges that modern supply chains face from the perspective of sustainability, highlighting the opportunities and the risks that these organizations encounter.*

Methodology*: The paper is theoretical, and provides an analysis of trends and challenges for sustainable supply chains and the management of related risks, highlighting some gaps in the literature.*

Findings*: The paper categorizes the priorities for modern sustainable supply chains and provides a clear differentiation between the concept of 'sustainability risk management' and the categorization of 'risks in sustainable supply chains'.*

Implications and originality/value of the paper*: The paper addresses different gaps in the literature of sustainable supply chains and provides the managers with helpful directions for their supply chain management agenda. In detail, authors identifies trends that seem to make supply chains more vulnerable and exposed to the risk, key risk-related questions for managing sustainable supply chain, suggesting a number of important issues which need to be weighed when supply chain design decisions are taken.*

Research limitations*: The theoretical approach of the paper can benefit from future in-depth analyses based on case studies.*

Key words: sustainable supply chains; sustainability risk management; risks; supply chain management

1. Introduction

There is no doubt that in recent years the business environment has become more turbulent, and hence less predictable, and characterized by the presence of more competitive opportunities and - at the same time - sources of vulnerability. Whereas in the past it was standard practice to plan ahead - with a time horizon of months, if not years - now the challenge is to find ways to become much more responsive to events as they happen. At the same time, organizations are now required to be more responsible in terms of the environmental, economic and societal impacts of their actions.

A number of authors have identified key strategic Supply Chain Management (SCM) challenges that are of increasing concern to organisations. For example, Naslund and Williamson (2010) identified three such concerns: integration of supply chain activities and processes; collaboration across the supply chain members; and sustainability. Indeed, across all the different emerging themes in Supply Chain Management literature, sustainability is one of the most cited. There is a growing awareness of the need for companies to take a more pro-active approach towards building the principles of sustainability into their business strategies.

Implementing sustainable strategies can enable companies to increase their competitiveness and to improve customer and supplier relationships. Whilst a greater focus on sustainability leads companies to embed social, environmental and economic considerations into their supply chain strategy, it also means facing and controlling new risks in their business (United Nations, 2011).

Sustainability and the increased exposure to risks are strongly related. Organizations must become aware of their role in mitigating the impact of the increased global competition and the multi-faceted risks that are inherent in global operations. For example, the generation of extra stocks of products due to forecasting errors represents a risk for organizations in terms of costs, but also in terms of social responsibility and macro-economic sustainability. Traditionally, businesses have been forecast-driven i.e. they have been run on the basis of projections of future demand, often based on past history. Such an approach works well when the business environment is relatively stable; clearly it is less effective in the uncertain conditions that many organisations face today, for example with respect to commodity prices such as oil and gas which are more volatile, or considering the variable availability of raw materials like oil and gas, or the impact of political instability in where raw materials are sourced. In addition, the progressive scarcity of water or some agricultural commodities make these political and social issues, not only managerial challenges.

It is also the case that many firms are dependent on supply chain networks that were designed some years ago when the world was a more of a certain place and the assumption was that the future would be more like the past. Now, in the significantly changed circumstances that many businesses confront, it may be the case that those supply chain solutions are no longer fit for purpose.

The optimization of transport and storage costs represents a challenge for sustainable supply chains. Conventional supply chain design was often based on so-called 'network optimisation' principles. More often than not the factor being optimised in those exercises was the firm's operating cost. Thus, the aim was to design a network which would minimise logistics costs for the organisation, particularly transport and storage costs. Also the analysis was static, not dynamic - meaning that it used the costs prevailing at a single point in time as the basis for the calculation. As a result those companies, operating logistics networks designed ten or twenty years ago, may need to revisit those design decisions and re-work the analysis to incorporate the major changes that have taken place in the cost parameters. From a sustainability perspective, the scope of network optimization should be extended in order to include environmental considerations as well.

Hence, the management of risks related to sustainable operations and the development of risk management tools that can positively assist sustainability are fast becoming a priority for businesses in every sector. Thus, the aim of this paper is to discuss the emerging challenges that face modern supply chains from the perspective of sustainability, highlighting the opportunities and risks that these organizations face.

2. Trends and challenges for sustainable supply chains

Starik and Rands (1995, p. 909) define sustainability as: "the ability of one or more entities, either individually or collectively, to exist and flourish (either unchanged or in evolved terms) for lengthy timeframes, in such a manner that the existence and flourishing of other collectivities of entities is permitted at related levels and in related systems".

Carter and Rogers (2008) and Carter and Easton (2011) introduce sustainability to the field of supply chain management, and provide a framework of sustainable supply chain management (SSCM) based on resource dependence theory, transaction cost economics, population ecology, and the resource-based view of the firm. In their view, the literature suggests that organizational sustainability, at a broader level, consists of three components: natural environment, society, and economic performance. They define SSCM as the strategic, transparent integration and achievement of an organization's social, environmental, and economic goals in the systemic coordination of key interorganizational business processes for improving the long-term economic performance of the individual company and its supply chains.

Recent studies analyse the ways companies are practically focusing on sustainability. The issues related to so-called green supply chains are particularly worth of mention. Still in October 2008, the United Nations launched, in the Environment Programme, the Green Initiative along with top economists and the support of the governements, including Germany and the European Commission. The pillars of this new initiative were clean energy and clean technologies, including recycling; rural energy, including renewables and sustainable biomass; sustainble agriculture and ecosystem infrastructure; sustainable cities, including planning, transportation and green building. All the topics related to raw material consumption, storage, waste reduction, transportation and recycling are significantly related to logistics and supply chain management.

In this sense, sustainability is related to "green" - environmentally responsible - supply chains that eliminate waste, reduce pollution and contribute in a positive manner to improving the quality of the environment through eco-friendly processes, subassemblies and finished goods. Carbon footprint reduction along with the supply chain is one example.

Already in 2010 Simchi-Levi highlighted how in some industries 'being green' will play out as lead to an increase in regulations that companies will have to follow, and will require thinking about how much carbon the supply chain produces.

Authors (Simchi-Levi, 2010; Naslund and Williamson, 2010; Gold *et al.,* 2010; Seuring, 2011) defined the priorities of modern supply chains as summarized in Table 1.

Tab. 1: Priorities of modern supply chains

OUTCOME	OBJECTIVE	KEY DESIGN TRAITS
Cost	Reduce product costs, ensure timely and reliable delivery and maintain quality.	Reduced use of slack in its three forms - inventory, lead time and capacity. Standardization of products and processes where possible. Emphasis on reducing waste and variance across the supply chain. Modular supply chain design, involving close interaction and integration with immediate customers and first-tier suppliers (other suppliers are expected to manage their own suppliers).
Responsiveness	Respond to changes in demand (volume, mix, location) quickly and at reasonable cost.	Close information linkages with critical customers and suppliers to monitor demand, facilitate/improve forecasting and monitor state of supply. Excess capacity - redundancy - in the supply chain (especially on the upstream side). Supply planning to include not only production capacity but also logistics capacity. Prequalified suppliers. Emphasis on small-lot production. Extensive supplier development and supplier assessment systems. Information systems to coordinate production/ information flows.
Risk	Ensure that supplies coming through the supply chain are protected from disruption because of external threats. Protect product integrity and consistency.	Emphasis on visibility and transparency, provided through integrated information systems (or, in extreme cases, vertical integration) throughout the supply chain. Redundancy of resources in case of a problem with a supplier. Limited number of partners (fewer opportunities/ entry points for a possible threat). Mapping of the supply chain to identify possible weak points. Comprehensive and integrated supply chain planning and management. Emphasis on control through certification, extensive auditing or other means.
Sustainability	Provide products through a supply chain that ensures controlled and minimal resource impact, both today and in the future. Ultimately implement and maintain a "cradle to cradle" perspective.	Visibility/transparency throughout the supply chain to ensure that all members are aware of threats or opportunities. Greater emphasis on the Three Ps (product design, process, packaging). Integrated supply chain planning and management, in recognition that design must begin with resource extraction and end with product disposal/renewal. Use of broader performance measurement systems and measures (total cost of owner- ship, triple bottom line). Extensive supplier prequalification and assessment to ensure that the "right" suppliers are selected and that they understand what is required. Extensive use of audits and certification standards throughout the supply chain (ISO 14001). Introduction of systems for product takeback (reverse logistics) and marketing waste.

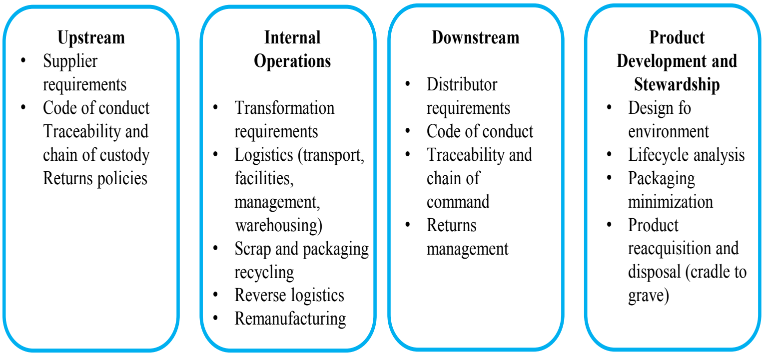
Resilience	Develop a system that can identify, monitor and reduce supply chain risks and disruptions, as well as react quickly and cost-effectively. Offer the critical customer "peace of mind."	Emphasis on visibility and transparency, provided through integrated information systems (or, in extreme cases, vertical integration) throughout the supply chain. Acceptance of the need for excess resources (inventory, capacity, lead times). Mapping of the supply chain to identify possible weak points. Integrated supply chain planning and management. A focus on possible threats not only to suppliers but also to logistics linkages. Presence of precertified/prequalified suppliers. Extensive use of contingency planning ("What if?" analysis).
Innovation	Provide critical customers with a stream of products and services that not only are new but also address needs that competitors have neglected or not served well. Provide new ways of producing, delivering or distributing products.	Development and protection of intellectual property, due to cooperation with key suppliers. Deliberate presence of excess resources. Viewing suppliers as sources of "close innovations" - developed to solve problems in other markets but that have to be refined before they can be used to address current customer needs. Close integration, especially with critical customers and suppliers, so as to innovate jointly. Encouragement of a wide range of different perspectives and solutions. Avoidance, during early stages of product development, of specific performance metrics so as not to stifle innovation. Offering a wide range of supply chain structures ranging from purely modular to purely integrated, depending on the type of innovation being pursued.

Source: Adapted from: Simchi-Levi (2010)

Global supply chains today are particularly exposed to stricter regulations, audits and certifications in fields of sustainability, in particular pollution, gas emission, waste reduction and reverse logistics. In recent years, issues related to product design have become paramount as companies try to focus more on reusable and recyclable products and parts.

All the above-mentioned issues related to sustainable supply chains can be categorized in the areas of upstream relationships, internal operations, downstream relationships and product development (Mollenkopf, 2006) as indicated in Figure 1.

Fig. 1: Pillars of sustainable supply chains



Source: Adapted from: Mollenkopf (2006)

Considering the issues related to sustainability in supply chain management, there are still some questions that are not fully addressed by the literature (EIU Report, 2010a; EIU Report, 2010b; Wittstruck and Teuteberg, 2012).

The macro-economic crisis may represent an obstacle to pursuing sustainability.

The organization's immediate financial and competitive goals are of higher priority than sustainability. The economic crisis may represent a leading obstacle to embracing sustainability.

The link between sustainability and profitability remains unclear.

While there is a strong link between financial performance and commitment to sustainability, organizations seem to consider this link strong in the long term and not in the short term (Laszlo and Zhexembayeva, 2011).

Sustainability can lead to new supply chain strategies.

Different authors emphasise the increasing strategic attention to - in particular - environmental protection, green transports and development of green products. As a consequence, hopefully, companies will also increase the communication of social sustainability goals, through codes of ethics and communication for example (Carter and Easton, 2011).

Organizations should embed sustainability into various corporate functions.

The EIU Report (2010a) on sustainability highlights that companies include sustainability in a variety of corporate functions, including supply chain relationships (29%), improving energy efficiency (38%), educating employees on sustainability (32%) and engaging employees in sustainability-related activities. In addition, considering the strategic role of sustainability efforts, these should be led by senior management and supported by various stakeholders. A different research conducted by EIU

Report (2010b) revealed that sustainability initiatives are very important to the boards at for the 44% of the companies, and to senior management at a 36%. However, these figures are much higher than those of any other stakeholder, whether it is middle management inside the company (19%), employees (20%) and investors (23%) - or external local communities (28%), customers (23%) and suppliers (9%). This indicates that management needs to do more to educate both internal and external groups on the importance of sustainability to corporate strategy.

3. Understanding risk in sustainable supply chains

Shrivastava (1995, p. 955) provided a description of sustainability which is directly related to risk. Sustainability means offering, "the potential for reducing long-term risks associated with resource depletion, fluctuations in energy costs, product liabilities, and pollution and waste management".

Recently, Spekman and Davis (2004, p. 418) suggest this one "[...] dimension of risk relates to the concept of corporate social responsibility and to the extent of which supply chain members' reputation and image can be tainted by the actions of another member who engages in activities that result in public sentiment or outcry or, even worse, is accused of criminal behavior where liability extends up and down the supply chain".

Sustainability and Risk are evidently related.

In the risk management literature, an existing gap is related to the absence of a clear differentiation between the concept of 'sustainability risk management' and the categorization of 'risks in sustainable supply chains'.

Sustainability risk management is a business strategy that aligns profit goals with a company's environmental policies (Anderson and Anderson, 2009). Organizations implementing sustainability risk management generally focus on the environmental effects of each business process individually and then look for ways to minimize them. An effective sustainability risk management framework can help in identifying emerging issues of concern that may affect supply chain, operations and production. Examples of emerging issues include the availability of renewable energy sources and the depletion of non-renewable resources or changing. In addition, Ernst and Young Co. recognized that 'sustainability risks' affect five domains of the organization: reputational, compliance, financial, operational and strategic (Ernst and Young, 2010).

However, in the last 10 years, research on supply chain risk management has rarely analysed sustainability issues in supply chains (e.g., Spekman and Davis, 2004; Anderson, 2006), and has seldom integrated sustainability issues into the existing supply chain risk literature (Chopra and Sodhi, 2004; Harwood and Humby, 2008; Borghesi and Gaudenzi, 2012; Christopher and Gaudenzi, 2009). In fact, current supply chain risk management frameworks do not provide insights of how sustainability issues materialise as risks. Thus, they also fail to delineate specific risk management approaches.

Recently, the supply chain management literature has placed more emphasis on the issues of sustainability (Foerstl *et al.,* 2010; Christopher *et al.,* 2011; Hofmann *et al.,* 2014). As supply chains become increasingly global, sustainability and vulnerability simultaneously become more important.

Global supply chains often involve offshore and outsourced activities. In this scenario, social and environmental activities occur beyond a firm's direct control, increasing risk exposure. In addition, there is a need for more attention to be paid towards the environmental footprint and how it might be impacted by the increased need for transportation in order to move goods around the world (Mollenkopft, 2006).

For these reasons, one of the distinguishing characteristics of modern supply chains is that they operate in an environment of heightened uncertainty and business risk. Currently supply chains are probably more vulnerable to disruption than they have been for many years.

Recent events have highlighted once again how vulnerable to disruption our increasingly global supply chains are. Natural disasters such as earthquakes, hurricanes and floods often have tragic consequences and thus capture significant media attention. It is also evident that events such as these can have considerable impacts on supply chains. The effects of the 2011 earthquake and tsunami in Japan were felt in a multitude of companies around the world as a result of disruption to supply arrangements. However, what is not always recognised is that the major part of the risk to supply chain continuity is often created by decisions that are taken by managers on the design of the supply chain itself. We could label such risks as 'systemic' because they lie within the supply chain itself rather than in the wider business environment. Hence it can be argued that the shape of the supply chain risk profile is largely determined by managerial decisions and actions and not just by the exposure to external risk sources.

Very few studies, however, explore and analyse the specific risks brought about by sustainable operations. Cousins *et al.* (2004), Teuscher *et al.* (2006) consider the nature of risk emanating from sustainable strategies, but there is dearth of research that addresses management strategies of these risks in sustainable environments. This study draws upon the literatures of supply chain risk, risk management and sustainable operations to develop synthetic conceptual insights into the existence of specific sustainability risks. Through an extensive literature review it explores and identifies salient types of risks and develops an analytical framework for the mitigation of risks associated to sustainable operations.

Risks faced by sustainable supply chains can be classified into environmental risks (Pollard and Stephen, 2008), financial risks (Chapman, 2006), social risks (Giannakis and Louis, 2011) and operational risks (Blackburn, 2007). Pollard and Stephen (2008) for example distinguished environmental risks into "inside-out" risks and "outside-in" risks. The first category of risk factors includes environmental issues arising from the company's products, services or activities that have a significant impact on the environment. The second involves risk in global environment that has an impact on each organisational unit. Financial risks are those external financial events that could have an adverse impact on financial performance, such as interest rates, exchange rates, credit variability, commodity prices (Chapman, 2006; Pollard and Stephen, 2008). However, there are also financial risk issues internal to organizations. These can arise from environmental and operational risk events that include brand strength, cash flow dynamics, unsold products, profit and sales (Blackburn, 2007).

These risks are also correlated. For instance, environmental issues such as pollution or product waste problems can damage the company's reputation, which in return will most likely decrease sales and profit, damage brand strength and cash flows. Possible risk categories are summarized in Table 2, through a synthesis of different classifications found in the literature (Giannakis and Louis, 2011); Chapman, 2006; Anderson, 2006; Blackburn, 2007).

Tab. 2: Risks faced by sustainable supply chains

Environmental risks (inside in)	• Environmental incidents (e.g. Fires, explosions, accidents) • Pollution (air, water, soil) • Industrial emissions • Greenhouse gases • Energy consumption (unproductive use of energy) • Packaging
Environmental risks (outside in)	• Natural disasters (e.g. hurricanes, floods, eartquakes) • Social uncertainty • Political instability • Industry/market risk
Social risks	• Unsocial working hours; unbalanced employee work life • Wages (unfair payment) • Child labour/forced labour • Discrimination (race, sex, religion) • Employee health and safety risk • Workplace health and safety risk • Exploitative hiring policies • Human rights (infringe on the rights of others)
Financial risks	• Interest rate risk • Fiscal risk (tax related risk) • Exchange rate risk (currency fluctuations) • Credit uncertainty • R&D investment risk • Changes in relative prices (volatile oil/fuel prices) • Economic recession
Operations risks	• Demand volatility/Seasonality • Inaccuracy in forecast • Quality related risk • Lack of availability of raw material • Product design changes • Fluctuation in lead time • Contraint on supplier capacity • Supplier bankruptcy • Labour strikes in supplier's company • Losing the competitive advantage of supplier • Non-confirming products • Excess inventory risk • Inventory stock-out

Source: our elaboration

There is a number of trends that seem to make supply chains more vulnerable and exposed to the risk of disruption than was perhaps the case in the past. These include:

- the trend to 'lean' supply chains and just-in-time practices. Many companies have actively sought to improve the efficiency of their supply chains by introducing just-in-time arrangements and have sought to 'lean' down their operations. This approach, whilst undoubtedly of merit in stable market conditions, may become less viable as volatility in the business environment increases;
- the globalisation of supply chains. There has been a dramatic shift away from the predominantly 'local-for-local' manufacturing and marketing strategies of the past. Now, as a result of offshore sourcing, manufacturing and assembly, supply chains extend from one side of the globe to the other. As a consequence there can be an exposure to geo-political risks as well as exchange rate changes and longer, more variable lead-times;
- focussed factories and centralised distribution. In an attempt to capture the economies of scale, many companies have rationalised their production facilities and centralised their distribution. Thus, instead of many smaller and often local factories and warehouses serving local markets, those companies now seek to serve global markets from fewer but bigger facilities. As a result, the risk to the system as a whole increases if one of those facilities becomes inoperable.

As a result of these and other trends today's sustainable supply chains have undoubtedly become more complex and vulnerable. Complexity, properly defined, is not just about how complicated these networks are but rather about how inter-connected they are. The typical supply chain today will often have more nodes and links than in the past. This makes the task of controlling the network more difficult. As an example, Henry Ford 1 producing the Model T Ford owned most of the end-to-end supply chain including steel mills, rubber plantations and component manufacturing factories. Today, Ford is a totally different business, reliant on thousands of independent suppliers and partners located in a multitude of countries. As a result, the potential for unexpected events that could impact any of the myriad of nodes and links in the system and hence disrupt its continuity is increased.

In order to support organizations in including sustainability issues in their supply chain management agenda, there are some questions that supply chain managers should ask and respond to (Table 3).

Tab. 3: Questions for supply chain managers

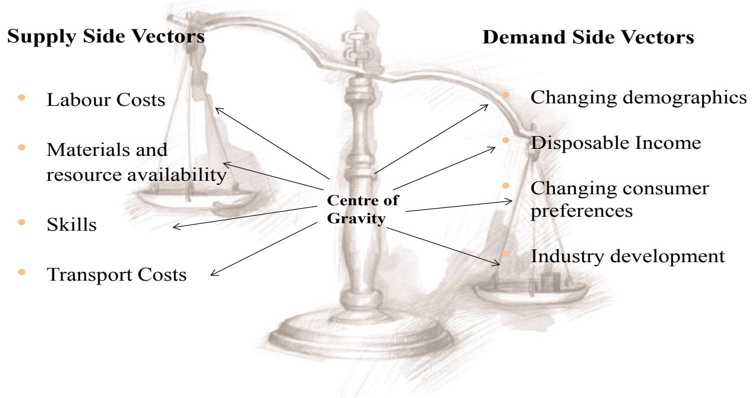
Strategic risk	- Is SCM integrated into sustainability strategic planning? - Does the organization fully understand and address the strategic implications of sustainability risk to the supply chain? - Does the SCM team have skills and people to evaluate these risks? - What sustainability risks in the supply chain can be turned into new business opportunities? - Is SCM involved in researching, developing and designing new products? - Are social risks and environmental risks considered in stainability strategic planning?
Compliance risk	- Are policy and regulations clear in the field of sustainability? - Is SCM a part of the organization's sustainability strategy and reporting? - Are the SC performance measures and reporting aligned with industry standards for compliance and transparency with stakeholders? - What regulatory and customer requirements might be established that affect SCM, and how prepared is SCM to respond? - Is your company subject to any green supplier program requirements, and if so, are you complying? - Does your organization have a green supplier program in place, and if so, how are you tracking compliance by your suppliers?
Financial risk	- Are the SCM functions up to date on the fiscal and financial controls related to sustainability programms? - To what extent has sustainability costs been contemplated in supply chain decision-making? - How can SCM help to prioritize projects and control expenses related to sustainable programms? - Has the organization decided on what is material for financial and non-financial supply chain reporting purposes? - Is SCM involved in reaching financial goals related to sustainable programms?
Reputational risk	- To what extent does the organization engage in ongoing dialogue with its suppliers around sustainability? - Does the organization conduct supplier audits and/or maintain supplier scorecards, including sustainability issues? - What opportunities can be captured from SCM collaborating with other business functions, such as sales and marketing or product development? - Is reputational risk at the forefront when sustainability strategy is developed and implemented within the supply chain? - Is SCM working with the organization's internal and external auditors to enable transparent reporting of its data? - Does SCM currently have adequate controls and processes in place in the event that sustainable supply chain risks become part of the annual financial statement disclosures in the future?
Operational risk	- Has the company assessed the supply chain for key cost-saving (and carbon-reducing and/or waste-reducing) opportunities? - Has SCM estimated how a long-term change in weather patterns, a new price for carbon emissions, or higher energy costs would affect the entire supply chain and margins? - Has the company calculated the greenhouse gas emissions from its supply chain? - Has the company calculated the environmental impact from its products (lifecycle assessment), and is that data being used effectively to make better decisions? - Does SCM understand its contribution to sustainability measures and where to focus efforts to improve them? - What management systems and internal controls are in place to identify, monitor and quantify the risks and opportunities of sustainability-related issues in SCM?

Source: Adapted from: Ernst and Young (2010)

4. Changing centres of gravity

All supply chains have a 'centre of gravity' which is determined by the combined effects of the 'pull' of various forces on the demand side and the supply side of the firm. The resultant centre of gravity impacts decisions on where factories should be located, where materials should be sourced and where strategic inventories should be positioned. Figure I below suggests that a number of important issues need to be weighed in the balance when supply chain design decisions are taken.

Fig. 2: The supply chain's centre of gravity is shifting



Source: Picture source: http-//www.troyrawlings.com/images/scales_20of_20justice.jpg

On the demand side the forces or vectors that will impact the centre of gravity include:

Changing demographics

As a result of population growth dynamics and changing age profiles, some markets globally are growing more rapidly whilst others are shrinking. For example, Unilever now reports that over half its turnover comes from developing countries.

Differences in disposable income

A major change is taking place regarding the relative growth in spending power in different countries. Traditional markets in the West, which once dominated global spending, are now being overtaken, by the emerging economies in terms of expenditure.

Changing consumer preferences

As populations change from being predominately rural towards increasingly urban and as their disposable income rises, so does the pattern of consumption. The massive growth in the demand for cars in China and India provides a good example of this, as do the changes in diet, now occurring in many emerging economies with a consequent rise in the demand for dairy and meat products.

Industry development

The major shift in industrial production away from Western economies to low cost countries has had a significant impact on trade flows and the level of demand for raw materials. Serving these fast growing markets, whilst still needing to maintain a presence in static or declining markets, is a challenge many companies face today.

Similarly, on the supply side, a number of factors will act as countervailing forces impacting the centre of gravity. These include:

Labour costs

Many sourcing decisions in recent decades have been motivated by the desire to take advantage of lower labour costs. So-called 'low cost country sourcing' has been based on the desire to improve competiveness by manufacturing or sourcing in locations where labour costs are a fraction of more traditional locations. However, what were once significant differentials in labour costs has often been eroded by wage inflation. Likewise, new potential contenders for the description of low cost countries have emerged.

Material and resource availability

Inevitably, the availability and the cost of key input materials and resources such as metals, energy, chemicals and other commodities are a major influence on location decisions. With rising demand and, in some cases, declining supply the availability and prices of these critical input factors can be dramatically affected. There is a growing realisation amongst some established manufacturing companies that they will have to re-assess their current supply chain arrangements as production economics that prevailed in the past may no longer apply.

Skills

As industries continue to become more knowledge-intensive and dependent upon specific skills and capabilities, access to them becomes ever-more critical. Even in times of high unemployment companies in many sectors find that they face skills shortages, for example information technology specialists, software designers and engineers. Whereas once it was the Western world that pre-dominated in the supply of these skills, this is rapidly changing as the levels of education and training in the newly emerging economies accelerates.

Transport costs

Due to the fact that the major part of transport is dependent on oil-based fuel, it is inescapable that transport costs will be impacted by variations in the cost of oil. When many of today's supply chains were originally designed, the cost of oil was a fraction of what tends to be today. Whilst the current volatility in fuel prices make it impossible to assess future trends, it is quite possible that if oil prices were to rise over time, current supply chain arrangements will prove to be too expensive.

5. The search for structural flexibility

Due to the likelihood that the centre of gravity of a supply chain is going to change more frequently in the future, given the volatility of the business environment, the need for flexibility in the supply/demand network increases. Many companies find themselves in a situation where they have invested in specific supply chain solutions which are often fixed for a period of time e.g. factories, distribution centres, supply arrangements etc. As a result, they may find it difficult to re-configure the network as conditions change. This ability to quickly change actual shape of a supply/demand network can be called structural flexibility.

What are the key enablers of structural flexibility?

Perhaps the most critical enabler, but the most difficult one to achieve, is a corporate culture and 'mindset' that is open to change and is comfortable with frequent changes to processes and working practices. Also, because of the fact that some of the enablers of structural flexibility - discussed below - involve much higher levels of collaborative working across organisational boundaries, there needs to be a willingness to actively create 'win-win' partnerships across the supply chain.

Given that this co-operative approach to working across the extended enterprise can be achieved, the main elements that underpin structural flexibility include:

Visibility and information sharing

The ability to see from one end of the pipeline to another is essential. It is important to be able to see the changes that are on the horizon both upstream and downstream. Information sharing provides a powerful platform on which collaborative working relationships across the supply chain could be built.

Access to capacity

An important facilitator of flexible supply chain management is the ability to access additional capacity when required. Capacity in this case refers not only to manufacturing but also to transport and warehousing. Furthermore, that capacity may not be owned by the firm in question, it could come from partners across the network, third party providers or even competitors.

Access to knowledge and talent

Given the rapid rate of change in both markets and technologies, a major challenge to organisations today is to ensure that they have access to knowledge in terms of the potential for product and process innovation. Equally critical is the access to people who are capable of exploiting that knowledge. 'Open innovation' and technology sharing agreements are ideas that are rapidly gaining ground. Once again, companies are increasingly turning to external sources of knowledge and talent to provide adaptive capabilities.

Inter-operability of processes and information systems

In an ideal world, organisations would be able to alter the architecture of their physical supply chains in short time frames with minimal cost or disruption involved. Equally, those same companies need the ability to manage multiple supply chains serving specific market segments. To enable this re-configuration, it greatly helps if the nodes and links of the supply chain are 'inter-operable'. In other words, they can be plugged together in a variety of ways to enable specific supply chain solutions to be easily constructed. Standard processes and information systems help greatly in creating inter-operability.

Network orchestration

Due to the fact that the achievement of higher levels of adaptability generally requires inputs from a variety of other entities in the wider supply/ demand network, the need for co-ordination across the network arises. As supply chains become more 'virtual' than 'vertical' there is a growing requirement for orchestration. Whether that orchestration task is performed by the firm itself or by a specialist external logistics service provider, the ability to structure appropriate networks and to synchronise activities across the nodes and links of those networks is paramount.

6. Conclusion

When the concept of supply chain management first emerged, the world was a different place. Whilst the original underlying principles of supply chain management still apply today, the idea that networks can be 'optimised' in terms of cost, impact on the natural environment and sustainability has to give way to a design philosophy that is grounded on the premise that the best decisions in conditions of uncertainty are those that keep the most options open. Hence, there is the need to constantly seek supply chain solutions that are flexible and resilient enough to respond to events as they happen.

Supply Chain managers need to be aware of the risks and opportunities that sustainability poses for the organization. Supply Chain Management offers multiple opportunities to reduce costs and mitigate risk as part of an effective sustainability strategy, for example, green product design and packaging specifications that minimize waste, extend life, utilize recycled content and increase recyclability. Moreover, logistics and distribution network redesign that optimizes routing, and reduces carbon emissions can contribute to a more sustainable outcome.

From a more operational perspective, efficient manufacturing and process improvements for lower energy consumption along with an emphasis on waste management and alternative energy sources can only be to the advantage of the business.

As the pressure on companies to improve their sustainability grows, so does the need for them to understand the risk, inherent in supply chain design decisions. In this way, the twin goals of enhanced sustainability and risk reduction may be achieved.

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From stakeholder engagement to the collective-impact approach for sustainability paths in complex problems

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Abstract

Purpose of the paper: *Stakeholder engagement is becoming the preferred approach for implementing sustainability paths. However, it is not always sufficient to develop responsible behaviours. Large-scale social change requires broad cross-sector coordination and the commitment of a group of important actors (Kania and Kramer, 2011). Such change can be considered from the perspective of 'collective impact'.*

This paper analyses the case of an area named Agro Caleno, which belongs to the territory that has recently been dubbed 'The Land of Fires' in Campania, Italy. A succession of environmental and health crises have afflicted this area for the past eight years, creating serious difficulties for the structural stability of many businesses that produce protected designation of origin (PDO) food items, as well as the entire community.

Methodology*: This research uses qualitative analysis. It employs documentary research and a direct survey of the businesses and local municipalities of the case-study area. In particular, this paper addresses the experience of some businesses that are implementing initiatives to adopt collaborative sustainable behaviours.*

Findings*: This research demonstrates the strong strategic importance of the decision to create a network to address the consequences of the environmental problems faced by businesses in Agro Caleno. However, while it was found that there is a good level of cooperation between business and local institutions, the network has not produced the estimated results.*

Practical Implications*: To produce consistent and effective results that will solve a complex problem such as environmental pollution, it is not only necessary to create cross-sector public and private partnerships, but also to initiate a systematic approach focused on the relationships between different stakeholders and a progression towards shared goals that maintain the perspective of collective impact.*

Limitations*: This research did not conduct exhaustive investigation of all categories of stakeholders.*

Originality of the paper*: This paper provides an in-depth examination of the importance of social capital in creating sustainable business behaviours and proposes the theoretical approach of collective impact for solving complex problems from the perspective of sustainability.*

Key words: sustainability; stakeholder engagement; social capital; collective impact; complex problems

1. Introduction

Currently, the relational approach and stakeholder engagement are considered obligatory paths for the implementation of sustainability strategies. Sustainability is a multi-stakeholder concept. Engagement eases the dialogue among the interested parties, and allows movement towards a systematic management of the supply chain that should be based on trust, safety, traceability and strong partnerships with stakeholders-from suppliers to distributors, and to the end customers (Perrini *et al.,* 2006; Russo and Tencati, 2009). Such engagement contributes to accessing the innovative potential that exists within the cooperation (Tencati and Zsolnai, 2009), and increases the value and the quality of processes and outputs (Dallocchio *et al.,* 2010), allowing competitiveness models that are connected to the advantages of differentiation to be sustained (Werther and Chandler, 2005).

Relational approaches are quite clear in their different theoretical guidelines related to sustainability. At the firm level (i.e., corporate social responsibility [CSR]), relational approach refers to the obtained benefits (Orlitzky *et al.,* 2003; Porter and Kramer, 2006; Perrini *et al.,* 2009); at the production-line level, it refers to the management of relationships within the supply chain (Carter and Jennings, 2002; Reuter *et al.,* 2010); at the network and system level (Hemmati, 2002; Zadek, 2006; Caroli and Tantalo, 2011). However, sometimes collaboration among stakeholders is not sufficient to develop the responsible behaviours necessary to obtain the desired results. The literature underlines the importance of wide participation models that must achieve the following:

- 'involve equitable representation of three or more stakeholder groups and their views' (Hemmati, 2002, p. 19);
- be 'based on democratic principles of transparency and participation and aim to develop partnerships and strengthened networks between and among stakeholders' (Hemmati, 2002, p. 19);
- create 'civil society initiated multi-stakeholder arrangements that aim to fulfill a leadership role in the protection of the global commons or the production of global public goods' (Glasbergen, 2010, p. 130).

In some cases, the literature also underlines the need to consider forms of governed cooperation. Such governed cooperation must include the commitment of a group of important actors with different backgrounds that are working together to achieve a common agenda for the development of sustainability projects. As Kania and Kramer (2011, p. 36) state, 'large-scale social change requires a broad cross-sector coordination […] a commitment by a group of important actors from different sectors to a common agenda for solving a specific social problem'.

This paper analyses the possibility of implementing governed collaboration to manage a complex sustainability problem and to adopt a process that could lead to the development of initiatives that benefit all involved parties and work for the common good. The problem analysed in this paper is the pollution of Agro Caleno, an area that belongs to the territory recently termed 'The Land of Fires' in Campania, Italy. In Agro Caleno, environmental and health crises have created serious difficulties for the production of protected designation of origin (PDO) food items and the entire community. Although there was a good level of cooperation among firms and local institutions, in the early years of the crisis (2008-2009), the network did not yield the results it estimated. In addition, national and regional initiatives in Italy that were designed to address the new environmental emergency appeared disjointed and were not shared by economic operators. This led to consideration of the viability of creating governed collaboration for managing the complex problems in a sustainable manner.

The first part of this paper examines the concepts of engagement and social capital, considering social capital in relation to creating sustainable behaviour and the collective-impact approach for managing complex sustainability problems. A model for a sustainable local system is presented in this part. The second part presents the empirical research, discussion and conclusions of this paper.

2. Interaction, stakeholder engagement and social capital: a focus on SMEs

Since its philosophical origins, the concept of a relationship has been defined through the idea of 'interaction', and it has been clear that through experience, observation and inference, individuals and cultures gain increasingly greater knowledge. Various disciplines have examined the manner in which knowledge is transmitted from one person to the other and the *theory of the spread*, of the anthropological mould, and the *social-learning theory* of Bandura (1977) mark the transition from the behaviourist approach to the concept of cognitivism. In the context of management studies, the stakeholder theory is the principal that represents the company in its relational identity (Freeman, 1984; Freeman *et al.,* 2004). The stakeholder-theory approach emphasises the need in business management to respect different interests of stakeholders. Such consideration is expected to allow the company to find compatibility among economic objectives, and will allow it to maximise the return and satisfaction for shareholders and stakeholders. The later theory of stakeholder engagement asserts a core value, which is the position of responsibility required of firms and stakeholders to engage in the sharing of information, construction of a dialogue and an ongoing commitment to solve problems together (Svendsen and Laberge, 2005).

Since Barnes's (1954) study, the concept of the network has explained the ties between different actors. This concept has been thoroughly analysed through consideration of structural analysis, exchange and relation theories, as well as social-capital studies (Coleman, 1990). Burt (2000, p. 282) states that networks 'have been identified as an important source of social capital'. The concept of the social capital is defined as 'connections among individuals-to social networks and the norms of reciprocity and trustworthiness that arise from them' (Putnam, 2000, p. 19). This concept has captured the interest of economists (e.g., Woolcock and Narayan, 2000), sociologists (e.g., Coleman, 1988) and political scientists (e.g., Ostrom, 1994), and in management studies, it is considered a strategic asset (Nahapiet and Ghoshal, 1998; Adler and Kwon, 2002). Social capital in a company are one of its most important assets. Burt (2000, p. 283) argues that social capital 'is the final arbiter of competitive success for entrepreneurs'. Spence *et al.,* (2003, p. 17) also state that social capital 'can be considered to be the product of co-operation between various institutions, networks and business partners [and it] 'is found to be influenced by context and, in particular, institutional arrangements'.

The relationship between networks, social capital and the common good is also important. Meister and Lueth (2001, p. 94) state that investing in social capital should become a corporate strategy 'since it is in the interest of business to take its role in society seriously and engage in developing a society in which gains of co-operation will increase. Investment in social capital thus could be seen as a major contribution to the common good'. Spence and Schmidpeter (2003, p. 94) also state that 'business organisations need to engage in the development of the society in which they want to do business, since business is influenced by the society in which it operates'.

Interactions, networks and social capital are even more important in small and medium enterprises (SMEs). In such enterprises, relational identity becomes a distinctive feature (Birley, 1985), and is a driver for developing strategic paths that are based on the ability to weave both internal and external informal relationships through participation in a network (Marchini, 1995).

In SMEs, it is essential to build and to manage relationships in harmony with business partners, both with other economic actors (e.g., suppliers, other companies or sellers) and consumers. The relationship must be built with the partners. Given that SMEs have fewer resources with which to convince their stakeholders, they have fewer tools with which to 'impose' a business relationship. The ability of SMEs to develop harmonic and trustful relationships with stakeholders is considered the basis of their long-term performance (Spence *et al.,* 2003). The relationships built with other small enterprises are also very important for SMEs to be able to survive tough competition (Spence *et al.,* 2001). When such relationships are created with stakeholders, businesses have the potential to compensate for their lack of size and the loss of economy of scale that is often characteristic of SMEs. Goffee and Scase (1995, p. 18) note that the 'mutually beneficial support and benefits may take the form of a broader range of products and services to customers, faster and more flexible response times and the purchase of materials and services in an informal, ad hoc way without undue bureaucratic constraints'.

As such, networks can be considered multi-faceted constructions that contribute to allowing business and society to attain different goals (Spence and Schmidpeter, 2003). Networks and norms of reciprocity are productive and important elements for businesses that generate mutual gains of cooperation (Habisch, 1999). As Putman (1993, p. 167) states, trust, norms and networks are 'features of social organization […] that can improve the efficiency of society by facilitating coordinated actions'.

3. Social capital for sustainable paths. The necessity of governed relations: the collective-impact approach

Social capital can support a specific reciprocity and mobilise solidarity, and may originate from a need to react to (negative) external forces (Putnam, 2000). As such, social capital has some important aspects related to business ethics. It highlights the manner in which business is performed, dealing with issues such as transparency, honesty, cooperation, trust, community investment, organisational citizenship and goodwill. The adoption of ethical behaviour in business allows the construction of 'a set of durable relationships, it consents to strengthen the relational nature of a firm and to empower it in a virtuous cycle: CSR generates assets of social capital and social capital leads to CSR' (De Chiara, 2012b, p. 146).

Social capital 'is a potentially critical aspect for small business life' (Spence *et al.,* 2003, p. 18), that is, for SMEs. Joseph (2000) found that SMEs play an important role in economic regional development through engagement and civic issues. As such, it can be considered that 'the management of social capital is a crucial aspect for long-term performance, while CSR strategy or CSR tools can improve and enounce the relational nature of SME and strengthen its social capital' (De Chiara, 2012, p. 146). This concept is often addressed in the literature (e.g., Spence *et al.,* 2003; Perrini, 2006).

Social capital is an interactive concept, above all in SMEs. SMEs are not 'microcosms', but principally exist because of a constant and essential exchange with their economic and social environment. All companies have the capacity to exploit the relational, social and cultural fabric of their places of production. They have the important role of using their relationships and their social capital to create a 'unique' network because it is abounding with cultural traditions and expertise in each different territory. Similarly, local institutions have an equally important role of balancing the differences of all the actors of the network so that the network constitutes an effective resource for local development. The engagement of local institutions is essential because 'local solutions of civic-engagement and self-regulation are playing an increasing role in guaranteeing successful interaction in everyday-life' (Spence and Schmidpeter, 2003, p. 96). Therefore, the work of institutions must function alongside the work of the companies who are connecting with other economic actors and with institutions to benefit from their social capital. The institutions aim to develop policies and services for companies, to value the networks, and territory's aptitudes and inclinations (Iannone, 2007; Barile *et al.,* 2013), as well as to create the conditions so that even the small-sized companies can increase their contribution to the common good (Bennett, 1999).

In addition, companies cannot implement sustainability paths alone. It is necessary to consolidate relationships between companies and local systems, connecting the company and the local environment (Iannone, 2007; Pilotti *et al.,* 2013).

As stated, sustainability is an opportunity to build collaborative interactions and partnerships between public and private actors. However, collaborative interactions are not always sufficient. As underlined in the collective-impact perspective, 'large-scale social change requires a broad cross-sector coordination' and a commitment by 'a group of important actors from different sectors to a common agenda to solve a specific social problem' (Kania and Kramer, 2011, p. 36). This perspective stresses that the different types of traditional collaborations, such as the funder collaborative, public-private partnerships, multi-stakeholder initiatives and social sector networks organisations, have failed in the attempt to solve complex social problems. The collective-impact approach refers to a type of collaboration that solicits a separate organisation (or organisations) with a specific sets of staff skills, shared tools and a structured process to create a common agenda (see Table 1).

Tab. 1: Five conditions of collective success

Common Agenda	All participants have a shared vision of change, including a common understanding of the problem and a joint approach to solving it through agreed actions
Shared Measurement	Collecting data and measuring results consistently across all participants ensures that efforts remain aligned and participants hold each other accountable
Mutually Reinforcing Activities	Participants' activities must be differentiated while still being coordinated through a mutually reinforcing plan of action
Continuous Communication	Consistent and open communication is needed across the many players to build trust, assure mutual objectives and create common motivation
Backbone Support	Creatingand managing collective impact requires a separate organisation (or organisations) with a specific set of staff skills to serve as the backbone for the entire initiative and coordinate participating organisations and agencies

Source: adapted from Kania and Kramer (2011)

Members' behaviour is fundamental in the collective-impact approach. Kania and Kramer (2011, p. 39) state that the success of this approach 'is not merely a matter of encouraging more collaboration or public-private partnerships. It requires a systemic approach to social impact that focuses on the relationships between organizations and the progress toward shared objectives' and add that the 'expectation that collaboration can occur without a supporting infrastructure is one of the most frequent reasons why it fails' (Kania and Kramer, 2011, p. 41).

While not all social problems demand a solution using the collective-impact approach, 'adaptive problems' (i.e., complex problems) such as environmental pollution, and social welfare cannot be solved by one company alone.

4. Local system social responsibility

Complex problems require engagement on a local level because economic competitiveness and social compatibility-or social welfare and economic prosperity-are pairs that benefit from a relationship of mutual conditioning, which is a reciprocal exchange between economy and society and that has a very special significance when the economic system is comprised of small businesses.

If the link between social welfare and economic prosperity is broken, or does not develop in a virtuous manner, wider engagement may become necessary. All stakeholders must participate and play an active role. The engagement of stakeholders is a process that should lead to sharing objectives and actions with the ultimate aim of stimulating the regeneration of local-system resources and restoring a virtuous cycle in which the local system acts as an active determinant in the creation of competitive advantage.

A network that combines skills, expertise and coordinates these towards the common good will ensure the following characteristics:

- integration of functions, structures and processes;
- distribution of responsibilities and the circulation of information among partners;
- adaptation to the environment, social environment and economic and productive fabric.

These circumstances become possible by using the stakeholder's social capital and the relationships of reciprocity and trust that this creates.

If the goal is not only to consolidate the pair formed by economic and social competitiveness, but also to act in a responsible manner, the burden this places on a single actor is, to say the least, untenable, and the participation of more individuals with specific roles becomes almost obligatory.

The links between social capital, corporate responsibility, stakeholders' responsibility and competitiveness of the productive systems reflect the Italian and European perspective in their promotion of the themes of sustainability. This perspective emphasises specialisation in the territory and the quality of the processes and products as elements of competitiveness that must align with sustainable development. In addition, this perspective identifies in SMEs a point of reference for achieving a competitive local economy.

System social responsibility is a manner in which to define the behaviour model of a local system that should be followed to behave in a responsible manner, that is, in accordance with the principles of environmental sustainability and respect for human rights.

If the local territory suffers an environmental crisis or social hardship, the bond of mutual reciprocity between economic competitiveness and social welfare is broken, and a single actor can do little to mend it. The depletion of an area's value, which worsens the quality of life of its people, tarnishes its image and affects local productive activities, can be managed only through a model of responsible behaviour that must be adequately covered by a reorganised plan involving all stakeholders.

The reconciliation between various stakeholders that is meant to 're-pair' economic and social competitiveness can be achieved through the collective-impact approach, which is desirable in the presence of complex problems, and when there is an atmosphere of disappointment in local institutions (Hanleybrown *et al.,* 2011). The literature provides several examples of initiatives that have been activated through the collective-impact approach (Hanleybrown *et al.,* 2011; Kania and Kramer, 2011). For example, the Elizabeth River Project (1993), which was a mission to clean up the Elizabeth River in southeastern Virginia, which for decades had been a dumping ground for industrial waste; and the Shape Up Somerville campaign (2002-2005), which was a project aimed to fight childhood obesity in Somerville, Massachusetts.

The model in Table 2 considers the perspective of collective impact, beginning with the identification of certain preconditions to connect to the identification of the relevant components (conditions) and the work steps required for the implementation of the collective-impact approach.

Tab. 2: Preconditions, components and phase of the collective-impact approach

Preconditions	**Components for Success** (Conditions)	**Phases of Collective Impact**		
		PHASE I Initiate Action	**PHASE II Organise for Impact**	**PHASE III Sustain Action and Impact**
Influential Champion (Or small group of champions) that commands the respect necessary to bring chief-executive-officer-level cross-sector leaders together	***Governance and Infrastructure*** Backbone support	Identify champions and form cross-sector group	Create infrastructure (backbone and processes)	Facilitate and refine
Financial Resources These must be able to last for at least two to three years. Supporting and mobilising other resources to pay for the needed infrastructure and planning processes	***Strategic Planning*** Creation of a common agenda and mutually reinforcing activities	Map the landscape and use data to make case	Create common agenda (goals and strategy)	Support implementation (alignment to goals and strategies)
Urgency for Change It must be asked whether a crisis has created a breaking point that is sufficient to convince people that an entirely new approach is needed	***Community Involvement*** This requires continual communication	Facilitate community outreach	Engage community and build public will	Continue engagement and conduct advocacy
	Evaluation and Improvement This denotes a shared measurement	Analyse baseline data to identify key issues and gaps	Establish shared metrics (i.e., indicators, measurement, and approach)	Collect, track, and report progress (process to learn and improve)

Source: adapted from Hanleybrown *et al.* (2011).

This model is designed to work as an inspiration to stakeholders to guide the manner in which they should act when they are on tarnished territories that have lost their competitive function for local companies. This model matches the following assumptions (conditions):

a) the 'quality' of a sociocultural context is a primary factor that can lead to fearful differentials of competitiveness and represents an expression of the cultural identity of a country or systems (Vaccà, 1993);

b) the territory can turn from a fertile basin rich in resources and expertise into an enemy, and make a negative contribution that will affect the competitive advantage of firms located in that territory.

5. Empirical research: tarnished territories and experiences in 'the land of fires'

The empirical research presented in this paper begins with the examination of the results collected in an earlier work (De Chiara, 2012a), which considered the territory as a fundamental factor in the competitiveness of SMEs that produce dairy products, particularly the buffalo businesses located in the territory of Agro Caleno in the Caserta province of Campania, Italy. In the dairy buffalo industry, the territory in which the business operates is a primary resource; it creates differentials of competitiveness, and is therefore a crucial factor representing the expression of the cultural identity of the territory (condition a above). Unfortunately, in recent years, this territory has suffered a number of environmental and health crises. As such, this territory, which began as a natural ally for business (a fertile basin rich in resources and expertise), became an enemy for the businesses located in the territory (condition b above).

After the waste emergency and the dioxin crisis of 2008-2009, and the current crisis that led to the territory being referred to as 'The Land of Fires',[1] it was immediately clear to businesses in the territory that acting responsibly would mean adopting a burden that would be extremely difficult if not impossible for a single actor to manage. As such, the only realistic form of responsibility needed to be built within the supply chain (i.e., the network), particularly by involving local institutions. Therefore, a group of businesses (Auriemma Srl, Agricola Casearia Lupara, Buffalo Soc. Coop. a r.l., Ditta Giuseppe Liccardo, Ditta Antonio Cimmino) promoted the idea of 'a plan of conservation and development of the regional landscape of the Agro Caleno area' to be submitted for examination and approval by the local institutions. With the support of many business leaders and local agricultural industries, these businesses have gained the approval of many municipalities in the area and have obtained the commitment local governments to address industrial development of the area, with particular consideration of activities that are compatible with agriculture and in accordance with guidelines of the Campania Region's Plans of Territorial and Rural development (PTR) .

The empirical research was conducted as a qualitative analysis (Yin, 1984), employing documentary research that analysed the official national and local deeds (published until April 2014) and direct interviews with businesses, promoters of the plan for Agro Caleno, and local municipalities (Pignataro Maggiore, Castel Volturno and Caserta).

The survey followed three research steps:

[1] The environmental crisis associated with the pollution caused by illegal activities of waste disposal led to the territory being dubbed 'The Land of Fires', referring to the fires that are lit outside the mounds of waste.

1. analysis of the progress of the state of implementation of the 'plan of conservation and development of the regional landscape of the Agro Caleno area';
2. analysis of industry associations' initiatives and of national and regional plans about the new environmental and health emergency;
3. analysis of firms' and municipalities' opinions on these initiatives.

5.1 Implementation of the plan of conservation and development of the area of Agro Caleno: the memorandum of understanding

In 2011, following the idea of creating the plan of conservation and territorial development for Agro Caleno, the document *Memorandum of Understanding for the Enhancement of Lower Agro Caleno South Volturno Garigliano and the Water-front of Caserta Province (Protocollo d'intesa per la valorizzazione dell'Agro Caleno-basso Volturno-sud Garigliano e del Water-front della provincia di Caserta)* was created and published (Buondonno, 2011).

The protocol describes the characteristics and purposes of the interventions (see Table 3). These are primarily aimed 'at the economic growth of the area, together with social progress and enhancement of cultural heritage', which are not considered secondary factors in the development of a territory. The area is considered to have not only 'a strong agricultural business', but also 'a history of events and human settlements' that have left a rich cultural heritage (Buondonno, 2011). Three directions are identified:

1. an environmental objective, which provides a set of interventions aimed at removing risk factors for health, and ensuring the conservation and enhancement of the 'green heart' of the Campania Felix;
2. a historical objective related to preserving the strong identity of the area;
3. a community objective, which seeks the implementation of measures that can foster the growth of urban values for a better quality of life.

Tab. 3: Purposes of the memorandum of understanding for the enhancement of lower Agro Caleno South Volturno Garigliano and the water-front of Caserta Province

Purposes:
Promoting the rational use and the orderly development of urban and suburban territory with the least usage of the soil
Safeguarding the security of human settlements from factors of hydrogeological, seismic and volcanic risk
Protection of the physical and cultural identity of the region through the enhancement of the landscape, environmental historic and cultural resources; the preservation of ecosystems; the upgrading of existing settlements; and the recovery of compromised sites
Improving the health and liveability of towns
Strengthening of local economic development
Protection and development of the agricultural landscape and the related production activities
Protection and development of the sea-ground landscape and of related production and tourist activities

Source: author's processing of Buondonno, 2011.

The local governments' enthusiasm in approving the Memorandum of Understanding was not followed by a concrete process of implementation of actions to achieve the agreed objectives. The sponsoring enterprises deemed the failure to implement the Memorandum of Understanding as further evidence of the inadequacy of the local governments. This research has demonstrated that it is widely acknowledged that the obstacles to the realisation of the Memorandum of Understanding are often associated with the alternation of 'moods' in local governance, which is generated by any change of the municipality's governance and by a lack of awareness of some local authorities of the seriousness of the environmental problems.

Although the path towards the implementation of the Memorandum of Understanding has suffered a moment of arrest, through intensive networking activities, the sponsoring enterprises are determined to continue this project. In particular, it is clear that there is an intention to launch a phase of enhancement of the contents of the memorandum through a definition of the programme lines that resulted from the consultation between different and complementary experts.

5.2 The initiatives of industry associations: companies' opinion

The initiatives of industry associations are principally directed to the revival of the supply chain of dairy buffalo products, and seem to underestimate the problems the territory is facing. In fact, after the crisis in 2008, the XIII Agriculture Commission of the Chamber of Deputies was invited to a meeting to discuss the emergency of the dairy buffalo industry. To the works of the commission have participated the concerned municipalities, industrial and agricultural associations belonging to the supply chain of the dairy buffalo products (including the Consortium for the Protection of the Mozzarella di Bufala PDO), and the government of the region of Campania. Subsequently, in 2010, the Guarantee Committee was established to develop a set of proposals intended to ensure the legality of business practices such as statutory changes to the Consortium and a reorganisation of a controls/traceability plan.

Such proposals are in accordance with the actions of Confagricoltura Campania, which promoted a programme to revitalise the supply chain of the dairy buffalo industry with the involvement of all professional agricultural organisations in Campania. The programme, officially approved by Resolution of the Assessor for Agriculture in Campania, reiterated the need for the implementation of a traceability system; the definition of a 'day' auditing, and the traceability of the product at all stages of the supply chain; the reorganisation of the system of control (in order to verify the exclusion of the use of condensed milk, frozen milk or milk from outside the PDO area).

In 2013, the National Federation of Buffalo Products in Confagricoltura was established. The development of this organisation demonstrates the strong participation in initiatives to redevelop the business of dairy buffalo products, and the importance that farmers' organisations attach to the sector [2].

[2] For more details see www.upacaserta.it.

This research demonstrated that this association recognises the importance of implementing socially responsible practices aimed at increasing the confidence of consumers, improving the knowledge of production processes and the traceability of the product. However, the lack of integrated and coordinated management from the main institutions of the implementation of sustainability strategies must be noted.

This research also found that a common opinion of the companies in the area is that Confagricoltura can play a coordinating role by supporting the collaboration between initiatives and among the various interested actors. The economic operators consider this organisation of great importance to the interests of industry, as they believe it can exert the right pressure on local and national institutions. Through Confagricoltura, the economic actors have created specific structures and skills for to define and identify the issues involved in implementing projects.

5.3 National and regional plans: what do companies, local municipalities and the collective think?

A series of interventions on a regional and national level have been issued to address the problems faced in Agro Caleno (see Table 4).

Tab. 4: Principal institutional plans for the environmental emergency in Campania

Plan	Subject
Regional Law No. 20, 9 December 2013	Extraordinary measures for prevention and combating the phenomenon of abandonment and of burning of waste’
‘D.L. 10-12-2013 No. 136, converted, with amendments, from art. 1, paragraph 1., L. February 6, 2014	‘Urgent measures designed to tackle environmental and industrial emergencies and to facilitate the development of the concerned areas’
Inter-ministerial Commission	‘Results of technical research for the mapping of the territories allocated to agriculture in the Campania Region’

Source: author’s

However, these plans have not yet been fully approved by businesses, local institutions or the community. This research found that for businesses, the attention of the national and local institutions is focused on the implementation of plans aimed at the reclamation of the territory affected by the crisis. These businesses consider such activities prohibitively expensive and inadequate for the resolution of the matter. Companies argue the need to concentrate the available resources on creating a timely schedule aimed at the redevelopment of the areas of the district, and the creation of quality devices, which are accessible to the public and are able to generate and safeguard the welfare of the community.

Local companies believe it is important to strengthen the action of the network to which they belong through meetings with the district municipalities and to reaffirm the desire and the need to give life to a redevelopment project that is supported by technical and local administrations.

This research found that the local municipalities consider provincial and regional policies sophisticated procedures. The local institutions were found to believe that the shortage of funds means that neither the transparency, nor the feasibility of the territorial reorganisation is guaranteed. In addition, the research found a lack of effective coordination between the different initiatives, and the interviewees declared that national and regional plans constitute only positive intentions and assumptions of measures.

In an interview published by La Repubblica, Roberto Saviano[3] described the work of the Inter-ministerial Commission (which was demonstrated in the report entitled *Results of Technical Research for the Mapping of the Territories Allocated to the Agriculture of the Campania Region*) as unsatisfactory (Saviano, 2014). He uses the word 'minimal' to describe the operations undertaken by the government, stating that 'it is clear that the step taken in these first few months of work is only a small initial one to understand what has happened and continues to happen' (Saviano, 2014). Saviano also states that he considers it 'essential that the Senate approves as soon as possible the introduction of the crimes against the environment in the penal code' and suggests other urgent actions to take (i.e., survey and classification of the agricultural areas of the so-called 'large areas' and of the areas near waste disposal facilities; analyses of the areas affected by the fires, of the soil fallout of pollutants and analyses of the waters of contaminated groundwater). The government should also deal with the historical observers of 'The Land of Fires'.

6. Discussion and conclusions

This research demonstrates the strategic importance of the decision to establish a network to manage the consequences created by the environmental issue that have affected the entire area of Agro Caleno. The case-study network provided an appropriate mechanism through which to communicate with the relevant institutions of the area. However, while there has been a good level of cooperation, the network has not produced the estimated results. The businesses operating in the area declare that Confagricoltura Campania represents the 'real glue' between the economic operators and the institutions. They believe that Confagricoltura can offer the opportunity to disseminate their needs and provide greater public awareness of the severity of the conditions faced by the dairy buffalo business. These businesses see Confagricoltura as a tool that is able to resume a fruitful dialogue with the local municipalities and define a more structured project to raise awareness on issues related to the land and the environment that involves the local governments.

The results of this research corroborate the hypothesis that in the face of complex problems (e.g., environmental pollution) and the consequent

3 A famous Italian writer who has often addressed the issue of environmental pollution in Campania.

crises faced by businesses that use the land as a productive factor (e.g., the dairy products of the buffalo businesses), it is not sufficient to develop sustainable initiatives and collaborate with the economic actors, the industrial associations and the local authorities. The resolution of these crises requires more than cross-sector public and private partnerships, and the solution of complex problems is not just a matter of encouraging more forms of cooperation between the public and the private sectors. Rather, it is necessary to initiate a systematic approach focused on the relationships between different stakeholders and the progression towards shared goals. In consideration of the case study, this research concludes that if the collective-impact approach is applied, the stakeholders and Confagricoltura could be the 'influential champions'. Applying the collective-impact approach should create a specific organisation, a 'leadership room', which should allow the participation of many different actors, with a specific set of staff skills to serve as the backbone for the entire initiative and to coordinate participating organisations.

The case-study network is at the early stage of fulfilling the conditions of collective-impact approach, and it needs to be further developed. The participants in the network must have a common agenda, shared measurement, continuous communication and participate in mutually reinforcing activities. The research has demonstrated all stakeholders must favour this approach. They must be aware that they need to change their own behaviour completely to create a solution to the serious problems they face.

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Sustainability through energy efficiency: an Italian perspective[1]

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Abstract

Purpose of the paper: *Firms' efficient use of energy contributes to social, environmental and economic sustainability, as well as to their competitiveness. The discrepancy between optimal and actual implementation of energy efficiency measures has been described in literature as the 'energy efficiency gap'. Recently, some scholars have related this gap to both technology and energy management, thus introducing an 'extended energy efficiency gap'. Given these premises, this study investigates the extended energy efficiency gap from the perspective of the Italian small and medium industrial enterprises (SMEs). Specifically, it intends to identify possible solutions to overcome the major barriers to energy efficiency, in terms of technology investments and energy management.*

Methodology: *This is a conceptual study which adopts a solution-building approach based on literature review and secondary data analysis.*

Research findings: *This study proposes a framework that can be used to explore and reduce the extended energy efficiency gap for Italian industrial SMEs. The possible solutions to improve energy efficiency include distributed generation, cluster energy management, result-based economic incentives and smart grids.*

Research limits: *Qualitative and quantitative studies should be conducted to further investigation of the major barriers of efficiency, as perceived by SMEs. Households' and policy makers' perspectives could also be addressed in future studies.*

Practical implications: *This study suggests that, through collaboration, firms could improve their energy efficiency, thus increasing their economic sustainability and competitiveness. Moreover, policy makers should encourage energy efficiency through result-based incentives and the development of smart grids.*

Originality of the paper: *This is one of very few studies that address the extended energy efficiency gap for Italian SMEs. Additionally, it proposes a framework of analysis that takes into account the relationship between barriers and efficiency gap levels.*

Key words: energy efficiency gap; technology; energy management; distributed generation; smart grids; result-based incentives

1 While the article is the result of a joint effort of the Authors, the individual contributions are as follows: Federico Testa wrote paragraph 5.2 (specifically, "Possible solutions to gap 1", "Possible solutions to gap 2", and "Possible solutions to gap 5 and gap 6"), as well as paragraphs 6 and 7. Vania Vigolo wrote paragraphs 1, 2, 3, 4, 5.1 and 5.2 (specifically, "Possible solutions to gap 3 and gap 4").

1. Introduction

Sustainability embraces every kind of human activity, and has profound environmental, social and economic implications (Crane, 2007; Blackburn, 2012; Boons *et al.*, 2013; Beckmann *et al.*, 2014). In recent decades, national and international institutions have sought to increase awareness of sustainability among individuals, firms and public organisations, setting ambitious goals regarding climate and energy. Specifically, the European Union has established the 20-20-20 targets: reducing EU's greenhouse gas emissions by 20% compared to 1990 levels; increasing the share of EU's energy consumption produced from renewable resources to 20%; and improving EU's energy efficiency by 20%. As greenhouse gas emissions are largely caused by fossil fuels, the issue of energy is vital in for the interests of sustainable growth. According to recent studies, 36.5% of the final electricity consumption in the EU derives from industry, 29.7% from households, 29.7% from service, 2% from agriculture and other sectors and 2.4% from transport (European Environment Agency, 2013). Hence, in order to increase the sustainability of energy systems, it is necessary to change the behaviour, the values and the methods of energy consumption of these subjects (Baccarani and Golinelli, 2008; Palm and Thollander, 2010). Through the Energy Efficiency Plan 2011 and the Energy Efficiency Directive, the EU proposes measures to improve energy efficiency in households, businesses and public institutions.

In the EU Directive 2006/32/EC on energy end-use efficiency and energy services, energy efficiency has been described as "a ratio between an output of performance, service, goods or energy and an input of energy" (Blomberg *et al.*, 2012, p. 569). However, there is still discrepancy between the potential of energy efficiency and the actual energy efficiency. This difference is called the 'energy efficiency gap' (Jaffe and Stavins, 1994). Traditionally, with reference to firms, the energy efficiency gap has been attributed to a technological gap, but in a recent study, Backlund *et al.* (2012) emphasised that an energy management gap should also be considered.

This paper will explore possible ways to reduce the energy efficiency gap in the Italian context. In particular, the study aims to implement the extended efficiency gap model developed by Backlund *et al.* (2012) to Italian firms, specifically to industrial small and medium enterprises (SMEs). SMEs represent 99.9% of total firms in Italy (European Commission, 2013). Specifically, in Italy, SMEs cover about 60% of the industrial energy consumption (Trianni *et al.*, 2013). Therefore, investigating the energy efficiency potentialities for industrial SMEs is a priority. This is a conceptual study based upon the analysis of academic literature and secondary data provided by national and international institutions. The paper is structured as follows: research approach; analysis of the literature on energy efficiency and the energy efficiency gap; analysis of the efficiency gap in the Italian context; identification of proposals to overcome the efficiency gap; managerial implications.

2. Research approach

Given the scarcity of research on how to reduce the energy efficiency gap for SMEs, this study has an exploratory nature and adopts a conceptual approach (Gill and Johnson, 1991). Specifically, this study makes a solution-building contribution by providing tools and guidelines on how to solve the energy efficiency gap for Italian SMEs (Gregor, 2006). According to this approach, solutions are not empirically tested, but proposed on the basis of secondary data analyses which included a literature review of academic, practitioners' and institutional publications. In the first step, the literature review served as a way of developing a conceptual framework for exploring the energy efficiency gap. In particular, international academic publications, published in high-rank journals (e.g. indexed in Elsevier-Scopus and Thomson Reuters-Web of Science), were explored with a focus on keywords such as "energy efficiency", "efficiency gap", "barriers to energy efficiency" and "SMEs". In addition, European Directives, national academic publications and institutional sources such as the Italian Regulatory Authority for Electricity, Gas and Water (AEEGSI), and the Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA), were addressed to provide the context for the study. In the second step, the analysis of secondary data, mainly EU institutional publications and national research reports such as those published by ENEA, Gestore dei Servizi Energetici (GSE) etc., were used to identify possible solutions for bridging the energy efficiency gap. Based upon the research objectives, the unit of analysis is the Italian industrial SMEs.

3. Energy efficiency and economic sustainability: a business perspective

The international literature has repeatedly emphasised the need to consider the environmental, economic and social dimensions of sustainability (Blackburn, 2012; Boons *et al.,* 2013; Beckmann *et al.,* 2014). A comprehensive analysis of the implications of energy efficiency for all these different facets of sustainability (Siano, 2012) is beyond the scope of this study. Rather, this research intends to shed light on energy efficiency as a possible instrument for the economic sustainability of firms and, therefore, for their competitiveness (Liučvaitienė *et al.,* 2013; Pons *et al.,* 2013). First, it is necessary to clarify the concept of energy efficiency.

The scientific literature suggests various definitions and measures of energy efficiency (Patterson, 1996; Ang, 2006). The EU Directive 2006/32/EC on energy end-use efficiency and energy provides a general definition of energy efficiency described as a ratio between an output performance and an input of energy. Depending on the research field (engineering, operations research, economics and so on), different measures of energy efficiency are used. For the purpose of this study, and from a managerial perspective, energy efficiency is described as the use of energy per unit of output (Koopmans and de Velde, 2001). Accordingly, energy efficiency can be measured using a simple average indicator, such as the ratio of energy to GDP (Khademvatani and Gordon, 2013).

When discussing energy costs, several scholars and professionals focus on the technological aspects and the cost of different production options, forgetting that the primary drivers of energy sustainability are the energy savings and efficiency. The two concepts are often confused, so it is useful to provide a clearer definition. A policy of energy savings implies the diffusion of a thoughtful/responsible use of the resource. This change requires, first and foremost, a new cultural approach for the developed countries, accustomed to considering energy a low-cost resource available naturally. This approach means changing some patterns of consumption. For example, powerful cars unsuited to traffic conditions, or shops keeping doors wide open in winter, are consuming energy inefficiently. Changing consumer culture is a long-term goal, requiring significant investment in communication and the consumers' education (Siano, 2012).

Conversely, energy efficiency means using technologies and tools to minimise fuel consumption, without compromising the obtained output (Panati and Golinelli, 1991), but achieving greater output from the same resources. Therefore, energy efficiency aims to save resources in different ways. An increased awareness of energy use and new behavioural patterns are important for energy efficiency for at least two reasons. First, due to the particular characteristics of the technologies of efficiency, often incremental in nature and requiring solutions on a case-by-case basis. Second, investing in energy efficiency is radically different from investing in 'classical' renewable sources, because they do not produce incremental wealth flows but reduce historical costs.

Beyond environmental and social benefits (Baccarani *et al.,* 1993), the sustainable and efficient use of energy is particularly relevant because it affects commercial and industrial competitiveness (Khademvatani and Gordon, 2013). Faced with a continuing rise in energy prices for businesses, improving energy efficiency becomes more and more important for businesses as a way of reducing operating costs and increasing competitiveness and productivity (Backlund *et al.,* 2012). Moreover, Worrell *et al.* (2003) demonstrated that, in addition to reducing energy costs, energy efficiency investments can provide core benefits, such as increased productivity.

4. The energy efficiency gap and the barriers to energy efficiency for SMEs

Some studies have shown the volume of output to grow faster than energy efficiency, thereby leading to increased energy consumption in firms. However, other studies argue that unexplored opportunities exist for investments in energy efficiency to reduce energy costs, thus underlining a gap of energy efficiency (Koopmans and de Velde, 2001). The energy efficiency gap is defined as the gap between actual and optimal energy use (Jaffe and Stavins, 1994). In the 20–20–20 strategy, the European Commission has estimated the technical energy-saving potentials in various sectors, which range, for example, from 25% in manufacturing, to 30% in commercial buildings and 26% in private households (Backlund *et al.,* 2012). These data call for implementation rates for energy saving measures. The energy-saving potentials estimated by the European Commission can be seen as estimates of the energy efficiency gap in various sectors (Backlund *et al.,* 2012). However, scientific evidence of such high implementation rates is still scarce, in particular in the industrial sector (Thollander *et al.,* 2013). In this sense, the energy efficiency gap has also been described as "a strategy implementation challenge" (Virkki-Hatakka *et al.,* 2013, p. 500). As reported by Virkki-Hatakka *et al.* (2013), only 5–15% of the planned strategies are fulfilled at the organizational level, hence there is a gap between energy efficiency goals and their actual implementation. Specifically, the cost effectiveness of energy efficiency measures and the measures actually implemented are very different (Backlund *et al.,* 2012). Traditionally, the energy efficiency gap has been attributed to technology. The decision to replace a technology with a more efficient one can occur in two situations:

a) 'voluntary' replacement of current technology with a more efficient technology. The investment consists of the purchase cost of the more efficient technology.
b) 'forced' replacement, at the end of its life cycle, of the technology with a more efficient one. The investment is expressed by the differential cost of a more efficient technology, compared to the conventional technology.

However, the efficient use of energy is not only a consequence of investments in energy-efficient technologies. Improvements can also be achieved through energy management. Successful energy management can increase the energy efficiency of existing activities, but it can also overcome barriers to the diffusion of more efficient technologies, and influence investment decisions. For example, according to a recent study (Backlund *et al.,* 2012) the energy intensity of the Swedish industry has declined. According to Martínez and Silveira (2012), this change is due not to structural changes, but rather to the effect of high energy prices, energy taxation and electricity investment and consumption.

There is no single definition of energy management in academic literature. Energy management includes the planning of investments in energy efficiency, and the care and maintenance of technology to maintain efficient operations (Gordic *et al.,* 2010). As the industrial sector is heterogeneous, the success of energy management depends upon many factors, such as company size and type of industry (Mckeiver and Gadenne, 2005). Despite these differences, studies and definitions of energy management practices tend to provide similar steps (Abdelaziz *et al.,* 2011):

- *Analysis*: energy auditing and collection of information regarding energy flows. An energy audit is usually the first step when starting business energy management;
- *Reporting*: quantifying the energy efficiency targets and communicating the organisation's goals. Without organisational support and an organisational culture of continuous improvement, any management system faces the risk of ineffectiveness (Rohdin and Thollander, 2006);
- *Action*: the implementation and maintenance of new efficiency measures. Energy management requires continuous improvement (Gordic *et al.,* 2010).

According to the European Commission, the economic potential for energy efficiency in European industry is 25% (European Commission, 2006). This means that there is a gap of 25% in energy efficiency that could be reduced by undertaking investments in technology and energy management strategies. However, research indicates that part of the energy efficiency potential remains untapped. The academic debate about the "energy efficiency gap" focuses on the reasons why profitable investments to reduce energy consumption are not realized in firms (Bunse *et al.,* 2011). This is commonly explained by the existence of obstacles or barriers to energy efficiency (Jaffe and Stavins 1994). A barrier for energy efficiency has been described (Sorrell *et al.,* 2000, p. 5) as "a postulated mechanism that inhibits investments in technologies that are both energy efficient and (at least apparently) economically efficient". Various studies (e.g. Hirst and Brown, 1990; Weber, 1997; Sorrell *et al.,* 2000) have addressed barriers to energy efficiency. A number of studies have emphasized the role of financial and economic barriers to the implementation of energy efficiency measures, namely decisions based on payback periods instead of interest rate calculations, limited access to capital, as well as a low priority given to energy efficiency by the management (Bunse *et al.,* 2011). In addition, some authors identified lack of information or difficult-to-measure components of energy investments (such as transaction or monitoring costs) as major barriers to energy efficiency (DeCanio and Watkins, 1998).

However, research about energy efficiency in small and medium enterprises (SMEs) is still limited. Recent studies (Thollander *et al.,* 2007; Trianni and Cagno, 2012; Trianni *et al.,* 2013) have proposed a taxonomy of barriers to efficiency for SMEs, identifying internal and external barriers. For example, internal barriers may include low capital availability, lack of interest in energy efficiency and a complex decision chain (Trianni *et al.,* 2013), while external barriers may include energy price distortion, market risks and lack of proper regulation. This study adapts the taxonomy provided by Thollander *et al.* (2013), who identified four major types of barriers to energy efficiency: financial barriers, information barriers, organizational barriers, and external barriers. In the Italian context, financial barriers are particularly evident. Financial obstacles can be explained by the fact that efficiency investments do not generate additional inflows of cash or revenues, but rather cost savings, which require complex technical analyses to be properly identified (Thollander and Ottosson, 2010). In addition, financial institutions sometimes lack this type of competences. Hence, several studies of companies' investment decisions demonstrated that despite profitability, investments in energy efficiency have a low priority for cultural reasons and, in general, for informational barriers, leading to an underestimation of the importance of energy efficiency for corporate performance (DeCanio, 1998; Rohdin *et al.,* 2007). Organisational barriers represent some behavioral aspects related to the possible divergent interests between who decides about energy efficiency and who invests. In the case of SMEs, almost all decisions, including the decisions about capital investments for energy efficiency, are made by a small board or even directly by the entrepreneurs themselves. Therefore, as emphasized by Trianni and Cagno (2012), organisational barriers tend to fade in SMEs. For this reason, organisational barriers were not included in the model of this study.

As to the external barriers, regulatory issues play a major role for small and medium-sized firms (Thollander *et al.*, 2013). In certain energy systems, including the Italian one, the weight of general system costs is particularly high in energy bills. Hence, the stimulation of efficient development models which require an exemption from the quasi-fiscal component, will increase the incidence of such costs on the remaining users.

To sum up, the literature discussion shows two types of energy efficiency gap: technology and energy management (Backlund *et al.*, 2012). These gaps can be related to different types of barriers to efficiency. From the literature review, two main types of barriers to energy efficiency can be identified, that characterise industrial SMEs: internal barriers (related to the firm) and external barriers (related to the regulatory environment).

To conclude, in this study internal barriers include economic/financial barriers and information barriers, while external barriers consists of regulatory barriers. The framework for this study is summarised in Table 1, which shows how the SMEs' overall energy efficiency gap is the result of the interaction between the above-mentioned barriers to energy efficiency, and the two dimensions of the energy efficiency gap, i.e. technology and energy management.

Tab. 1: The barriers-gap framework of energy efficiency

	INTERNAL BARRIERS		EXTERNAL BARRIERS
	Financial	Informational	Regulatory
Technology	*Efficiency gap 1* *Lack of investments in energy-efficient technology*	*Efficiency gap 3 and 4* *Lack of knowledge, and/or low priority given to investments in technology and energy management*	*Efficiency gap 5 and 6* *Lack of regulatory stability/initiatives to help investments in technology and energy management*
Energy management	*Efficiency gap 2* *Lack of investments in energy management*		

Source: our elaboration

5. Bridging the energy efficiency gap: an Italian perspective

5.1 The context of the study

In line with the 20-20-20 targets, the Italian energy strategy (Testa and Fanelli, 2012; Ministero dello Sviluppo Economico, 2013) aims to:
- reduce greenhouse gas emissions;
- increase the use of renewable sources;
- improve energy efficiency.

To reach the EU: 20-20-20's primary energy savings targets, Italy's energy efficiency should increase. China is the main global investor in energy innovation, with $12.3 billion invested (44% of the world), followed by the EU and the United States, with $18 and $14.5 billion invested, respectively. Italy, after Spain, is the European country that has invested the least in energy innovation, with a total of $1.3 million (Istituto per la competitività I-COM, 2014). Energy efficiency is a sector that has attracted investment, with an increase of 9% over the past decade.

Although these issues have a broad impact on all stakeholders, in this study we intend to analyse the perspective of the Italian industry, with particular reference to SMEs. Specifically, energy bills for businesses in Italy are higher than the European average, with obvious consequences for the competitiveness of domestic firms.

In 2013, electricity prices for Italian companies were higher than the European average in all categories of consumption. In particular, for the categories of 500-2,000 MWh consumption, one of the most representative for the Italian market, the prices were higher than the Euro-area average of 21% for net prices, and 26% for the gross prices. The reasons for this situation can be explained by various factors, such as Italy's energy dependence, energy mix, sustainability and technical engineering of the energy mix (Testa and Vigolo, 2014). Although the analysis of these issues is beyond the scope of this study, it is necessary to point out that structural as well as internal and business-related factors influence a firm's energy efficiency. As less energy efficient means loss of competitiveness compared to Europe and other international markets, for the Italian industry, already burdened by the economic crisis and the competition from emerging countries, energy efficiency becomes a key driver to reduce costs and recover competitiveness.

The Italian energy efficiency gap has long been recognised and debated. In 2004, in a report to Italy's National Agency for Protection of the Environment, Krause (2004) stated that "Italy's economy labours under a large efficiency gap in final electricity use". Similarly, some studies conducted by the Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA, 2007; 2009), demonstrated the great scope of improvement in energy efficiency. With this regard, the energy-saving goal of the 20% proposed by the European Commission has been recently criticised, suggesting that the efficiency gap is even wider. For instance, the President of the European Alliance to Save Energy (EU-ASE), along with some Italian entrepreneurs, has recently urged the Italian Government to set higher goals in energy efficiency. According to EU-ASE (2015), it is possible to reduce energy consumption by 35-40% by 3030. In addition, the European Commission identified specific areas of improvement in Energy efficiency for SMEs, namely heating, lighting, ventilation, electric motors, energy efficiency in buildings and the general requirements of energy efficiency (European Commission, 2004).

5.2 Bridging Italy's energy efficiency gap: possible solutions for industrial SMEs

Through the analysis of secondary sources (mainly academic literature, European and Italian institutional publications, legislation, research reports by the Italian Regulatory Authority for the Electricity, Gas and Water and other relevant national institutions), the study proposes possible solutions to the energy efficiency gap (Table 2).

Possible solutions to gap 1 (financial barriers to investments in technology)

Low investment in energy technology by SMEs can be explained by limited financial resources and low access to credit, due to the small nature of firms. To overcome this problem, firms could collaborate to create a distributed generation. This is a type of production of electric and thermal energy aiming towards production not only for the centralised grid, but also for self-consumption at the site. Distributed generation would fit well with the structure of the Italian industry, and would minimise the distance between the site of generation and the site of energy use, thus converting the problems faced by the national electricity market into an opportunity for infrastructure development.

The legislative decree n. 115/08, which promotes energy efficiency and energy conservation, has established an "efficient system of users" that encourages investment in SMEs, with significant implications in terms of development and savings for the same firms. The system is an energy supply model for companies, consisting of on-site generation of 'virtuous' electricity (from renewable sources or cogeneration) for the direct supply of their needs. Each time a firm uses self-produced energy, direct savings on grid and system charges come as a result. Therefore, the investments can generate long-lasting effects for firms. Moreover, third parties such as the Energy Service Companies (ESCOs) can intervene with investments that enable SMEs to benefit from an efficient system of users, without having to jeopardize themselves at times of economic and financial crisis. The ESCOs could also help firms to overcome barriers to investments in technology by improving the efficiency in energy consumption in the industrial process. In particular, the ESCOs can help SMEs, that may not have the required capital or technical skills, to undertake investments in energy efficiency. Specifically, an ESCO provides the firm with the capital needed and the savings achieved will pay back the capital investment of the project. In addition, given that SMEs, and often even the ESCOs are undercapitalized, as well, a Guarantee Fund could play a key role in promoting investment in energy efficiency. The Guarantee Fund is a facility of the Ministry of Economic Development, also financed by European resources of national and inter-regional operational programs for 2007-2013, which can be activated only in respect to loans granted by banks, leasing companies and other financial intermediaries to SMEs .

Possible solutions to gap 2 (financial barriers to energy management)

The position of the energy manager is regulated in Italy by Law 10/91. An appointment of energy managers is compulsory for industries that consumed more than 10,000 tons of oil or an equivalent quantity over the previous year, and for all those involved in other areas that consumed more than a thousand tons. The appointment must be renewed every year, and sanctions and penalties are charged for failure to meet or for late renewal. The total energy consumption required for the production of goods or services should be evaluated separately for different energy sources, uses and end users. It is necessary to convert various sources of energy (petrol, gas, LPG, fuel oil) into a single unit of measurement: tons of oil equivalent (TOE). The energy manager's tasks include the management of energy programmes, the establishment of the investment plan following the detection of the specific objectives of energy saving and the monitoring of the implementation of the operational rationalisation (Federazione italiana per l'uso razionale dell'energia - FIRE, 2013).

Although energy managers are mandatory for big energy consumers (such as the iron and steel, textile or food industries), Italian industry consists mostly of small and medium-sized enterprises and micro-enterprises, for which efficient energy management is equally important as for large companies (Palm and Thollander, 2010). SMEs cannot generally afford an energy manager. The periodic use of external expertises such as an Energy Service Company (ESCO) might be considered too expensive. To overcome economic barriers to energy management, firms in the same industrial cluster may collaborate to hire a cluster energy manager. The theoretical basis of the cluster concept was proposed by Porter (1990). According to Porter (1998), an industrial cluster is a geographic cooperative group that includes suppliers, consumers, peripheral industries, governments and supporting institutions such as universities. In addition, Hill and Brennan (2000) define an industrial cluster as a system that causes component firms and institutes to generate higher unit earnings and more efficient operations, owing to innovations stimulated by intense competition and cooperation within the clusters (Belussi and Pilotti, 2002). Similarly, Anderson (1994) claimed that within an industrial cluster, various relationships exist between buyer and supplier, competitor and co-operator, who share resources. Accordingly, firms could share energy management objectives and instruments to increase efficiency, thus increasing the cluster's overall competitiveness (Nagesha, 2008). Hence, a cluster energy manager could not only advise firms individually about energy use, but also find synergies for energy management between all subjects belonging to the cluster. A common energy manager for several firms could be feasible in Italy, especially within industrial clusters, because of the types of relationships that exist between firms (Becattini and Rullani, 1993). As a matter of fact, in these contexts, both competitive and collaborative relationships coexist (Testa, 1993; Ugolini, 1995), and the latter could serve as a breeding ground for a common energy manager.

Possible solutions to gap 3 and gap 4 (informational barriers to investments in technology and to energy management)

Previous research has demonstrated that informational barriers are perceived as particularly relevant to smaller enterprises (Thollander *et al.,* 2013). To overcome the informational barriers responsible for the efficiency gaps 3 and 4, the role of professional associations, universities, institutions and others in general research centers is extremely important. Several types of actions could be pursued by these subjects with different aims, such as raising awareness about energy efficiency, stimulating discussion about energy efficiency, and providing consultancy and support to firms. For example, in 2014 the national Italian broadcasting company (RAI) launched an informational advertisement to raise awareness about the benefits of energy savings and energy efficiency. Additionally, the GSE (Gestore dei Servizi Energetici), i.e. the state-owned company which promotes and supports renewable energy sources in Italy, is trying to reach a wider public. In particular, "GSE fosters sustainable development by providing support for renewable electricity (RES-E) generation and by taking actions to build awareness of environmentally-efficient energy uses" (www.gse.it). GSE has recently expanded its communication activities on social media such as Youtube, Twitter, LinkedIn and Slideshare, to raise awareness about energy efficiency, sharing useful information and answering possible questions and doubts about energy issues.

On the other hand, as regards consultancy and support to firms, ENEA has created a network of regional peripheral offices to provide competences and resources to local public administrations, as well as consultancy and scientific-technical support for communication campaigns aimed at informing citizens and firms about the technology and the incentives for an efficient use of energy. Further, ENEA has started a project to collect ideas and promote the discussion about sustainable development This project welcomes proposals from single firms, associations of firms or users, scholars, professional or even individual citizens. These proposals must address ENEA's core competences, i.e. energy, environment and new technologies and can attain governance, policies or new technology developments.

To overcome informational barriers, and to fill the knowledge gap between firms and efficiency-solution providers, fairs, workshops and exhibitions could play a relevant role, as well. With this regard, in 2013 the first business-to-business international exhibition on energy efficiency (Smart Energy Expo) was organised in Verona. At the exhibition, services, products and technologies for energy efficiency were presented. In addition, an Efficiency Summit with nationally and internationally renowned experts discussed the emerging trends and issues related to energy efficiency. The second edition, in 2014, attracted 120 exhibitors, 150 brands and about 9,000 professionals, including for example technology providers, ESCOs, professional associations, and energy managers.

In addition, further projects could be launched at a firm-specific level to provide information about technology energy management. For example, Unioncamere Lombardia has launched the project STEEEP - "Support and

Training for an Excellent Energy Efficiency Performance" to provide SMEs with tools for evaluating and improving their energy efficiency. The project involves a sample of 19 SMEs in the north of Italy (Region Lombardia) with the aim of increasing energy efficiency by 10-15% through energy management. Similarly, ENEA is promoting energy efficiency at a European level with the project "Sinergia", which aims to improve energy efficiency and environmental sustainability in SMEs' production process. This project involves a sample of 50 SMEs operating in the European agro-food industry. This aspect is particularly relevant in the energy sector because agro-food industries are among the major consumers of energy. The project promotes innovation and technology transfer though the creation of web tools for the simulations of major energy efficiency scenarios and for the life cycle cost analysis (Durajrai *et al.,* 2002). The technology transfer is fostered through the empowerment of local help-desks addressing eco-innovation, capacity building and communications measure.

Although initiatives of this kind are still limited, they certainly represent a step forward in overcoming the informational barriers responsible for the energy efficiency gap.

Possible solutions to gap 5 and gap 6 (regulatory barriers to investments in technology and to energy management)

Policy makers could provide further regulation on several aspects that are decisive for improving energy efficiency at a firm level, and also at a wider system level, naming a few like: closed distribution systems, smart grids and energy management. Currently, the 'system charges', i.e. the costs of major incentives for renewable energy, are paid by final users' in energy bills. Although it is necessary to encourage decentralised and efficient forms of energy production, when a user does not contribute to the cost of the system, other users have to pay a higher per capita contribution. Recently, the Italian Regulatory Authority (Autorità per l'Energia Elettrica, il Gas e il Sistema Idrico (2014) made remarks to the Parliament, the Government and the Minister for Economic Development about possible distortions in competition, resulting from the current framework of the closed distribution systems (CDS, which includes the use of decentralised systems). The Under EU legislation, a Closed Distribution System operator is understood as a system which distributes electricity or gas within a geographically confined industrial, commercial or shared services site and does not supply household customers. (Article 28, Directive 2009/72/EC). The Authority claimed that the lack of development of closed distribution systems could reduce growth opportunities for the production of electricity from renewable sources and high efficiency cogeneration. Additionally, the lack of development of CDS would reduce competition for the operators of public transmission and distribution grids, and for the owners of large generating plants that convey energy produced in the public grid. As a matter of fact, in public grids of transmission and distribution, revenues are proportional to the energy that passes on the grids. Hence, the threat of a reduction in demand, due to the development of the CDS, is a powerful incentive for efficient management of public grids, in order to reduce the cost of transmission and dispatch, and therefore adopt more convenient CDS. However, if the subjects belonging to the CDS do not pay grid costs, such lost revenues could/should be paid by grid operators, and act as an efficiency driver. Resultantly, end users would not have to pay additional charges. In this sense, if energy efficiency improves, competitiveness between energy providers increases, thus generating positive effects for the whole community.

With regard to energy management, policy makers should boost the creation of Smart Grids, i.e. an electricity network that integrates and efficiently manages the behaviour and actions of all users connected to the network (generators, consumption points, and points with both energy generation and consumption) (European Regulators' Group for Electricity and Gas - ERGEG, 2009). Accordingly, the Smart Grid's main objective is to ensure the economically efficient operation of the electrical system, with a high level of security, continuity and quality of supply (Energylab, 2011; Ceris-CNR, 2011). The Smart Grid is a network infrastructure, the primary objective of which is to support the strategy for a reliable, sustainable and competitive electricity system in a rapidly evolving energy context (European Commission, 2006). Recently, a research about smart grids was carried out by ENEA, RSE and CNR in the framework of "R&D activities of general interest for the National Electric System", funded by the Italian Ministry of Economic Development.

Moreover, specific incentives could be identified to reward firms that surpass certain thresholds of energy efficiency (GSE, 2013). These energy savings should be measurable, and could allow access to a tax credit that could be used within three years; for example, equal to €400 for energy saved over the deductible of 5%. The old approach, based on incentives to objects (plants), would be replaced by a result-based incentive approach, regardless of the mode (energy management or investment) used to achieve results. In general, policy makers should try to reduce opportunistic behaviours within the energy system.

As discussed in "Possible solutions to gap 2", in Italy, the energy manager is already compulsory for energy-intensive firms. Policy makers should foster the use of energy management competences in SMEs as well, starting from industrial clusters. In addition, a regulation that could favour the evolution and opening of clusters could also favour the diffusion of energy management. Therefore, energy efficiency would become the guiding principle of small and medium-sized enterprises. Closed distribution systems, self-consumption and smart grids are part of Italy's future National Energy Strategy. Central to the debate about future energy policy is the issue of energy efficiency, which should become the guiding principle so as to access any form of reward. Table 2 summarises the possible solutions to reduce the extended energy efficiency gap for Italian industrial SMEs.

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Tab. 2: Possible solutions to reduce the extended energy efficiency gap

	Barriers to efficiency		
	Financial	Informational	Regulatory
Technology	**Gap 1** Efficient system of users ESCOs Guarantee fund	**Gap 3 and Gap 4** Information activities by Professional associations, Public institutions, Research centres	**Gap 5 and Gap 6** Regulation on Closed distribution systems Smart grids Result-based incentives Energy manager
Energy management	**Gap 2** ESCOs Cluster energy manager		

Source: our elaboration

6. Discussion, managerial and policy implications

This exploratory study contributes to the development of the academic debate about energy efficiency from a SMEs' perspective. In particular, it develops a framework of analysis for the energy efficiency gap of Italian industrial SMEs, by combining the two-dimensional gap proposed by Backlund *et al.* (2012), with the barriers to energy efficiency (Trianni and Cagno, 2012; Thollander *et al.,* 2013). Additionally, this study proposes a model for improving energy efficiency by bridging both the technology gap and the energy management gap. From the possible solutions provided in Table 2, it is clear that collaboration between SMEs and ESCOs, as well as collaboration between firms, e.g. those belonging to the same cluster, is crucial so as to overcome major economic/financial and informational barriers to efficiency for industrial SMEs. In addition, the role of institutions, both public (e.g. ENEA) and private (e.g. professional associations), is of uttermost importance for the creation of an energy efficiency culture and to raise awareness about this issue. Finally, policy makers should intervene both at a firm-level (e.g. with result-based incentives) and at a system level (e.g. by favouring smart grids) to increase energy efficiency for Italian SMEs.

From the analysis, it emerges that energy efficiency does not only affect firms' economic sustainability and competitiveness. The benefits of an increase in energy efficiency can be extended to the environment (through the increase of renewable sources) and to society (decentralisation of production would increase competition and reduce energy bills for households). Moreover, considering the current economic and financial crisis, an improved energy efficiency and, consequently, monetary savings could be transformed into investments in technology and innovation for the Italian industrial production. A revitalisation of the industrial production would also bring an increase in employment. It should be noted that Italy is one of five European countries whose main share of GDP is tied to industrial manufacturing. Hence, for manufacturing firms, energy efficiency plays a crucial role in competitiveness. It can be argued that energy efficiency is a key driver of reduced energy costs in industrial processes, ensuring greater competitiveness of the national industry, and is a crucial tool in transforming the environment, as defined by the EU level in 2020 and 2050, into an opportunity for economic and industrial growth. From the analysis of Confindustria (2013), a reliable and stable regulatory framework from 2014-2020 could contribute to the annual average growth rate of the economy by 0.5%, an increase in the number of employed by 500,000 units and a cut of the national energy bill by 10% per year.

At a time when attention is aimed at identifying policies for growth, the industrial sector for energy efficiency can be important for economic recovery. Italian SMEs have the skills related to industrial plants and machinery used for energy efficiency. The government should encourage investments that activate manufacturing and employment, which would increase the innovation and the competitiveness of the Italian firms (Dervitsiotis, 2014).

7. Limitations and further research

Although this study provides academic and practical implications for both firms and policy makers, several limitations should be considered. First, this is a theoretical paper, hence further research (both qualitative and quantitative) should be conducted to assess firms' perspectives in relation to the proposed suggestions. Second, this study focuses on industrial SMEs in general. However, differences between types of industries (steel versus food, for example) in terms of energy use behaviour should be taken into account in further studies. Similarly, firms belonging to the same industry will probably approach energy efficiency differently, according to their dimensions. Moreover, future research could consider household and policy makers' perspectives. To conclude, energy efficiency is one of the most important challenges for firms, and broadly, for society. It has the potential to set the energy system on a more sustainable path, towards a new model of economic growth, for technological progress and social wellbeing.

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Local networks, stakeholder dynamics and sustainability in tourism. Opportunities and limits in the light of stakeholder theory and SNA[1]

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Abstract

Purpose of the paper: *Given the importance of relationships between territorial actors and their ability to make collective decisions in order to ensure the sustainable development of tourism, this paper suggests social network analysis (SNA) as an appropriate method to explain the dynamics of interpersonal relationships in tourist areas.*

Methodology*: The stakeholder map was reconstructed by using stakeholder theory in conjunction with the identification of actors through snowball sampling. The most important stakeholders were identified by adopting the in-degree centrality indicator referred to the weighted adjacency matrix (quantitative) and the role played by stakeholders (qualitative). The in-degree network centralization indicator showed the distribution of centrality between the nodes of the network.*

Findings*: SNA enriches the reading of multi-stakeholder relationships in non-hierarchical territorial contexts; it picks up on the evolving dynamic of networks and the relative weights of the decision makers within them, providing a more comprehensive and convincing interpretation than does the stakeholder approach alone.*

Research limits: *exploratory research was undertaken in order to focus on analytical tools and the general theoretical framework.*

Practical implications: *the reconstruction of the networks and the interpretation of the relationships provide a sounder basis for the definition of strategies and of instruments that are employed to facilitate processes of participative governance in accordance with principles of sustainability.*

Originality of the paper: *few applications of SNA to tourism have so far appeared in the literature. However, the results derived from SNA can open new scenarios in destination management since, as well as demonstrating the existence of relationships, they also classify and prioritize them.*

Key words: tourism sustainability; destination management; stakeholder approach; social network analysis

[1] This paper was co-authored by U. Martini and F. Buffa. However, sections 1 and 2 can be attributed to U. Martini, 3 and 4 to F. Buffa. The conclusions are shared.

1. The relevance of sustainability in the tourism industry: a literature review from the perspective of destination management

In the last twenty years, due to several global macro-factors, the tourism industry has been subject to profound change (Dwyer *et al.,* 2009; Weaver, 2011). In this new landscape, many analyses, starting with that of the World Tourism Organization (UNWTO-UNEP, 2005; UNWTO, 2011), have focused on the need to rethink tourism development models in the light of the *sustainability paradigm*. There has been increasing criticism of the impact of tourism on the environment, on local communities and on the distribution of wealth; having first called the positive impacts of tourism on an area's wellbeing and economic development into question (Bramwell and Lane, 1993), research into new principles upon which to base more desirable development models is now being emphasized (Hardy *et al.,* 2002; Ryan, 2002). The economic importance of tourism and its numerous social and environmental impacts (UNTWO, 2011) require the careful evaluation of these impacts in the medium and long term on local, regional and national development. If tourism development is to be sustainable it must be rooted in an *holistic approach*: taking into account an area's political, socio-economic and ecological context; future impacts (generational equity) and, given international tourism flows, its effects on other countries (Sharpley, 2000).

Tourism takes place in settings created by a combination of the natural environment, the *human-made* environment and the socio-economic environment, each of which provides specific resources. The decisions made in relation to the use and transformation of these resources by the tourist industry must therefore allow for the management of three capital assets which are not (entirely) interchangeable: *natural capital, economic capital* and *socio-cultural capital,* and whose consumption is often irreversible (Turner *et al.,* 1994; Hunter, 1997; Garrod and Fyall, 1998).

Sustainable tourism development tries to balance the economic returns of tourism with the conservation of the non-renewable resources consumed by the tourist industry (Inskeep, 1991; Swarbrooke, 1999). The impact of tourism on the natural environment in which it takes place is indeed considerable in terms of: land use; the need for infrastructure and facilities which change the landscape forever; the rival use requirements of available resources (land, labour, capital); the need for goods and services (and for the corresponding systems of production) and unavoidable intercultural encounters. Consequently, when an area decides to develop its tourist industry, the whole local development model is affected and the area has to make choices as to how it assigns resources, what its production goals are, and the extent to which social and business changes involving the local population are desirable. Tourism's sustainability is therefore dependent on the creation of a balanced relationship between the needs of all the stakeholders involved (Cronin, 1990; Cater, 1993; Lane, 1994; Hunter, 1997). Specifically, the following conditions must be met:

- tourists' expectations and requirements must be fulfilled;
- private operators in the various tourism fields must be able to achieve their economic goals;

- local institutions and public bodies must be able to meet their chosen development aims;
- the social and professional needs of local residents must be met, and their quality of life improved;
- the area's capital (in particular natural and socio-cultural) must be preserved and fostered.

Sustainable tourism development therefore relies on collective decision-making around the transformation of - particularly natural and economic - capital resources. It is this which allows management and governance issues to be emphasized within tourist areas. The complex web of relations and interests involved generate some critical factors, which require careful analysis:

1. typically, the shape of communities within tourist areas increases the incidence of conflicts around decision-making, owing to the lack of shared visions or objectives on the part of the various actors involved;
2. the relationships between the different actors are not solely economic; they are also shaped by the political and social context of the area;
3. local actors belong to various macro-categories - sector, field of activity, type of representation. These macro-categories are also, however, highly fragmented and consequently tend to further undermine any positions held, or objectives intended.

It is crucial, in contexts such as these, from a strategic managerial perspective, to investigate and understand the network of relationships between the various actors, and to ascertain the nature and strength of their connections. The reconstruction of a network and the analysis of the relationships within it allow both the identification and evaluation of the key players involved in the governance of the destination, and an analysis of the decision-making processes that are followed in the area's tourism development.

This paper presents a methodology which identifies methods, tools and indicators that may be used to investigate structural characteristics and relational dynamics within multi-stakeholder territorial contexts. Assuming that community-type destinations are formed by networks of actors, resources and activities (cf section 2), the methodology here proposed evaluates the qualitative approach of stakeholder theory and integrates it with the quantitative social network analysis (SNA) approach. The contributions of stakeholder theory and SNA are focused on:

- *stakeholder theory*, with particular reference to the "stakeholder definition and salience" research strand (Laplume *et al.,* 2008);
- *social network analysis*, focusing on the methods, tools and indicators aimed at investigating and understanding the nodes and connections which develop within the network.

The paper is divided into five sections. The complexity of multi-stakeholder territorial systems clearly emerges from the analysis of the distinctive elements of management for sustainable tourism (section 2). The methodological approach used to identify the nodes and connections within a network is described in section 3. Using the case method, the (methodological and empirical) results observed through the application of this method are analysed in section 4. The conclusion highlights the possibilities and limitations of the approach and the managerial implications for the sustainable development of these territorial systems.

2. Management for sustainable tourism: governance, conflicts and participatory decision-making

By the beginning of the 1990s it was already clear that the concept of sustainable tourism had to be linked to the areas of strategic planning and management (Hughes, 1995; Hunter, 1995). From the perspective of business economics it is interesting to see whether or not sustainability, in relation to tourism, can really be translated into a territory's governance values and business management. The approach to sustainability must therefore be applied at the managerial level, identifying strategies which give direction to business, organizational and institutional behaviours, and becoming an integral part of the management of a territory's tourist destinations (Gladwin *et al.,* 1995).

Starting from the extremely broad debate about the competitiveness of destinations (Crouch, 2007; Mazanec *et al.,* 2007), the approach to sustainability has been strategic, based on the understanding that tourism management must combine the development requirements of the offer (and therefore those of its services, facilities and infrastructure) with the preservation of both the natural environment and social equilibrium. The requirements of sustainability thus become preconditions for a destination's competitiveness (Middleton and Hawkins, 1998; Mihalic, 2000; Ritchie and Crouch, 2005): strategic management entails the adoption of a long term view and the use of coherent managerial approaches is essential in order to maintain balanced tourist flows, evaluating their impact on natural and socio-cultural capital.

Sustainability must be pursued through the adoption of a tourism policy (Ritchie and Crouch, 2000), given the importance of the public sector (at the state, regional and municipal level) in tourism development (Hall, 1994, 1999, 2011; Hall and Jenkins, 1995; Bramwell and Lane, 2000). Tourism management must thus be integrated into the process of area planning and be included within a territory's legislative framework (Hunter and Green, 1995; Hjalager, 1996; Ahn *et al.,* 2002).

The existence of a public/private dialectic, the presence of numerous actors operating outside any hierarchical context, and the close-knit nature of local communities, have combined to prompt most scholars to read the collaborative relationships which exist among the different actors in tourist destinations in terms of network theory (Jamal and Getz, 1995; Bramwell and Sharman, 1999; Dredge, 2006; Baggio *et al.,* 2010a; Baggio *et al.,* 2010b); Beritelli, 2011).

Tourist destinations can, in fact, be analysed as a network of relationships between *stakeholders*, whose power and influence varies according to the resources they control, their role/position and their interests (Robson and Robson, 1996; Reed, 1997; Sautter and Leisen, 1999; Sheenan and Ritchie, 2005). Strategic decisional processes in such contexts must be capable of withstanding conflict and accommodating *stakeholders'* various expectations.

The problems around coordination and collaboration bring to mind the concepts of focal firm and the opportunities offered by inter-company relationships. The solutions adopted by small and medium enterprises within industrial districts cannot, however, be directly applied to actors involved in tourist destinations.

Researchers in the field of tourism management have therefore sought solutions which take the specificities of tourism into account. They identify, on the one hand, territorial meta-management organizations that are able to coordinate the activities of all the businesses present in the area and, on the other hand, coordination mechanisms which incentivize and support collaboration between businesses.

Decisional processes based on *stakeholder negotiation* and *participation* (Getz, 1986; Haywood, 1988; Simmons, 1994; Reid *et al.,* 2004) are particularly appropriate. Development planning based on participatory decisional processes seems, in fact, to foster responsibility and burden sharing among the various territorial actors. An important factor may be the involvement of people who consider not only the economic perspective but - being deeply knowledgeable about both the resources available in, and the needs of, an area - are also able to articulate the importance of reducing the potentially negative impacts of tourism (Middleton and Hawkins, 1998; Milne and Ateljevic, 2001).

The numbers of organizations and businesses operating in an area and their particular roles, however, vary both over time and from territory to territory (Robson and Robson, 1996; Sautter and Leisen, 1999). Relationships between actors vary in their levels of formality, intensity and frequency (Morrison *et al.,* 2004; Saxena, 2005; March and Wilkinson, 2009).

Consequently, the tools used to promote and foster collaboration and the mechanisms for supporting participatory governance must also vary according to the socio-economic fabric and particular characteristics of a destination. The issues concerning coordination faced in these territories inevitably impact on the effectiveness of governance and, consequently, on whether or not a sustainable tourism model can be implemented (Bramwell and Lane, 2011). This is even more evident in multi-stakeholder contexts such as community destinations.

From a methodological perspective, however, to analyse these local networks and stakeholder dynamics it is essential to identify the stakeholders involved in the destination's tourism development and to examine their roles, their importance in the eyes of other local actors, and the intensity of the relationships that develop within a network.

The parts played by stakeholder theory and SNA are of particular interest in this process, not only because of their undoubted relevance in managerial studies, but also because of the interest in their application to tourism management studies that has been manifested, as this paper demonstrates.

3. Methodological approaches to studying multi-stakeholder systems in tourism

3.1 The contribution, and limitations, of stakeholder theory

"Who really counts in an organisation?" - is one of the key questions in the debate that surrounds stakeholder theory (Freeman, 1984; Mitchell *et al.,* 1997). The criteria and characteristics used to identify stakeholders and assess their roles and relevance can be found in studies that focus on *stakeholder definition and salience* (Laplume *et al.,* 2008). Freeman's well known definition, proposed in the 1980s, has been followed by many others, which describe the characteristics and variables used to map and categorize stakeholders (Mitchell *et al.,* 1997; Friedman and Miles, 2006). The power of a stakeholder and his/her legitimacy in the eyes of fellow actors are the characteristics most commonly used to identify and describe their roles and importance. Of particular significance is Clarkson's (1995) classification, which identifies actors who are essential to the survival of an organization as *primary stakeholders*, and the parameters established by Mitchell *et al.* (1997), which categorize stakeholders according to their importance in their relations with businesses (*stakeholder salience*). This importance is defined on the basis of: power, legitimacy, urgency. *Highly salient stakeholders* are the most significant: their power is greatest, thus legitimizing particular activities and immediately giving them the ear of other stakeholders in regard to specific issues and problems.

The models and conceptual frameworks of stakeholder theory have been increasingly used in studies on tourism management since the 1990s. Among the wide variety of subjects investigated (Bornhorst *et al.,* 2010), many studies have focused on identifying the stakeholders in a destination (Sheehan and Ritchie, 2005; Byrd, 2007; Nilsson, 2007; Byrd *et al.,* 2009; Currie *et al.,* 2009), or examining in detail the role of, and the relationships within, certain categories (Robson and Robson, 1996; Sheehan *et al.,* 2007; Gu and Ryan, 2008; Kang *et al.,* 2008; Simpson, 2008; Stokes, 2008; d'Angella and Go, 2009). These analyses enable the mapping of stakeholders within a tourism destination, describe the collaborative/competitive nature of their relationships and identify the most strategically significant actors. In most destinations the latter are involved in the hotel industry and/or destination management organizations - key actors in the definition of the tourist offer. The diverse connotations which actors, networks and relationships can assume, however, mean that these observations do not always hold true across destinations or over time (Timur and Getz, 2008). Moreover, there is also a notable knowledge gap regarding the roles played by the other actors involved, both directly and indirectly, in the tourism supply chain.

The qualitative approach of stakeholder theory cannot adequately reconstruct the relationship dynamics within a destination, because:

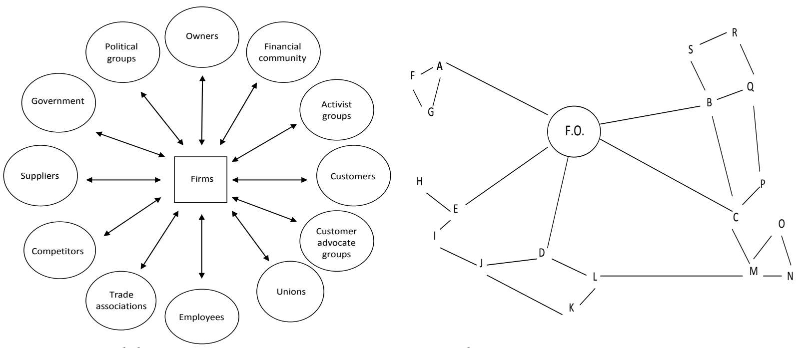
- the descriptive approach does not provide the indicators or tools needed to measure the connections between the nodes of a network and the intensity of relationships between stakeholders;
- although the definition of a stakeholder covers both individuals and

groups[2], most studies concentrate on the roles of particular categories of actors, not realizing the fact that individual actors may have different roles or relationships, both within a particular group and across groups;
- the analysis of relationships takes a focal organization as its reference point and then describes the relationships between other actors in relation to that organization. From a methodological perspective, this means that the reconstruction of a stakeholder network, and the analysis of stakeholder relationships, requires that these analyses be carried out again each time there is a particular object to be investigated.

Rowley (1997), largely prompted by this last limitation, contextualized the analysis of stakeholder relationships by introducing the concept of the network and of a possible interdependence between two or more categories of stakeholder. The network of relationships in which stakeholders are involved is wider and more complex than allowed for in the context described by the dyadic relationships between stakeholder and focal organization presented in the stakeholder model (Freeman, 1984; Donaldson and Preston, 1995) (see Figure 1). Rowley (1997) examines these concepts with regard to the indicators of centrality of social network analysis which allow a stakeholder's power to be analysed as a function of their position within a network and their links with other actors.

Fig. 1: Comparison of nodes, networks and relationships

Stakeholder map (Freeman, 1984, p. 55) Stakeholder networks (Rowley, 1997)



Source: own elaboration on Freeman, 1984, p. 55; Rowley, 1997, p. 891.

3.2 The contribution and limits of social network analysis (SNA)

SNA began to develop in the 1930s thanks to social psychologists (*in primis* Moreno, Lewin and Heider), Harvard anthropologists and sociologists, and Manchester anthropologists (cf Soda, 1998; Anzera, 1999; Scott, 2000; Piselli, 2001; Freeman, 2004; Trobia and Milia, 2011; Prell, 2012). Since the 1980s, SNA has been widely adopted (Borgatti and Foster, 2003;

[2] Freeman (1984, p. 46) defines a stakeholder as "any group or individual who can affect or is affected by the achievement of the organization's objectives".

Knoke and Yang, 2008). The growing complexity of economic systems and relationship contexts and the introduction of powerful software capable of detailed data analysis (eg Ucinet) has led to increased interest in SNA and in its application in many fields, including those of business economics (Anzera, 1999; Cordaz, 2007; Goyal, 2011; Trobia and Milia, 2011).

SNA observes relationships within social contexts (networks) in order to analyse the interdependence and interconnectivity between actors, groups and/or communities (Wasserman and Faust, 1994). One of the core theories of SNA is that someone's behaviour can be best understood by studying it in the context of that person's relationships. This approach is different from the perspective adopted in other studies which explain an individual's behaviour as a function of specific socio-demographic attributes and variables (Wellmann, 1988; Gulati, 1998). In SNA the latter are considered useful in that they provide an understanding of a node's or a network's context, but they are not seen as the core data (Wasserman and Faust, 1994). SNA is intended to provide a quantitative analysis of the relationships between actors by investigating network structures and the dynamics which develop within them.

With regard to the main features associated with the key elements of SNA (actors, relationships and networks) and with the best known indicators (density and centrality) it has been observed (Scott, 2000; Hannemann and Riddle; 2005, Trobia and Milia, 2011) that:

- the *nodes* of the network are the actors, who may be individuals, groups, organizations or even communities or aggregates. The decision-making and behaviour of actors are influenced by their relationships within a network;
- relationships are the multiple ties which connect the different nodes of a network. These are distinguished by their content (e.g., motivations, objective interests of the relationship) and form (e.g., intensity, frequency, duration, direction of the links) and connect two or more nodes, either directly or indirectly. Relationships are usually reciprocal, but their content and intensity may differ, affecting the ways in which resources are accessed and exchanged by individuals and/or subgroups;
- a *network* is a set of nodes and the relationships which develop within a given social context. Networks are represented by graphs which illustrate the actors and relationships by means of a series of points (nodes) and lines (ties). They may be analysed in their entirety (global network) or in part (subgroups like dyads, triads and ego-networks). Ego-networks are made up of one focal actor (*ego*), the set of nodes to which (*s*)he is directly connected (*alters*) and any connections which develop among the *alters. Star, line* and *circle* networks are the most common network configuration.

Turning to the indicators of density and centrality (Scott, 2000; Trobia and Milia, 2011): the first expresses the degree of cohesion within a network, measuring the ratio of real to potential connections within it. Maximum density (value= 1) occurs when all nodes are interconnected; its value is 0 if all nodes are isolated. Density is affected by the size of the network i.e. the number of nodes and connections which each actor is able to activate. The bigger the network, the more difficult it is for the actors to connect with all the other nodes. Therefore, when other variables are excluded bigger networks usually have lower density values than smaller ones. The use of the density indicator is limited by its comparability; a comparison between network densities is only significant when the networks are of the same size.

Centrality can be used both in relation to an entire network and to evaluate the position of single nodes within a network. This indicator enables an analysis of the power and relevance of the nodes and of their influence on other members of the network. The central nodes hold an advantage over the others: centrality provides easier access to resources and information as well as a greater capacity and more opportunity to influence other nodes. Among the many indicators of centrality (Freeman, 1979; Scott, 2000), Freeman's degree measures the number of relationships in which a node is involved within a network. The more relationships an actor has, the higher his/her degree of centrality. The node with the highest value enjoys an advantage over the others, since, by making use of the relationships in which it is involved, it is the least dependent on any other single node to access the resources and information it requires. *Freeman's degree* is particularly useful when directional relations are being used. By observing the links which each single node establishes with the other actors in the network, it is possible to determine its *in-degree centrality*, which provides information about the importance and prestige of an actor in relation to the other nodes, and, furthermore, allows its attributed weight to be measured.

Network centralization provides information on the distribution of centrality throughout the network, thus indicating the hierarchical degree of the network (Chiesi, 1999). *Network centralization* has a value of 0 when there is no disparity between the nodes (they have the same degree) and a value of 100% when the centralization is at the maximum degree (i.e. centred on a single node).

This quantitative approach alone, however, cannot fully explain and describe the context in which the resources, activities and actors are situated, or the actors' roles. In the authors' opinion this is why, from a methodological point of view, the role of SNA is to integrate and to increase the information value of the results produced by qualitative research.

The next section describes the methodology used to reconstruct a network of actors, measure the intensity of their relationships and analyse the strategic valence of stakeholders in tourist destinations through a combination of stakeholder theory and SNA.

4. An integrated approach to studying multi-stakeholder systems in tourism: lessons from field research

Within the field of tourism management studies the validity of SNA has been widely debated, see Scott *et al.* (2008), Baggio *et al.* (2010a); Baggio *et al.* (2010b) and Baggio (2011); Pforr (2006), Bhat and Milne (2008), Marzano and Scott (2009), Beritelli (2011), Beritelli and Laesser (2011), Ruggieri and Iannolino (2012), use SNA to investigate the characteristics of relationships (such as power and trust) and collaboration in tourist destinations. Sciarelli and Tani (2013) also deal with relationships, proposing, from a methodological perspective, the integration of density and centrality indicators with principles and frameworks from stakeholder theory analysis. The works of Timur and Getz (2008), Presenza and Cipollina (2010) and Kimbu and Ngoasong (2013) follow a similar approach, integrating stakeholder theory with measures of centrality in order to examine key stakeholders and aspects of their relationships and coordination *in the field* in various destinations.

The research methodology that has been used considers the aspects that define and describe stakeholders according to stakeholder theory and uses the in-degree centrality introduced by SNA in order to *a)* examine the position of the actors within the destination, *b)* establish a criterion for distinguishing those stakeholders whose roles and significance identify them as primary stakeholders (Clarkson, 1995) or highly salient stakeholders (Mitchell *et al.,* 1997).

Our research, carried out in two Alpine destinations, utilizes the case method. The Alps were chosen because they are a typical example of a community-type destination. The snowball sampling method - widely used in SNA - was adopted to contact research subjects.

To guarantee interviewees' privacy, detailed information about the destination cannot be included; we therefore refer to destination A and destination B. In both destinations tourism is the main economic activity and involves a multiplicity of public and private actors as well as the local community. The legal forms adopted by the DMOs of the two destinations are, however, different - a cooperative society in destination A and a stakeholder company in destination B - as are some features of the tourism development paths followed - strictly endogenous in destination A, more influenced by external investors in destination B. The power imbalances among the various stakeholders reveal some important findings about networks and the relationship dynamics of community-type destinations.

The field research was conducted as follows:

1. an initial list of actors to be contacted was drawn up, containing the subjects that were identified by using the stakeholder map: they are all actors who play a significant role in the development of the destination, including DMO managers, mayors, representatives of the hospitality industry, directors of or spokespeople for important ski consortia and infrastructure, and the managers of sports centres;
2. the initial list was expanded to include people suggested by the first actors to be interviewed - each interviewee was asked to name 1-5 people whom they considered (to be) significant players in local tourism development.

Each named actor was given a degree of importance from 1 (important) to 4 (absolutely indispensable). The data was gathered during face-to-face interviews or through online questionnaires sent out subsequent to contact with the person via telephone.

Following this process it was possible to reconstruct the nodes and relationships of the network, in other words the set of stakeholders who, through their various roles and to greater or lesser extents, contribute to the destination's tourism development.

In order to identify the most important stakeholders the value of in-degree centrality, referred to the weighted adjacency matrix (a quantitative feature), and the role of the actors within the network (a qualitative feature), were jointly evaluated. The analysis of centrality identified those nodes considered to be the most important and powerful within the network. In order to identify primary and highly salient stakeholders it was necessary to establish a threshold below which nodes were no longer linked to these particular categories. This involved the evaluation of the role played by each stakeholder.

The results obtained from the calculation of in-degree centrality, combined with the qualitative analysis, contributed to the identification of the actors considered most important to the development of the destination and who, it can be presumed, are best able to attract the attention of others. Although power and legitimacy are not necessarily coincident (cf Mitchell *et al.,* 1997), the named actors are also believed to be those generally considered to be entitled to promote and carry out activities to further the destination's tourism development.

The stakeholders whose in-degree centrality values are highest are therefore considered (to be) indispensable for the development of the destination and thus to fit the primary stakeholder profile. Their significance also recalls the power, legitimacy and urgency attributed to highly salient stakeholders.

The application of this methodology to the two case studies led to the inclusion of about 70% of the named actors, a result which allows the analysis of the network's structural features and relationship dynamics through the use of measures of centrality (Burt, 1981; Costenbader and Valente, 2003).

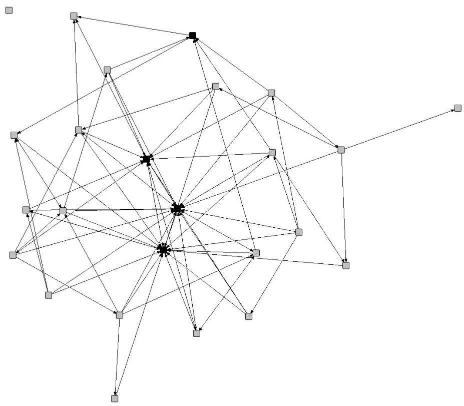
The nodes whose in-degree centrality value is higher than 12 are, within both destinations, stakeholders in positions of particular importance. Most of them have more than one function and are involved in both private enterprises and public administration. The importance of the public-private dialectic in both territories (cf section 2) is confirmed by an examination of the stakeholders with the highest in-degree centrality values. They are representatives of DMOs and of government bodies and the manager of an important ski lift company in destination A and that of a local bank in destination B. The importance accorded to these stakeholders by the other actors in the network and the evaluation of their position through the centrality indicator singles out these actors as indispensable for the development of the territory and distinguishes them as primary stakeholders and highly salient stakeholders.

The adoption of the in-degree network centralization reveals two different situations. In destination A this value is equal to 40.4%; in destination B to 26.4%. Although in neither case do we find a star network (value = 100%), or a circle network (value = 0), in the first case we find a greater concentration of power in some of the nodes and in the second case there is greater homogeneity. Seen on a graph, this is due to the more central position of the primary stakeholders in destination A in comparison to those in destination B (see Figure 2).

Fig. 2: Comparison of networks, nodes and primary stakeholders

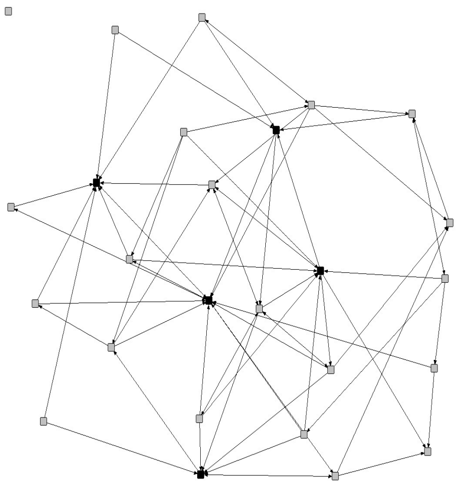
DESTINATION A

primary stakeholders	*weighted in-degree*
Director DMO	46
President DMO	43
President of cableway plant company	32
President of local government body	13



DESTINATION B

primary stakeholders	*weighted in-degree*
President of local government body	32
Director DMO	19
President DMO	13
Manager of central tourist department	13
President of local bank	12



Source: own elaboration

5. Conclusions

This paper illustrates the methodology adopted to reconstruct a stakeholder map and to identify those who, according to their position within the network, play a key role in its functioning. These analyses also examine features that are pertinent to the power associated with the actors and to how this is distributed within the network. The integration of qualitative and quantitative approaches allows the use of an original method to reconstruct the web of relationships that characterizes multi-stakeholder territorial systems of which tourism destinations are a typical example. This methodology transcends the limitations of the qualitative approach which only refers to one focal organisation (Rowley, 1997), allowing the reconstruction of a network of actors and the complex web of their relationships.

Regarding the analyses carried out in the destination communities, the use of some SNA indicators complements the analysis perspective of stakeholder theory by revealing the positions of the nodes in the network and identifying those with the most power. The analysis of in-degree network centralization also picked up the homogeneity, or rather the disparity, between different actors' positions, scrutinizing the characteristics which explain the distribution of power in the destination.

As shown in the first part of the paper, the tourism offer in these territories is a function of the level of collaboration and coordination between the actors involved. The problems associated with the governance and management of these multi-stakeholder systems can be mitigated by adopting models of community participation and public-private partnerships which can enable the coordination of numerous actors, all operating autonomously. Within this debate the identification of primary stakeholders is considered to be of particular importance since it allows the nodes which represent key actors in the destination's development to be analysed. This analysis enables the identification of those considered to be most powerful and capable of taking a leading role in the coordination and collaboration required for further territorial development.

The identification of primary stakeholders can also contribute to the examination of the dynamics and characteristics of relationships with regard to aspects concerning destination governance (revealing, for example, questions concerning the involvement of the local community, government bodies, the DMO, local or external firms), and to an understanding of matters that are fundamental in increasing interconnections between different actors (e.g. trust).

Such an analysis allows us to identify the nodes within a community that are capable of conveying information, influencing behaviours and decision-making, governing effectively and taking political action in order to foster the sustainability of the destination's tourism development. The reconstruction of networks within territories and the identification of their respective nodes provide a sounder basis for deciding strategies and instruments to facilitate processes of participative governance in accordance with principles of sustainability.

Given the generally accepted hypothesis that the sustainability of a destination's tourist offer is correlated with the existence of a collective decision-making process which takes into account the different objectives of the actors involved, the analytical tool provided by SNA can open up new perspectives in the field of destination management by classifying and specifying the importance of relationships and providing a useful key for the identification of the forms and functions of territorial coordination bodies.

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Social marketing perspectives on barriers to and enablers of effective sustainability communication

Invited paper

Lynne Eagle - David R. Low - Lisa Vandommele

Abstract

Purpose of the paper: *The purpose of this paper is to discuss the challenges facing those communicating the potential impact of sustainability on individuals and social groups, using widely accepted behaviour change theories to illustrate major factors that influence behaviour change decisions and supplement this with a review of literature that discusses other factors that should also be considered in developing communication strategies.*

Methodology: *This is a conceptual paper that uses social marketing principles to highlight the challenges involved in the effective communication of sustainability and related issues.*

Findings: *We highlight the complexity of factors impacting on individuals' attitudes, beliefs and actual behaviour adaptation and suggest that current communication strategies could be significantly improved through greater understanding of adaptation decisions and the key barriers to, and enablers, of sustained positive behaviour change. We highlight current deficiencies relating to both individual and community behaviour change and develop a research agenda that may assist in addressing current gaps in knowledge. We then discuss several major issues in relation to community-based sustainability issues. The paper concludes with recommendations for transdisciplinary research to focus on improvements to message clarity and communication as well as on an understanding of the way messages are accessed and synthesised.*

Limitations: *This is a conceptual paper: cross-cultural and trans-disciplinary research is needed to determine how the discussed factors vary across contexts.*

Implications: *An increased understanding of the factors influencing effective communication will benefit policy makers and those involved in the communication of sustainability-related issues.*

Originality of the paper: *The value of this paper is that it takes a trans-disciplinary approach to issues normally discussed only within individual disciplinary areas.*

Key words: sustainability; behaviour adaptation; behaviour change

1. Introduction

In this article, we discuss the factors that should be taken into account in designing effective sustainability interventions. We approach this from a social marketing communications perspective, critically reviewing the literature that highlights potential gaps in current research and understanding and examining potential barriers to, and enablers of, sustained behaviour change. We identify deficiencies in extant communication models and suggest ways in which more robust hybrid models can be developed for the communication of sustainability messages, including the need to change behaviours and specific behaviours that are desired. We move from individual factors to focus on potential barriers to, and enablers of, sustained behaviour change within community-based contexts.

2. What does social marketing offer?

We firstly define the social marketing approach, then justify why it may present a more effective approach to sustainability community than information-only approaches. Social marketing has been debated vigorously in the academic literature for over forty years although there appears to be agreement that the foundation was laid in the early 1950s when it was queried "why can't you sell brotherhood and rational thinking like you sell soap?" (Wiebe, 1951-52; p. 679). The concept of social marketing evolved from "planned social change"(Kotler and Zaltman, 1971) to the "marketing of social causes". While public health issues have received considerably more social marketing focus than environmental issues due to the recognition that the cost of preventable illnesses was approximately 20% of the UK's GDP (National Social Marketing Centre, 2006), the latter field is growing (see, for example, Peattie and Peattie, 2009; Carrigan *et al.*, 2011).

Like many other marketing-related concepts, there is no single definition of social marketing, the concept having evolved over time from narrow and somewhat simplistic foundations.

In 2013, the three social marketing associations, ISMA ESMA and AASM developed a consensus definition of social marketing:

Social Marketing seeks to develop and integrate marketing concepts with other approaches to influence behaviours that benefit individuals and communities for the greater social good. Social Marketing practice is guided by ethical principles. It seeks to integrate research, best practice, theory, audience and partnership insight, to inform the delivery of competition sensitive and segmented social change programmes that are effective, efficient, equitable and sustainable.

It emphasises incremental, practical and achievable changes to practices relevant to a specific target group (Barr *et al.,* 2011a).

There is a growing acknowledgment of adopting the principles underpinning social marketing, particularly when underpinned by theory-driven approaches, that have been found to lead to more persuasive messages across the range of socio-economic groups (Schneider, 2006). A focus on sustainability requires behaviour change from individuals and communities. Rothschild (1999) argues that governments at all levels have three mechanisms by which sustained behaviour change can be achieved: law, education and marketing-based persuasion. Education is necessary, but rarely of itself sufficient to change behaviours (Cappella, 2006; Smith, 2008). This is particularly evident in relation to assumptions that all that is required is to provide people with information in order for behaviour change to occur, particularly given that the specific behaviours that are sought are not articulated but rather phrased in terms of general sustainability aims. Social marketing offers a framework for designing behaviour change programmes that is flexible enough to be applied to a range of behavioural change issues (Corner and Randall, 2011). However, it is not a panacea and the role of legislation and incentives in conjunction with both education and social marketing must be recognised (Rothschild, 1999; Sheavly and Register, 2007).

3. Communication of the need to adapt: the information deficit concept and the attitude-behaviour gap

Lack of knowledge (i.e. 'information deficit') is cited as causing misconceptions and apathy (Owens and Driffill, 2008) and is therefore suggested as an impediment to both attitude and meaningful behavioural change (Semenza *et al.,* 2008). The weakness of the 'information deficit' concept in failing to recognise the complex interaction of values, experience and other factors in achieving (or not achieving) successful and sustained behaviour change is acknowledged in the extant literature (Lorenzoni *et al.,* 2007). Additionally, a gap between reported attitudes towards environmental issues and actual behaviours is well documented in the literature (Ockwell *et al.,* 2009). (Moser, 2010). Attitude change towards performing specific behaviours is necessary (Moser, 2010), but also complex. Attitudes are multi-factored and interact with a number of other key factors in influencing behaviour, especially norms (Fishbein and Cappella, 2006) and self-efficacy (Fishbein, 2008).

Attitude change alone is unlikely to be effective in achieving sustained behaviour change, as a focus on individual voluntary change ignores social, environmental, structural and institutional barriers to behaviour change (Ockwell *et al.,* 2009). People are unlikely to take action unless they perceive potential positive or negative personal consequences, but are also influenced by social interactions with others in their communities (Gooch and Rigano, 2010). A further barrier to change may also be a perception that changing one's own behaviour will not make any difference in the face of the magnitude of potential climate change impacts (Semenza *et al.,* 2008).

4. Assumption of 'spillover effects'

In discussing possible behaviour change strategies, policy makers assume, without evidence, that 'spillover effects' will occur, i.e., people can be "ushered onto a virtuous escalator" (Thøgersen and Crompton, 2009; p. 143) whereby behaviours performed in one setting will automatically lead to changes in another setting (Barr *et al.,* 2011b). There is also an assumption that small behaviour changes will lead to larger changes and catalysts for other changes, but there is evidence that this does not automatically occur (Corner and Randall, 2011). Doing one pro-environmental behaviour may be seen as compensating for other environmentally detrimental behaviours, i.e., spillover effects may be negative rather than positive (Mazar and Zhong, 2010). Thus communication that focuses on single behaviours, such as recycling, is unlikely to impact on other potentially sustainability actions.

5. Message sources

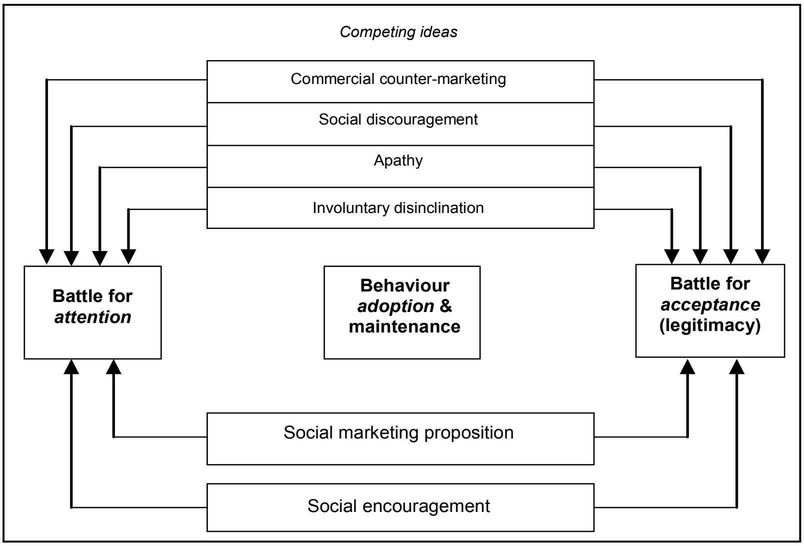
Mass media provides most of the general public's knowledge of science and risk perceptions (Foust and O'Shannon Murphy, 2009). Consumers no longer use individual media, but rather multiple media simultaneously (Ewing, 2009). Furthermore, consumers rather than behaviour change intervention developers integrate messages from numerous sources and may incorporate material such as word-of-mouth, news stories and other non-marketer originated material, as well as personal experience and situational factors (Finne and Grönroos, 2009). Intervention developers must face the implications of a communications environment in which they no longer control all communications. For example, within social networks, marketers cannot control the direction or outcome of discussions; anyone can post opinions and readers may find it difficult to assess the relative credibility or veracity of sources and claims (Campbell *et al.*, 2011).

What is clear is that any behaviour change messages will not occur in isolation, but instead be subject to a range of competing messages and social encouragement or discouragement, including peer and family influences, as well as perceived and actual behavioural norms. Competing behavioural influences are depicted in Figure 1. Further research is needed to determine the range of message sources and the relative influence of the messages obtained from them in order to counter those likely to increase behavioural barriers and to identify those most likely to encourage and enable positive behaviour change. This should be undertaken in conjunction with the application of an appropriate communications theory as discussed in the following sections.

6. Communications theory

In a review of major frameworks that have been used to explain the gap between environmental knowledge and behaviours, it is noted that although "developing a model that incorporates all the factors behind pro-environmental behaviour might neither be feasible nor useful, we do find diagrams that serve as visual aids in clarifying and categorizing such factors helpful" (Kollmuss and Agyeman, 2002: 256). Behavioural theories provide valuable insights into the potential drivers of, and barriers to behaviour change but do not aid communications strategy development:

Fig. 1: Peattie and Peattie (2003) diagram of competing influences on behaviour adoption and maintenance

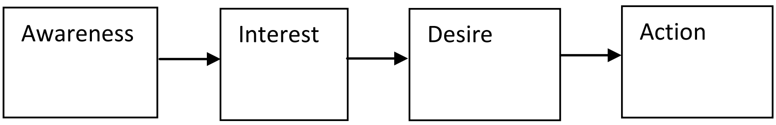


Source: Peattie and Peattie (2003)

Behavioural theories do not tell us how best to design messages so that they will be attended to, accepted, and yielded to. We would argue that this is the role of theories of communication. (Fishbein and Cappella, 2006; p. S14)

However, traditional communications theories, such as Hierarchy of Effects models no longer offer complete explanations of communication processes. For example, AIDA (Awareness, Interest, Desire, Action), which was originally developed a century ago (Figure 2), is of limited relevance to the contemporary communication context (Barry and Howard, 1990; Barry, 1987).

Fig. 2: AIDA model of impact of communication on behaviour



Source: Barry, 1987

Later models such as DAGMAR (Defining Advertising Goals for Measured Advertising Response) (Colley, 1962) expanded AIDA to include additional steps, i.e., Awareness, Involvement, Comprehension, Conviction and Action. These traditional models were developed within an advertising context and predicated on a marketer originated and controlled, one-way information flow. They came to prominence during an era in which mass media were dominant and the prevailing belief, particularly in the USA, was that advertising was a strongly persuasive force and people passive recipients of communication messages. These models acquired the status of accepted wisdom, if not dominant paradigms, in spite of considerable evidence that, even before the Web 2.0 era, they were not universally applicable (Jones, 1990).

A new marketing communication research agenda is required that would investigate many aspects of media use, including the examples below:

- How do individuals and groups use traditional and new media to gather information and inform opinions that shape behaviour?
- How well do traditional communications models and theories describe, explain or enable predictions of persuasive social marketing communication processes in the 21st century, particularly for new media forms such as social networks, where content is created and managed by users?
- Can we develop an integrated model of communication effectiveness, taking both traditional and new communication contexts and new communication theories into account?
- How can interactive media and consumer generated content (e.g. blogs and forums on specific issues) influence desirable behaviours?
- How can this knowledge best be used in developing and implementing interventions aimed at achieving long term sustained behaviour change?

A research agenda such as this should include the use of research techniques beyond those used for traditional media analysis, such as those deployed in the emerging fields of 'webometrics', 'web analytics', infodemiology' and 'infoveillance'. These methodologies offer opportunities and means for analysing how people interact both with computer-mediated information and with other users of this information (Thelwall, 2009).

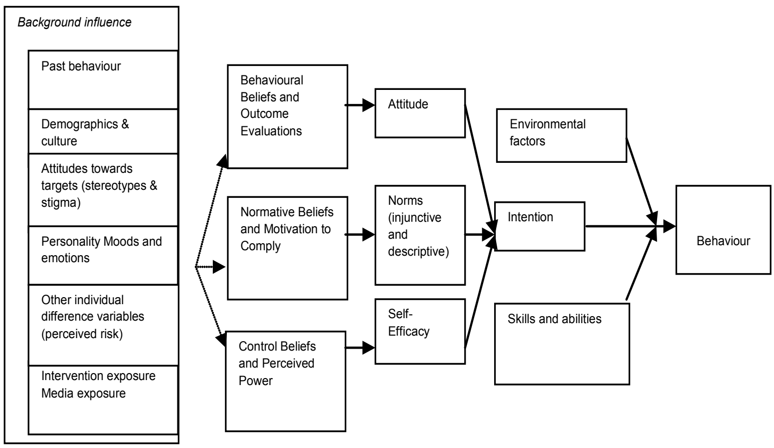
As part of this, a re-examination of the relevance of traditional communication theories for the 21st century environment should be undertaken, together with newer - but in the sustainability context largely untested - models. For example, the Technology Acceptance Model (TAM), the Innovation Diffusion Model (Premkumar and Bhattacherjee, 2008) and various hybrid models that combine the TAM with more widely known behaviour change models, such as the Theory of Planned Behaviour and the Theory of Reasoned Action (Ajzen and Fishbein, 1980; Ajzen, 1991) should be explored.

Another relatively recent approach deserving of attention is the Integrative Model of Behaviour Prediction and Change (Figure 3). This latter model shares many attributes with its predecessors such as the Theory of Planned Behaviour, explaining behaviour change as the outcome of behavioural intention, which itself is the outcome of social norms and an individual's attitude to the behaviour in question. The element of perceived behavioural control and power accounts for variance in behaviours with incomplete volitional control, i.e., where the individual lacks complete control of the behaviour and is therefore unable to change behaviour. A recent further addition has been the re-categorization of norms into 'injunctive' and 'descriptive' components (Hennessy *et al.*, 2010). The IM model is claimed to be a "*unique behavioural theory because it provides a detailed causal specification for explaining and predicting behaviour and also includes standardized measurement protocols to operationalise the theoretical constructs. Additionally, the theoretical principles are sufficiently general to apply to a variety of behaviors*" (Bleakley and Hennessy, 2012; p. 28). The use of techniques such as structural equation modeling using these measurement protocols in the sustainability sector would enable the relative influence of behavioural precursors to be mapped in order to inform future interventions.

The Integrative Model places more focus on the influence of background factors than its predecessors, including, importantly, the role of intervention activity and media exposure. A key contribution of research underpinning the effective use of this theory is that different population segments may be driven more strongly by attitudinal factors, normative influences or perceived self-efficacy, i.e., the ability to change behaviour and sustain that change (Fishbein, 2008). Thus very different intervention strategies may be needed for different population segments (Smith-McLallen and Fishbein, 2008). For example, a behaviour that is attitudinally driven in one population or culture may be normatively driven in another (Fishbein and Cappella, 2006).

This theory, like other theoretical frameworks, does not have sufficient power to predict all behaviour, but in the health sector has been shown to predict up to 70% of some types of behaviours (Fishbein, 2008; Fishbein and Yzer, 2003). In the sustainability context, the use of the TPB and other related theories has been descriptive rather than analytical; therefore its power as a predictive tool has yet to be tested (Kollmuss and Agyeman, 2002).

Fig. 3: Fishbein et al. Integrative model of behavioural prediction and change (IB Model)



Source: Fishbein and Cappella, 2006

7. Improving communication effectiveness and message framing

The aim of intervention communications is to increase the strengths of beliefs that will increase positive behaviours and reduce the strength of beliefs that promote negative behaviours. The premise is that beliefs related to positive actions will carry more weight as determinants of attitudes, norms, self-efficacy and intentions (Fishbein and Cappella, 2006). A key factor that needs to be considered in terms of facilitating effective communications is whether messages are framed in terms of potential losses or gains to an individual; conversely, factors such as reactance, unrealistic optimism and risk denial are significant barriers to behaviour change.

No one single framing approach is applicable across all intervention types. In low-involvement conditions positive messages appear more effective, whereas the reverse is true for high-involvement conditions (Donovan and Jalleh, 1999). People are reluctant to act in response to information that contains ambiguity or uncertainty (Morton *et al.,* 2011). While positive framing fosters greater self-efficacy, in health contexts it can have a boomerang effect if the message conflicts with pre-existing knowledge, attitudes and beliefs (Wolburg, 2006). We are unable to locate any studies that have tested for these effects within sustainability contexts.

Effectiveness is also enhanced when the personal salience of messages is coupled with ways of building or reinforcing self-efficacy and presenting low cost solutions and support (Spence *et al.,* 2010). However, before this is achieved, issues relating to the capacity of individuals to understand must be addressed.

8. Capacity to understand: time dimensions and functional literacy

8.1 Cognitive limits: time dimensions

An individual's ability to visualise the future is only 15-20 years for most people (Tonn *et al.,* 2006); 50 years seems to be the longest conceptualization limit (O'Neill and Hulme, 2009), with scenarios projected beyond this being seen as largely hypothetical (Lorenzoni *et al.,* 2007). Therefore, talking about what will happen in a hundred years or by the end of the century is unlikely to be effective.

8.2 Functional literacy

The Organisation for Economic Cooperation and Development (Nutbeam, 2008) defines functional literacy as whether a person is able to understand and employ printed information in daily life, at home, at work and in the community. Varying definitions of literacy make cross-study comparisons difficult, however there appears to be agreement that some 20% of the population of most developed countries have severe literacy problems and a further 20% have limited literacy (Adkins and Ozanne, 2005). The 2006 Australian Bureau of Statistics' Adult Literacy and Life Skills Survey gives cause for concern. The five-level assessment of literacy, for which Level 3 is regarded as the "minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy" (Australian Bureau of Statistics, 2006) gives the following estimates (Table 1):

Tab. 1: Summary of functional literacy levels australians aged 15 – 74 years (ABS: 2006)

Domains Measured	Domain Definition	% with scores falling in the lowest two quintile levels
Prose literacy	The ability to understand and use information from various kinds of narrative texts, including texts from newspapers, magazines and brochures.	46
Document literacy	The knowledge and skills required to locate and use information contained in various formats including job applications, payroll forms, transportation schedules, maps, tables and charts.	47
Numeracy	The knowledge and skills required to effectively manage and respond to the mathematical demands of diverse situations.	53
Problem Solving	Goal-directed thinking and action in situations for which no routine solution is available.	70

Source: Australian Bureau of Statistics, 2006

Scientific literacy is defined as having "a basic vocabulary of scientific terms and constructs and a general understanding of the nature of scientific inquiry"; on this basis only 17% of US adults were classified as being scientifically literate: (Miller, 2004: 273).

There also exists an additional group that could be classed as 'aliterate', in that they are able to read but choose not to, and rely on television rather than print media for news. More importantly, they learn through trial and error rather than by reading instructions (Wallendorf, 2001). The specific needs of these groups must be taken into account, acknowledging their difficulties but avoiding appearing condescending in the design and delivery of appropriate interventions (Bohnet, 2008). Much of the extant research centres primarily on the health sector and, clearly, more research is needed in functional literacy as it relates to sustainability issues.

9. Role of communities versus individuals

Few people now question or deny the gravity of the sustainability issues being faced both nationally and internationally. Environmental degradation, food security challenges and climate change present complex problems that have the potential to adversely impact the sustainability of individual and community lifestyles and health issues (Peattie and Peattie, 2009; Berry *et al.,* 2011) . It is recognised that the majority of current sustainability indicators are based on national-level data that may *"miss critical sustainable development issues at the local level and may fail to measure what is important to local communities"* (Reed *et al.,* 2006; p. 406). Changing weather patterns and recent weather 'events' have increased discussions at all levels about what actions can or should be taken and whether strategies should focus on mitigation, adaptation, or both (Urwin and Jordan, 2008). Mitigation focuses on reducing the impacts of factors that impact on sustainability such as climate change while adaptation focuses on coping with its impacts: *"Put plainly, mitigation aims to avoid the unmanageable and adaptation aims to manage the unavoidable"*. (Laukkonen *et al.,* 2009; p. 288). Mitigation efforts have a primarily global or national focus, but adaptation needs to be local (Vasi, 2007).

9.1 Adaptation and mitigation: achieving a balance

Adaptation has received less focus than mitigation, but there is increasing recognition for research to inform policy in areas such as to what extent various adaptation measures can help achieve sustainability goals, including the reduction of the impacts of climate change and thus what policies are need, and how they can be applied - and funded (Burton *et al.,* 2002). Further, there is also recognition that adaptation will not take place automatically and that some adaptation strategies may undermine social, economic or environmental issues (Eriksen *et al.,* 2011).

"*Mitigation without adaptation will not prepare societies for inevitable changes in the climate, and adaptation without mitigation will eventually lead to conditions to which adaptation is inconvenient, expensive or impossible*" (Picketts *et al.,* 2012). There is thus recognition that a combination of mitigation and adaptation strategies is necessary, but this is not unproblematic: "*these two strategies do not always complement each other, but can be counterproductive. A similar argument can be made for linking climate change adaptation with sustainable development. In order to avoid these conflicts, priorities need to be set*" (Laukkonen *et al.,* 2009; p. 287).

A new focus on proactively planned adaptation is evident in the academic literature, but experiential knowledge is lacking, inhibiting adaptation implementation. A barrier to the acceptance of the need for change may be the perception of risk given that first hand experiences of consequences may be lacking (Spence *et al.,* 2011). Two closely related concepts are the ability of a community (or social system) to withstand environmental changes (Taylor *et al.,* 2011) and adaptive governance, which examines formal and informal organisations and structures that manage the use of shared assets (Hatfield-Dodds *et al.,* 2007).

9.2 Community capacity and willingness to adapt

Communities themselves may vary widely in terms of their ability to adapt to change (Ivey *et al.,* 2004). It has been argued that community adaptive capacity ranges from 'powerless spectators' (who lack capacity, skills and resources) through 'coping actors' (who have the capacity to adapt but who may not be doing so effectively), to 'adaptive manager' communities (who have high levels of both adaptive and governance capacity) (Fabricius *et al.,* 2007). The most effective methods of assisting communities achieve adaptive manager status are not clear, although the capacity for social learning has received some attention (Ison *et al.,* 2007). Further, "adaptive capacity will not necessarily translate in adaptation" (Berrang-Ford *et al.,* 2011, p. 25).

The ability of communities to take control of their own change management activities is important, as many social marketing / behaviour change interventions are predicated on the assumption that communities are better able to understand their own needs and to develop, or co-create, appropriate solutions to challenges they face (McKenzie-Mohr, 2000). Co-creation has proven to foster innovation, rapid dissemination of knowledge (Kollmuss and Agyeman, 2002). This approach is not unproblematic as existing systems, structures and norms present significant barriers to sustained behaviour change (Moloney *et al.,* 2010). Additional challenges relate to competing knowledge and parochialism and the well-known "commons dilemma" whereby personal advantage overrides common interests (Aitken *et al.,* 2011).

It is important to identify used sources of information and the level of trust these sources have across different population groups. Different information sources may be used at different points during which behaviour change is considered, with social networks and trusted individuals likely to be more important than impersonal (e.g. mass media) sources if a decision is made to investigate how to make that change (Emtage and Herbohn, 2012). The sources of information used and preferred for communication will therefore be explored, in order to determine how well current information provision meets the needs of individuals and communities.

A key factor in achieving successful adaptation by individuals and communities to external influences and changes is the complex concept of social capital which is now discussed in detail.

9.3 Social capital

"Social capital is a necessary condition for sustainable community development as it enhances linking ties that increase access to resources outside the community. Social capital in and of itself however is not always sufficient to sustain and develop local community initiatives"(Dale and Newman, 2010, p. 5).

However, while social capital is recognised as a key element in community-level adaptation (Adger, 2003) its precise meaning, dimensions and mechanisms are unclear. This is due, in part, to the fact that the concept is, in spite of a large body of literature on the subject, difficult to define due to multiple definitions stemming from disparate disciplinary approaches including economics, political science, sociology, anthropology and other social sciences. The definition used in the context of complex socio-ecological systems is "the social norms, networks of reciprocity and exchange, and relationships of trust that enable people to act collectively" (Armitage *et al.,* 2009, p. 96).

This diverse disciplinary interest has resulted in a lack of standardised measurement instruments (Van Der Gaag and Snijders, 2005) or empirical data across all aspects of society in which social capital (however defined) may have a role (Sabatini, 2009). It is now recognised that there has been an over-emphasis on easily measured utilitarian economic factors at the expense of other aspects of community sustainability, well-being and adaption to change, such as cultural and non-material impacts (Adger *et al.,* 2011) . There is also debate over the contribution social capital analysis can make, with views as divergent as it potentially providing a 'magic bullet' versus it being a misrepresentation of structural factors over which communities have little control (Onyx *et al.,* 2007).

Variations in perceptions of social capital within the public sector have thus led to large statistical inventories but a lack of direction as to "how to implement the concept in a concrete and useful manner from a public policy perspective. Specifically, it does not distinguish between what social capital is and what it does" (Franke, 2005, p. 6) , although it is suggested that social capital makes "other forms of capital more efficient" (Woodhouse, 2006, p. 83). These other forms of capital include human, natural, physical and financial ones and their interdependence is recognised although poorly understood (Myers *et al.,* 2012).

The various forms of social capital are particularly important when governmental agencies are not actively involved in planning for major adverse events or in recovery from them: "*social capital, in effect, takes over as a substitute for help from the state. The rolling back of the state in times of crisis or "adjustment" often means that this substitution of social capital is a necessity, rather than a choice*" (Adger, 2003, p. 397). Successful adaptation requires social networks, together with leadership and trust and is regarded by some authors as "the glue for adaptive capacity and collaboration" (Folke *et al.,* 2005, p. 451).

Positive impacts of social capital are evident when strong ties exist and there is a belief that working together can make a difference; general expectations that support this work will develop, evolving into descriptive norms (i.e. norms about what most other people are actually doing (Cialdini, 2007) about effective behaviours and motivating others to support the activity (Foster-Fishman *et al.,* 2009).

However, the fact that social capital may have positive or negative impacts is not widely recognised. Negative social capital may reinforce inequalities, exclude 'outsiders' or restrict freedom to act (Adhikari and Goldey, 2010). Negative social capital may generate negative outcomes for a whole group such as a reduction in norms, (in) tolerance of 'outsiders' or may produce positive outcomes for some at the expense or exclusion of others (Patulny and Svendsen, 2007). Understanding how positive and negative impacts vary across different types of communities is important as is the development of an understanding of the factors that enhance or diminish social capital such as inequality, exploitation and power tactics (Onyx *et al.,* 2007) and the impact, positive or negative, of policy implementation (Talbot and Walker, 2007).

10. Conclusions and directions for future research

We have detailed the complexity of factors potentially impacting, both positively and negatively on communication of the need for behaviour change in order to achieve sustainability aims. We have also provided a partial research agenda focused on the interactions of individuals with marketing communication channels and highlighted a range of community-based aspects that warrant further investigation. For the latter, multiple disciplines should be involved. There are three possible approaches to the combination of expertise from multiple disciplines: multidisciplinary, interdisciplinary and transdisciplinary. Multidisciplinary approaches seek input from different disciplines but these are independent of each other and may create a mosaic of interventions. In interdisciplinary approaches, disciplines work together to provide input but individuals stay within their own disciplinary boundaries (Holmes *et al.,* 2008).

The transdisciplinary approach is synergistic in that it uses concepts, theories, research approaches, analytical methods and strategies for the interpretation of findings to develop shared conceptual frameworks that integrate and transcend individual disciplines (Mâsse *et al.,* 2008; Ramadier, 2004). Key features of this approach include recognition that no one group has a monopoly on knowledge and that collaborations must be created 'not only between different academic disciplines but between researchers and non-academic groups with a stake in the problem under investigation'(Balsiger, 2004, p. 161).

The influence of intrapersonal, interpersonal, organisational, community and societal influences on sustainability-related issues and the multi-level interventions that will be required to address them indicates that transdisciplinary approaches have much to offer in developing effective communications.

Our research agenda would encompass the use of techniques such as structural equation modeling, as noted earlier, to compare and contrast the analytical and predictive power of available theories, to operationalize theoretical concepts and to thus predict potential behavioural outcomes resulting from future interventions.

As part of this research agenda, a range of messages, incorporating both positive and negative framing, a range of temporal dimensions and individual versus collective community actions will be developed and tested across a range of population sectors, including climate change sceptics versus believers and people from a range of educational backgrounds. Comprehension and both short and long-term message impact will be measured. In conjunction with this research will be the development of a greater understanding of the communications channels used and trusted by different population segments.

Cross-cultural research is desirable but presents a number of distinct challenges, including language nuances, and, if undertaken in developing countries, potentially lower literacy levels which may impact on data collection techniques such as using cognitive interviewing techniques to overcome the problems encountered with survey-type instruments by gaining participants' understanding and interpretation of individual questions and how their answers are constructed. In addition, the theories discussed earlier and many other behavioural theories have been developed and applied within developed western contexts. As part of our contribution to expanding knowledge and expertise, the intended research will endeavour to evaluate the utility and predictive power of these theories within developing countries.

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Pirate or subscriber? An exploratory study on Italian consumers' music habits[1]

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Abstract

Purpose of the paper: *This paper analyzes Italian consumers' music habits in terms of online piracy behaviors and their interest toward subscription-based music services (SBMS), i.e. services that for a small monthly fee give users legal access to vast music libraries across multiple devices. The objective is to try and profile a piracy-prone consumer and explore if SBMS could be a viable alternative to online music piracy in Italy, where the general piracy rate is very high.*

Methodology*: The study is based on an empirical quantitative analysis through the collection of 505 questionnaires completed by Italian consumers.*

Findings*: The paper highlights how Italian consumers reflect the 'attitude-behavior gap' in music consumption, as they perceive online music piracy as ethically wrong, yet they still show low preference for the legal, reasonably priced choice (such as SBMS). Younger, male, lower education, students have the highest propensity towards online piracy. In addition, consumers' awareness, familiarity and interest in subscription-based music services are still very low.*

Research limitations*: The limitations of the paper are linked mainly to the adapted scales, to the omission of alternative determinants of attitude towards piracy, to the composition of the sample and for analyzing only two subscription-based music services (Napster and Spotify).*

Managerial implications: *The results call for greater efforts by music industry actors and public institutions to educate Italian consumers about the consequences of their online piracy behavior and the possible solutions offered by SBMS.*

Originality of the paper: *This paper is the first to focus on Italian consumers' music habits, their attitude and behavior towards online piracy and their interest toward subscription-based music services as a viable alternative.*

Keywords: online music piracy; attitude-behavior gap; subscription-based music services; Italy; consumer behavior

1. Introduction

The technological revolution has magnified the issues related to the counterfeiting phenomenon. Internet's expansion in the global market has created new business opportunities and has led to vast improvements in communication; however, it also represents a big threat. The Internet

[1] This paper originates from the commitment of all co-Authors. However, sections 2.2, 2.3, 2.4, 2.5, 3, 4 can be attributed to Ludovica Cesareo; sections 1, 5, 6 to Alberto Pastore; section 2.1 to Giulia Ugolini.

World Stats[2] estimates that there are over 3 billion Internet users in the world, and that the average global Internet penetration rate is 42.3%. The digital revolution, the introduction of the World Wide Web and of high-speed networks have provided an additional distribution channel for counterfeited products (Pastore and Cesareo, 2014). Furthermore, they are a main driver for the expansion of one of the biggest economic issues of the digital era: online piracy, i.e. the unauthorized copying and distribution of copyrighted content on the Internet (Castro *et al.,* 2009).

Among all the industries to be revolutionized by the rise of digital technology and the global network, the content industries, specifically the music, motion picture, print media and software industries, are the most affected (Sudler, 2013). The Internet and the spread of peer-to-peer (P2P) networks have made the global distribution of content easier than ever (what Belk, 2014, calls *Internet-facilitated sharing*), causing a serious disadvantage for content producers and other players in the industries, since a vast proportion of the content shared via the Internet is either unauthorized or pirated (Robertson *et al.,* 2012). Digital content products have high initial creation costs yet very low, near-zero reproduction costs. They also have the characteristics of a public good, meaning that sharing with others does not reduce the consumer's utility. These characteristics, without doubt, facilitate their widespread and illegal distribution all around the world (Bhattacharjee *et al.,* 2003).

One of the content industries facing the highest impact of online piracy is the music industry. The inception of Napster in 1999 and the consequent spread of file-sharing and peer-to-peer services revolutionized the music industry, causing a drop in sales of physical CDs (Zentner, 2005). In addition, the Internet made the MP3 search process much easier, allowing music seekers to obtain MP3 files with a simple mouse click while making their own music collection available for the community (Hennig-Thurau *et al.,* 2007). Napster represented the transition from music ownership (property) to music access (gifting) (Giesler, 2006). This revolution represented, initially, a great challenge for the recording industry, since file sharing considerably weakened effective copyright protection. In early 2001, when Napster's popularity reached its apex, almost all music played on the radio and many older tunes were available for free download (Langenderfer and Cook, 2001).

In the last few years, however, music companies have completely updated their business models in order to fully exploit the Internet's potential: digital revenues in 2013 were worth $5.9 billion and represented 39% of the industry's global revenues (IFPI, 2014). Advertising-supported streaming services, digital downloads, internet radios, mobile applications and subscription-based music services (SBMS) have become important channels for the distribution of "liquid" music to the evermore connected, global consumer. For the first time since 1999, in 2012 the global trade value of the music industry rose by +0.3%, reversing the negative trend of the last decade (IFPI, 2013).

Among the various options for the digital distribution of music, SBMS are experiencing the highest growth (28 million paying users worldwide,

[2] http://www.internetworldstats.com, Last Accessed January 23rd 2015

up by 40% on 2012 and revenues up by 51.3% in 2013), driven by successful bundling deals with Internet Service Providers (ISPs) and mobile operators, improved user experiences, integration with social networks and great variety of prices (IFPI, 2014). This relatively new, legal tool, offers millions of songs on streaming and for download from different record labels for less than 10$/€ a month. Such services seem to be a viable alternative to online music piracy, as they have different tiers of offers and allow consumers to listen to hours of music without the need to purchase individual songs.

In some European countries, such as Sweden, the Netherlands and France, where, for example, the subscription-based music services *Spotify* and *Deezer* are now a consolidated reality (with awareness levels ranging between 75%-96%), online music piracy rates have significantly diminished (i.e. down by 4% in the Netherlands as of December 2012) (IFPI, 2013). In Sweden alone, 89% of Spotify subscribers have greatly reduced their illegal downloading of music (IFPI, 2014). The challenge is therefore to understand how these services are extendable to other countries where they are less common, and to study potential attitudes, interests and behaviors of consumers towards these new services. Delineating a profile of the consumers that are more prone to piracy and those who are more willing to try legal alternatives, like subscription-based music services, could be very helpful for companies in order to craft customized and targeted marketing strategies and communication campaigns.

Italy is a particularly interesting market to study, given the concurrent high piracy levels, the growth of digital music revenues and the potentiality of subscription-based music services (FIMI, 2013). The primary objectives of this research are therefore to: investigate Italian consumers' music habits in the digital era; delineate a profile of piracy-prone consumers in order to understand their interest and propensity to try subscription-based music services as a viable alternative to music piracy.

2. Literature review

2.1 The internet revolution, online piracy and the music industry

The academic literature in strategic management, international marketing and consumer behavior has addressed the general phenomenon of online piracy, defining it as the unauthorized copying and distribution of copyrighted content on the Internet (Castro *et al.,* 2009). In this stream of research, different studies have focused on music piracy and, after the birth of file-sharing, P2P networks and Napster in 1999, on *online* music piracy. These works have tried to analyze and evaluate the effects of illegal reproductions distributed throughout the web on the sales and revenues of the music industry.

Theoretically, different effects of the file sharing phenomenon have been put forth. The most common belief is that the advent of the Internet and peer-to-peer technologies have fostered piracy and thus reduced physical CD sales (Peitz and Waelbroeck, 2004; Hong, 2004; Zentner, 2005; Rob and Waldfogel, 2006). A contrasting effect highlights how consumers typically prefer singles rather than full CDs (Mooney *et al.,* 2010) and thus only pirate top of the chart hits (Oberholzer-Gee and Strumpf, 2007, 2010). In addition, the literature highlights how other factors beyond file sharing, such as high album prices, income, music quality, and new, legal, music distribution options (i.e., iTunes-like online stores) could have contributed to the reduction of physical CD sales (Liebowitz, 2006; Koh *et al.,* 2014). Prior research has also underlined the almost 'positive' effects of file sharing such as consumers' increased willingness to pay for original content after the "anticipation effect" generated by online piracy; and the fact that authors' creativity has not been undermined given that the amount of music, books and movies has strongly increased in the last decade (Oberolzer-Gee and Strumpf, 2010). Finally, piracy could also generate an 'indirect appropriation' mechanism where the producer can indirectly capture the value of the pirated content through the increase in the demand for complementary goods: for example, ticket sales for a concert of an artist could increase if his popularity has risen, thanks also to the consumption of pirated versions of his songs (Belleflamme and Peitz, 2014).

2.2 Delving into consumers' attitudes towards online music piracy

Influential factors behind consumer attitudes and behaviors towards online music piracy have also been studied: low morality and ethicality (in terms of moral equity, ethical concerns, idealism and relativism, ethical beliefs), scarce perception of the illegality of piracy and the low awareness of the negative consequences and social costs of downloading, generate favorable attitudes towards online music piracy (Ang *et al.,* 2001; Lysonski and Durvasula, 2008; Shoham and Ruvio, 2008; Chaudhry *et al.,* 2014; Weijters *et al.,* 2014). Furthermore, peer influence, social acceptance and the perception that people deemed close and relevant by the individual want a consumer to hold such a behavior are also found to be positive predictors of online piracy (D'Astous *et al.,* 2005, Yang *et al.,* 2014). In addition, consumers form reference prices based on previous encounters with price information. Therefore, given that they can access online music for free through file-sharing networks and that they perceive legitimate music to be overpriced (Bhattacharjee *et al.,* 2003), their reference price will be near zero and their willingness to pay for original content will be very low (Papies *et al.,* 2011; Xia *et al.,* 2004).

In terms of demographics, generally younger, college-level persons are found to be more likely to pirate compared to older individuals (Uphsaw and Babin, 2010); white collar, tertiary education (university level) individuals are found to be higher spenders on pirated goods (Prendergast *et al.,* 2002), even if education usually decreases piracy intentions, as awareness of intellectual property theft increases; finally, males usually tend to pirate more even if the literature provides mixed evidence (Chiang and Assane, 2008; Chaudhry *et al.,* 2011; Cox & Collins, 2014).

2.3 The attitude-behavior gap in the music sector

What emerges strongly from previous research is that, while consumers theoretically identify piracy as morally and ethically wrong, when it comes to practice, and therefore to actually accessing music online, they continue to prefer the illegal (free) alternative. This (un)ethical consumer behavior is known as the "attitude-behavior gap" (Fishbein and Ajzen, 1975; Ajzen, 1991). In his review of the phenomenon, Sheeran (2002) explains how intentions are usually the most important predictors of behavior. Sometimes, though, individuals do not act according to them, depending on behavior and intention type, cognitive and personality variables, revealing a "gap" between their intended and actual behavior. To put it simply, practical examples of the attitude behavior-gap are that "people say they're worried about global warming and yet they drive around in a big gas guzzler. They say that money isn't their God, yet they work all the hours. They say they want to be fit but they don't do any exercise" (Dean, 2008).

This phenomenon, in relation to online piracy, was verified by a recent Report by the European Office for Harmonization in the Internal Market (OHIM, 2013). The study shows that 96% of Europeans believe that Intellectual Property (IP) is important since it sustains innovation and creativity and rewards inventors, creators and artists for their work. Furthermore, 86% of the interviewees agree that protecting IP contributes to the improvement of the product and service quality, while 69% believes that it contributes to the creations of workplaces and economic welfare. The paradox though is that, when asked about online downloads, 22% of the interviewees believed that downloading videos and songs from the Internet is acceptable if there are no legal alternatives, 42% believed it is acceptable for personal use, with peaks of 57% among young people between the ages of 15-24. Also, 55% of Europeans believe that the quality of illegally downloaded content is similar to the legal versions and even of better quality for a third of the young consumers. There clearly is a gap between what consumers believe and how they act in terms of online music piracy that must be addressed.

2.4 Exploring possible solutions to online music piracy: subscription-based services

A possible solution to online piracy could be offered by one of the most innovative tools of the music industry: subscription-based music services. These services, in conjunction with ISPs and mobile operators, offer consumers access to almost infinite libraries from all devices (PC, laptop, tablet, smartphone) for a reasonable monthly fee. Furthermore, of the total revenues, nearly 70% is given back to the right owners, meaning labels, publishers, distributors or artists themselves. Two of the most successful of these services are *Napster* (a Rhapsody brand) and *Spotify*. After all the controversy created by the original Napster at the beginning of the twenty-first century in the music industry, the new *Napster* (bought by Rhapsody in 2011) today offers subscription-based services in 17 countries across North America and Europe, access to over 16 million tracks for less than 10$/€ a month and has over one million active members. The most important competitor in the European market is *Spotify*, a Swedish company founded by Daniel Ek in 2008, available in 20 countries worldwide, that offers its 5 million users access to over 15 million tracks with different subscription possibilities ranging between 4.99-9.99$/€ (Tremolada, 2013). In Sweden, *Spotify* has caught on exceptionally well and its onset has led to sensible reductions of online piracy rates (Page, 2013). Given the similarities in the offers, the two companies have been fighting for supremacy over consumers across Europe for the last couple of years (Sweney, 2012) and what will make the difference is the customization for national markets.

One of the last countries to be served by these new services is Italy: Spotify arrived in February 2012 while Napster in June 2013. Italy is a particularly interesting market to study given the growth of digital music revenues (worth 45% of the total) and the potentiality of subscription-based music services (worth 17% of the total), up by 80% only in the last year (FIMI, 2013). Notwithstanding the high levels of piracy registered in the country, the continuous expansion of subscription-based and streaming services demonstrates how there is a growing interest in these innovative services by final consumers (IFPI Italian, 2013). Furthermore, the national academic literature has not explored the phenomenon in depth, focusing rather on econometric models for music piracy (Grassi, 2007), piracy and file-sharing *tout court* (Grassi, 2006 and 2010) or movie piracy (Bagnasco, 2012).

2.5 Research gaps and objectives

The challenges and the gaps that need to be filled and understood are: first of all, Italian consumers' general attitude towards online piracy; second, their familiarity, interest and perceptions toward subscription-based music services, in particular towards Napster and Spotify; third, if there are any demographic characteristics that make individuals more/less prone to piracy and legal alternatives. We employ Lastovicka and Gardner's (1978) involvement model in order to understand if subscription-based music services are high or low involvement services in terms of importance for the individual (personal meaning), hedonic value and price. We study consumers' trial intentions of the services by employing Puto and Wells' 1984 informational (cognitive, relevant, practical) and transformational (affective, experiential, emotional) model in order to verify if these new services can be a possible alternative to online music piracy in the Italian market. By comparing consumers' attitudes towards online piracy with their intentions to try subscription-based music services we plan to shed light on the attitude-behavior gap in music consumption. In addition, given that demographic variables play an important role in consumer's engagement in piracy and legal behavior, we will delineate a profile of both the piracy-prone and legal alternatives-prone consumer in terms of age, gender, education and occupation.

3. Methodology

3.1 Sample characteristics and data collection

A convenience sample of 518 Italian consumers was identified in order to understand their music habits, their attitude towards online piracy and their interest in subscription-based music services. Participants were recruited using a snowball sampling technique, checking only for age: individuals had to be aged between 15 and 64, as this range represents the active population and the people with the highest internet usage rates (from 38.1% for the 55-64 class to 87.5% for the 15-24 class) (ISTAT, 2013). We employed a self-administered questionnaire through an online platform (www.surveymonkey.com); of all the collected questionnaires, 13 were not usable. A total of 505 complete responses were coded for data analysis.

The participants were mainly female (n=256) and aged between 25 and 34 (n=185). A good percentage of the respondents (n=173) had a master degree, was still exclusively studying (n=166), while the majority of the respondents (n=287) was exclusively working; only a small portion was predominantly studying (having also a part-time job) (n=29) or predominantly working (being a part-time student) (n=23). All the descriptive data is summarized in Table 1.

Tab. 1: Demographic characteristics of the sample

Variable	N = 505	%
Gender		
Female	256	50.7%
Male	249	49.3%
Age		
15-24	140	27.7%
25-34	185	36.6%
35-44	83	16.4%
45-54	66	13.1%
55-64	31	6.1%
Education		
Middle school diploma	27	5.3%
High school diploma	155	30.7%
Bachelor's degree	65	12.9%
Master's degree / Single-cycle degree	173	34.3%
Master/PhD	85	16.8%
Occupation		
Exclusively studying	166	32.9%
Exclusively working	287	56.8%
Predominantly working (part-time student)	23	4.6%
Predominantly studying (part-time worker)	29	5.7%

Source: our elaboration

3.2 The survey instrument and the reliability analysis

The questionnaire, developed and distributed in English, consisted of 10 sections (as detailed in the following paragraph) containing a total of 40 questions (plus a section on the demographic information of the sample).

The analysis started with the investigation of the relationship between consumers and Internet (1) (i.e. "I surf the web every day", "I use the Internet for research / for purchasing/ for messaging / for downloading files"), in order to then delve into consumers' attitude towards online piracy (2) (i.e. "I have a positive perception towards online piracy", "There is nothing wrong with using pirated content online"). The following sections were entirely dedicated to music: the survey explored, firstly, the importance and exposure of music in respondent's life (i.e. "I am musically passionate", "I am an avid listener") (3) through an analysis of their frequency of listening to music (4), their music collection (5) and their interest in new music (6). The main focus of the analysis was on consumers' relationship with the subscription-based music services Napster and Spotify: the last sections of the questionnaire aimed, in fact, to investigate the respondents' familiarity, interest and involvement with both services (i.e. "I am not familiar at all with this service", "This is a service that interests me") and their informational (cognitive) and transformational (affective) content (i.e. "I learned something from this questionnaire I didn't know anything about before", "Using this service makes me feel good about myself") (sections 7-10) .

Based on existing literature, we built the survey instrument by adapting scales that had already been validated in previous research in order to better suit the specific case under scrutiny. We analyzed the scales in terms of their reliability by means of Cronbach's alpha (Cronbach, 1951). As shown in Table 2, all scales are acceptable and have a good reliability, since alpha values are all above 0.6. Furthermore four of the scales have alphas greater than 0.8, meaning a very high reliability and very good consistency of measure (Malhotra, 2004).

Sections 1, 2, 3, 7, 8, 9 and 10 all used 7-point Likert-type scales ranging between "Strongly Disagree" (1) and "Strongly Agree" (7). Sections 4 through 6 were multiple choice questions.

Tab. 2: Sections, scales, items and sources

Section	Scale	N. of items	Reliability (Cronbach α)	Source
1	Consumers and the Internet (**C&I**)	7	0.74	Teo, 2001
2	Online Piracy Perceptions (**OP**)	5	0.91	Liao and Hsieh, 2013
3	Importance and Exposure to Music (**IEM**)	5	0.85	Lee and Downie, 2004
7	Napster Familiarity and Involvement (**NFI**)	4	0.68	Lastovicka and Gardener, 1978
8	Napster Informational and transformational content (**NC**)	4	0.85	Puto and Wells, 1984
9	Spotify Familiarity and Involvement (**SFI**)	4	0.66	Lastovicka and Gardener, 1978
10	Spotify Informational and transformational content (**SC**)	4	0.82	Puto and Wells, 1984

Source: our elaboration

We then tested the correlation among variables using Pearson's Correlation test (Table 3). The analysis shows that the only highly correlated variables (p-value significant at p<0.01***; p<0.05**), as expected, are the ones using the same scales to measure consumer attitudes towards either Spotify or Napster (NFI-NC and SFI-SC).

Tab. 3: Pearson's correlation test

C&I	1						
OP	.25***	1					
IEM	.21***	.06	1				
NFI	.12***	-.05***	.18***	1			
NC	.05	-.07***	.16***	.58***	1		
SFI	.165***	-.02	.14***	.64***	.53***	1	
SC	.097**	-.10**	.17***	.53***	.78***	.66***	1
	C&I	**OP**	**IEM**	**NFI**	**NC**	**SFI**	**SC**

Notes: p<0.01***; p<0.05** (two-tailed)

Source: our elaboration

The collected data was analyzed using SPSS software version 19.0.

4. Results

4.1 Descriptive analysis

Investigating respondents' relationship with the Internet, the results reveal that 66% surf the web every day, while 22% almost every day; regarding their free time, only 32% declare to spend it on the Internet while almost the majority (47%) does not; on average, most respondents surf the Internet for more than 2 hours per day (37% strongly agree while 22% are above the neutral position). The most common reason why people use the web is to do research (almost 90% of the respondents are above the neutral position), to download files (56% above the neutral position) and to chat (50%). Only 46% of the respondents use the web to make purchases.

Analyzing people's usage of the Web is crucial in order to understand their attitudes towards online piracy; in fact we would expect that the higher the access, the stronger their propensity towards it. From the analysis it emerges that consumers have, in general, a negative attitude toward online piracy (almost 60% of them have a negative perception of the phenomenon). In addition, the majority knows that there is something wrong with using illegal content online (63%), they do not think that using such content is a better choice while shopping online (79%) and furthermore, it would not be desirable for them to use such content (65%).

In terms of music habits, those who filled in the questionnaire demonstrated a high exposure to music. Almost 80% of the respondents consider themselves musically passionate, 66% are musically curious and more than half are avid listeners. About 70% of them usually listen to music during their free time and about 50% do not listen to music while studying or working. Furthermore, 70% of consumers usually listen to music for more than 30 minutes per day and 80% of them collects music and is interested in new music.

The last part of the questionnaire investigates the relationship between consumers and two of the most common subscription-based music services: Napster and Spotify. The objective was to understand if consumers may be attracted to these services and use them as a possible alternative to online piracy. On this regard, the aim of the questionnaire was, first of all, to understand the respondent's degree of familiarity with these services, which represent new legal realities in the music industry, and then to investigate their involvement with them. What emerges is that the new Napster is not very known among Italian people: more than 70% of the respondents declared to not be at all familiar with the service. The familiarity is a little higher with Spotify, even if almost 50% of respondents declare to not know the service at all. Regarding involvement, the important evidence that emerges from the answers is that the majority of the respondents is not interested in either service (63% for Napster while slightly better - 50% - for Spotify) and that these services seem to not be important for consumers' personal values (65% for Napster, more than half for Spotify). From the informational and transformational content sections, it emerges that the respondents seemed to not be interested in trying the legal music services, since only 28% expressed a willingness to gain expertise with Napster and 32% with Spotify. Furthermore, a very low percentage answered that using these services would make them feel good about themselves (18% Napster and 21% Spotify). On the contrary, many respondents affirm that the descriptions of the services do not leave them with a good feeling about their usage (50% Napster and 48% Spotify).

Therefore, generally speaking, respondents demonstrated to have a negative attitude toward online music piracy, yet they seemed to not be very interested in this legal alternative to the phenomenon.

4.2 Delving into consumer's anti-piracy intentions

After having understood that, overall, the investigated consumers are against piracy in theory yet seem reluctant to try legal alternatives, thus reflecting the well-known attitude-behavior gap, we decided to verify if there are differences in attitudes and behaviors between demographic groups in order to understand the characteristics of both piracy-prone and legal-alternatives prone consumers.

We carried out independent t-tests to analyze the significance of the difference between sub-samples created for each of the demographic variables (gender: male vs. female, age: above vs. below median, education: above vs. below median, occupation: studying vs. working) in terms of internet usage, attitude towards pirated content online, involvement, informational (cognitive) and transformational (affective) content of both Napster and Spotify (Table 4). We highlight significant differences at p<0.01 with three stars, at p<0.05 with two stars, while at p<0.1 with one star.

Tab. 4: The independent t-tests

	GENDER (Female – Male)	**AGE** (Above – Below Median) (28)	**EDUCATION** (Above – Below Median) (Master's Degree)	**OCCUPATION** (Studying - Working)
C&I	.48	-4.74***	-1.05	3.89***
OP	-2.45**	-4.36***	-2.88***	4.44***
IEM	-.26	-2.30**	-3.80***	1.99**
NFI	4.87***	-1.20	1.64	0.56
NC	6.17***	-2.44**	-3.33***	1.61
SFI	4.74***	-1.59	1.82*	.17
SC	6.17***	-2.25**	-1.37	1.50

Notes: p<.01***; p<.05**; p<.1* (two-tailed)

Source: our elaboration

The results show that:

- *Gender* is significant across all tested variables, except for Internet and Music. In terms of attitudes towards online piracy, males have a higher mean and therefore a higher positive attitude compared to females (negative and significant at $p<0.05$). In terms of interest and involvement with both Napster and Spotify, females have a higher mean and therefore are more interested in trying Napster compared to males (in both cases positive and significant at $p<0.01$). Furthermore, a positive difference, significant at $p<0.01$, reveals that Napster and Spotify have a higher informational and transformational content for females rather than for the males, meaning that females are more willing to try the services from both a cognitive and affective perspective.
- *Age* is also almost always significant across the tested variables. A negative difference, significant at $p<0.01$ reveals that consumers under 28 (median of the sample) have a stronger relationship with the Internet than those over 28; another negative difference, significant at $p<0.01$, implies that younger people have a higher positive relationship with online piracy than older people. Furthermore, young consumers are more interested and involved with music (musically passionate, curious, avid listeners) than older people (difference significant at $p<0.05$). Interestingly and surprisingly though, both Napster and Spotify are significant ($p<0.05$) in terms of the informational and transformational content (cognitive and affective) for younger people.
- *Education* is significant in terms of attitude towards online piracy: the negative difference, significant at $p<0.01$, implies that lower education individuals (middle school, high school, bachelor degree) have a more favorable attitude towards the phenomenon. These individuals are also more interested and involved with music, since the difference between the two subsamples is negative and significant at $p<0.05$. Education is also significant in terms of Napster's informational and transformational content, where a negative difference significant at $p<0.01$ reveals that people with a lower level of education are more willing to try Napster from both a cognitive and affective point of view. Finally, a positive difference significant at $p<0.1$ shows that people with a higher level of education (master's degree, single-cycle degree or master/PhD) have a higher degree of familiarity and involvement with Spotify.
- *Occupation* is significant in terms of the relationship between consumers and the internet, attitude towards online piracy, music interest and involvement. In particular, a positive difference significant at $p<0.01$ means that students are more involved with the Internet compared to people who work; and two positive differences, significant at $p<0.01$ and $p<0.05$ respectively, mean that students have a higher positive attitude towards online piracy and a higher degree of interest and involvement with music compared to workers.

5. Discussion

5.1 Managerial implications

From the results it clearly emerges that the sampled consumers are not informed enough about new legal opportunities, such as Napster and Spotify, offered by the music industry. These new services have arrived very recently in Italy, so many people are still not aware of their existence or how they work. Furthermore, the results show that even after a brief explanation of the services, the respondents seemed reluctant to try and use them. They declare to be contrary to online music piracy yet when they have the opportunity to use legal and inexpensive unlimited music services, they do not recognize the importance of these tools. Therefore, the questions that strongly emerge are: do consumers actually have a negative attitude towards online piracy (as they state)? Or is there just not enough information available about these legally viable alternatives to it, such as Napster or Spotify?

This evidence has interesting implications for both academia and practice. From a theoretical point of view, this research has shed an initial light on the unexplored phenomenon of online music piracy in Italy. This implies that further delving into what factors drive consumers to access music illegally even when legal, reasonably priced versions are available, is of primary importance. Research should understand if, for example, it is the ease of access, the price differential, the low unlawfulness perception, that while generating negative sentiments towards the phenomenon still pushes consumers to access music illegally.

From a managerial perspective, even if there was some doubt on the actual truthfulness of consumers' responses that may be biased by their willingness to uniform to 'socially desirable' conduct, the main problem remains the low awareness of the magnitude of the piracy phenomenon. Music companies should therefore educate consumers about the consequences and implications of online piracy and the possible solutions offered, among others, by subscription-based music services.

Different education programs have already been developed worldwide. In the United Kingdom in 2010, for example, various figures of the music industry (including artists, retailers, songwriters, labels and managers) launched Music Matters in order to remind listeners of the significance and value of music and to help music fans differentiate legal music services from illegal ones. The program was so successful that it was replicated in the United States (with partnerships between the Recording Industry Association of America - RIAA - and the Music Business Association – Music Biz), Ireland, Australia and New Zealand. The France education campaign, Tout pour la Musique, informs consumers on the jobs and roles performed in the music sector, and lists legitimate downloading and streaming sites available in France. On an international level, information campaigns such as Pro-music, supported by all music industry actors, provide guidance and information about how to safely and legally enjoy content on the Internet while Childnet, another initiative, helps make the internet a great and safe place for children. The Italian music industry actors, joining forces also with governmental institutions, could follow these examples to create awareness and education campaigns, both online and offline, about the phenomenon and the legal alternatives consumers have to access music online. The results suggest that younger, male, lower education, students have a more favorable attitude towards online piracy, and they should therefore be the primary target of these new campaigns.

Another important finding that emerges from the results is that the sampled consumers do not know enough about the new legal music opportunities that the web offers them: music companies, starting with Napster and Spotify, should implement their communication campaigns with a multi-channel approach to target as many consumers as possible. The results suggest developing gender differentiated communication campaigns. In fact, females, which have a more negative attitude towards online piracy compared to males, have a higher interest and degree of involvement with both Napster and Spotify. The communication campaigns should therefore, on one hand, primarily address males and inform them about these new music services; on the other hand though, they should consolidate females' relationships with the services by increasing advertisements in female-prevalent social networks, forums and online magazines; by having famous female artists and bloggers as testimonials for the services or by partnering up with famous female brands in order to reward female consumers, giving them for example one free playlist on the service whenever a certain amount of a product / brand is bought. Spotify is one of the largest sources of digital music revenues in Europe and in some countries, such as Sweden, Norway and Finland, the largest. The users that migrate from the free, trial version to the paid-for service are 20% of the total users, up to a third in its native country, Sweden. There is clearly a huge potential that needs to be exploited in other European countries such as Italy.

5.2 Limitations and further research

This study aimed to be a preliminary analysis of consumers' attitudes and perceptions towards both online piracy and subscription-based music services as a viable alternative to the phenomenon. The study suffers some limitations linked mainly to the adapted scales, to the composition of the sample, to the omission of alternative determinants of attitude towards piracy and other well-known subscription-based music services such as the French Deezer.

There are numerous paths for future research: first, a deeper understanding of young consumers would be interesting, given the fact that they are the most technological generation that has greater access to the Internet and to both legitimate and pirated online content; second, it would be interesting to study consumers' willingness to try different subscription-based services either by themselves of through bundling deals with ISPs; finally, an experimental study could be necessary to truly verify the existence of the emerging attitude-behavior gap in online music piracy.

6. Conclusion

Online piracy is currently the biggest challenge faced by the music industry. The technological revolution, with the global expansion of the Internet and the proliferation of file sharing, peer-to-peer networks, has led to a big explosion of copyright infringement, causing huge damages for all content industries, especially the music sector. Only recently have companies begun to take advantage of the potential of the Internet, seeking to implement models of Internet promotion in which they can control the distribution of music. Subscription-based music services such as the new Napster and Spotify are some examples of how to legally access almost-free music tracks online at a relatively low cost. While in some countries these new ways to experience music have caught on exceptionally well, in others, such as Italy, these models are still novel and represent a new challenge.

In this work we delved into consumers' relationships with online piracy and with subscription-based music services to see if these new tools could represent, in Italy as well, a valid alternative to online music piracy.

The results revealed that, in general, the surveyed consumers have a negative attitude towards online piracy yet they are not so involved or interested in services such as Napster and Spotify. This suggests that, on a larger scale, there is not enough information on the existence and the potential of these services which calls for greater action on the companies' part. What is clear is that in Italy, which is considered the second biggest market for the sale of illegal products after China, educating consumers about the phenomenon of online piracy and about the solutions offered by subscription-based music services is very important.

We can conclude that subscription-based models, if accompanied by continuous and strong educational and informational campaigns, can be a valid alternative to online music piracy also in Italy. This model in fact offers all the characteristics that Italian consumers seem to be searching for: low price, unlimited access, Internet involvement and legality.

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Back to the future

Back to the future

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"To spread Italian managerial thinking abroad": this was the challenge proposed by our reviewers at the journal's annual 2014 Sinergie conference at the University of Cassino.

That is quite a challenge, we thought.

To be accepted, certainly, but how could it be achieved?

We returned to the beginning and consulted the Sinergie archive, a veritable showcase of original articles. These extensively quoted articles provided our answer: we would present *Back to the future* (named after Robert Zemeckis's successful film), a new rubric for the journal.

Commencing with our first issue of 2015, we will select and present previously published articles in the journal that have been translated into English to promote their further circulation within the international scientific community.

The first of these articles, which thus officiates as the ambassador of the Sinergie Italian Journal of Management, is the renowned work of Riccardo Varaldo and Daniele Dalli. It was first published in issue 19 in 1989. Varaldo and Dalli extensively considered the topic of strategic relationships between manufacturers and distributors. In doing so, they anticipated and grasped some important signals that would later be experienced.

Enjoy the read,

Claudio Baccarani and Gaetano M. Golinelli

Strategic relationships between manufacturers and distributors[1]

Riccardo Varaldo - Daniele Dalli

Abstract

The aim of this research is to further investigate the strategic nature of the relationships between manufacturers and distributors (a.k.a. the industry and the trade world), in a context where traditional market relations are replaced with cooperation for the advantage of both the industry and trade.

After reviewing the existing literature, we will consider how manufacturers and distributors do manage their relationships and we will discuss the various conditions of said cooperation.

Our contribution will be concluded by the presentation of the distribution model recently introduced by Olivetti, which offers a significant case study of the development of relationships between manufacturers and distributors.

Key words: manufacturer-distributor relationships, cooperation, inter-organizational relationships

1. Foreword

If one carefully observes the relationships between manufacturers and distributors in the present market context, an extremely diverse picture of real cases and situations will appear, which make it very difficult and challenging to try and draw out principles or notions, and even more generalize on the matter. These relationships should be defined according to very different principles from those used in the theory of the literature inspired by neoclassical economics, that tends to track studies along the threads of the theory of markets, with the consequence of placing a dominant value on the bargaining-negotiation perspective of relationships between supplier and customer, and neglect any other aspect and problem.

To extremely simplify our argumentation, we may say that the structure and dynamic of relationships between manufacturers and distributors are affected by three different components: a *bargaining component, a competitive component* and a strategic component. Depending on the prevalence of either of these components over the others, relationships will take on different configurations and natures, up to the point of differing significantly in their very essence.

[1] This work is the outcome of joint efforts. However, Prof. Riccardo Varaldo took care of sections 1, 2, 5, 6, 9, in particular, and Dr. Daniele Dalli took care of sections 3, 4, 7, 8.

In the *relationships prevalently based on bargaining and negotiation* the interest of the parties is essentially focused on the mere exchange of products or services against payment of a given amount of money (price), so all efforts are aimed at maximizing short-term results by leveraging negotiation skills and the bargaining power of each contracting party. Under this perspective, which is typical of the economic theory of markets, exchanges are seen as occasional and separate actions that take place between independent entities who make autonomous decisions.

Competitive relationships, instead, are developed as a function of possible "field invasions" of manufacturers in the area of activity of distributors and vice versa, in contrast with the principles of specialization and mutual functional integration. In this context, the harmony of relations between players placed at different levels of the manufacturing-distribution-consumption chain is lost and situations of conflict occasionally arise about which areas or functions are within the jurisdiction of each player.

The pioneering research of Sergio Vaccà on the history of manufacturer-distributor relationships clearly indicates how they have evolved competitively over time (Vaccà, 1963). After the merchant-entrepreneur stage, characterized by the predominance of distribution, there has been a transition to the advent of branded products and advertising, where manufacturers tried to reappropriate a greater market power - intended as the capacity to influence the final choices of consumers - to later enter the stage of the predominance of large distributors, where the market power has moved downstream. This happened by virtue of a high bargaining power and an autonomous capacity of manoeuvre in the processes of formation and evolution of consumer preferences acquired buy large distributors, often in contrast with the objectives and interests of manufacturers. With the spreading of these phenomena on a larger scale, the *season of conflicts between manufacturers and distributors* opened up, as announced in our 1971 article (Varaldo, 1971), and, starting from the eighties, also characterized the Italian distribution market of consumer products - after characterizing the previous evolution of vertical relationships between manufacturers and distributors in the other economically developed countries.

Strategic relationships between manufacturers and distributors generally emerge in all the situations where the two parties recognize the appropriateness and convenience of managing the respective business activities in the medium-long term based on the consideration and recognition of the benefits of an interaction between the specific competencies and resources of the players in the approach to the market and competition. These advanced forms of regulation of vertical market relations mainly developed in the sectors where distribution and services for consumers/end users play a very important role for the success of a business, but simultaneously industrial operations imply high skills and specialised resources that are not easy to reproduce and replace. In these cases, there is usually a tendency for suppliers and customers to converge on considering their destinies mutually impacted and interrelated to the point of believing that only a strategic management of their relationships may lead both to success in the medium-long term.

On the other hand, a strategic approach to the regulation of manufacturer-distributor relationships may also be seen as the cause of a high level of conflict in vertical competition in the market, which may negatively impact on the profitability of the different sectors and create conditions of excessive uncertainty for both manufacturers and distributors.

In this research we decided to essentially focus on an analysis of the strategic aspect of relationships between manufacturers and distributors in an attempt at advancing the study of the subject matter that, in our opinion, has been too long affected by the consideration of the sole competitive aspects of said relationships. This was done to the detriment of the evolution and capacity of said research to explain and interpret real phenomena, particularly in the presence of a series of factors (development of innovative and problematic products, integration between products and services, computerized management of relationships, spreading of network distribution systems, and so on) that are characterizing the development of modern economic systems by giving a greater and different importance to the strategic content of vertical market relationships, i.e. the collaboration interests between the parties. On the other hand, the purpose of our work is also to supplement a review of manufacturer-distributor relationships under the typical perspective of the *industrial organization* with a micro-analytical approach that aims at investigating more in depth supplier-customer relationships and the incidence of business, managerial and organizational variables on those relationships.

2. Trends in the study of relationships between manufacturers and distributors

In Italy, the study of manufacturer-distributor relationships followed an economic-structural approach. In these terms, the manufacturing system and the distribution system are considered as two single, separated and usually opposed, entities, i.e. two industries per se, which come into contact with one another exclusively through exchange relationships regulated by the market.

We have already mentioned the research that initiated the thread of studies on this subject (Vaccà, 1963; Varaldo, 1971), where economic issues such as price levels in the supply chain, the degree of product differentiation and vertical market structures take on a paramount importance and the analytical approach selected mainly aims at highlighting the nature of the relationships between manufacturers and distributors. While the first study analyses the problems tackled by manufacturers to try and obtain a greater strength to influence the final market and defend this power against the rising of an countervailing power that is in the hands of large distributors, the second work focuses on the factors and conditions that specifically affect the degree of power of the different market players and the rising of conflicts in the distribution channel (intra-channel conflicts) and between different distribution systems (inter-channel conflicts).

Another significant contribution concerning relationships between manufacturers and distributors is Spranzi's work (1972), which provides a dynamic picture of the development of competitive relationships between industrial enterprises (manufacturers) and trade enterprises (distributors), particularly by trying to identify the effect of the progressive "modernization" of the distribution sector on manufacturers' market policies. This effect differs depending on whether the reference scenario is a "non-competitive pre-capitalist trade" or a "competitive capitalist trade". While, in the former instance, the industrial enterprise essentially leverages its bargaining and imposition power, in the former it is forced to reset its marketing policies on a substantially different basis.

The issue of the competitive confrontation between the manufacturer and the distributor, with the rising of conflicts and the differentiation of the commercial offer, become the guidelines of the subsequent analyses of manufacturer-distributor relationships.

Following the same economic-structural approach, the literature on manufacturer-distributor relationships developed in our Country simultaneously with the onset of the so-called "trade revolution", induced by the modernization of the distribution system and by the growth in the weight of the facilities of large distributors. More specifically, new contributions were added to the studies on this subject since the end of the Seventies (Lugli, 1976; 1978), which essentially moved into two directions. The first was a new thread of empirical analysis that was conducted with the purpose of somehow legitimizing the economic-structural approach to the study of the evolution of manufacturer-distributor relationships. These studies largely used synthesis, industry and national data concerning the concentration trends of the distribution system, and their purpose was to highlight how increases in the weight of large distributors tended to be matched by changes in the competitive scenario within which vertical market relationships took place and developed.

Secondly, a new research line on the relationships between manufacturers and distributors arose from the institutional area of marketing: while these *trade marketing studies* initially focused primarily on the problems of industrial enterprises, later on they became more autonomous and often also covered the investigation of themes such as retailing and merchandising, which more specifically concern the management of trade enterprises, for the use of strategic levers (*distributor's marketing*) that affect the nature and changes in the preferences of final consumers.

2.1 The analysis of concentration in the distribution system

The main purpose of this line of research is to demonstrate the progressive tendency of the distribution systems to move towards increasingly concentrated structures and to highlight how this, per se, significantly impacts manufacturer-distributor relationships, and changes the competitive scenario.

The theoretical and empirical contributions available to date on the evolution of the distribution system essentially focused on the study of grocery retailing, where concentration has increased more notably

(Zanderighi, 1986; Zaninotto, 1987), with an increase in the relative weight of the different types of modern distribution.

Due to a number of factors (the urbanization of the population, concentration of spatial markets, spreading of mass consumption and consumers, tendency to concentrate purchases over time and space, reduced request for trade services associated with products) the road of size development has been walked in the grocery sector both at site level, with the spreading of supermarkets, and at enterprise level, with the development of large corporate chains, buying associations and chain stores (Spranzi, 1986, 83 ff.).

The economic-structural approach to the study of concentrations in the distribution sector provides elements for the identification of the basic aspects of the evolution of the sector itself, and therefore to draw the competitive scenario where the vertical relationships are determined and change in the supply chain. On the other hand, the approach at issue does not seem to suffice in itself for an in-depth study of the changes that take place in the power of manufacturers and its means of action when the vertical relationships with distributors and horizontal competition change.

The paradigm highlighted in the studies on the distribution system is the triangular relationship between a) *concentration* b) *efficiency* and c) *power* of distribution. The increase in the concentration of distribution, associated with an increase in the size of the enterprises and business units, is correlated with a greater efficiency in the conduction of business functions. This seems to be the result not only of the effects of classical economies of scale, whose significance is rather limited (Lugli, 1983, p. 14), but also of the impact of the introduction of new management methods that affect the principles based on which the marketing function is organized, thus causing changes in the level and types of service the distributor associates to the sale of products (Spranzi, 1986, 63 ff.).

Modern large retailing seems to be more efficient than traditional retailing, as there is an inverse correlation between price levels and point-of-sale size[2]. So, at times of trade modernization, price levels may decrease[3] due to a growth in the efficiency of the entire distribution system.

As regards the relationship between distribution concentration and power vis-à-vis manufacturers, general studies are available, mainly conducted by industrial economists (Scherer, 1985; Chapter 8), while there are no empirical analyses with a larger scope aimed at considering management and organizational issues. The only exceptions are some studies (Lustgarten, 1975; La France, 1979; Gabel, 1983; Cowley, 1986) that used business-derived sources such as the PIMS database, and identified a significant inverse correlation between the profitability margins of manufacturers and

2 Here we are referring to the empirical analysis conducted by Daniele Dalli in Tuscany in the spring of 1989 within the framework of the course in Retailing Management held by Prof. Roberto Sbrana of the Facoltà di Economia e Commercio of the Pisa University, the results of which are about to be published. The size variables considered are surface, personnel, and product range. Prices have been directly read on the items in various points of sale (POS).

3 This condition occurred, for example, in Great Britain in the Seventies, in the food industry (Baden Fuller, 1986).

the concentration indexes of their customers[4].

In our Country, the effects of the greater concentration in distribution on vertical market relationships have been more inductively considered than investigated; in fact, the deterioration of relationships with manufacturers has been directly and mechanistically explained by that phenomenon, while there is no empirical evidence regarding those effects.

Apart from this lack of empirical evidence of the effects of distribution concentration, we should point out that manufacturer-distributor relationships involve issues that are not quite captured by the economic-structural approach. This poses a severe limit to this literature if we consider that what matters in these relationships is not only the structural characteristics of the two sectors, but also the ways enterprises actually manage their relationships and behaviours in the changing conditions of vertical (between manufacturers and distributors) and horizontal competition (within manufacturers and within distribution). As a matter of fact, only a micro-analytical approach may help systematically grasp the essence of changes in the mutual power between suppliers and customers by investigating the factors that provide a competitive advantage in vertical market relationships and how these can be regulated.

2.2 Trends in trade marketing studies

Trade marketing or trade-oriented marketing studies developed significantly in our Country after the first years of the 80's and concerned consumer goods (Fornari, 1985) considered as a function of the changes observed in the business system and in the significance large distributors gradually acquired in the manufacturers' customer portfolio. Large purchasing organizations not only increased their weight in the manufacturers' turnovers, thus acquiring a greater market and bargaining power, but also developed more advanced management practices that required manufacturers to develop new strategies to cope with them.

It is well known that traditional distribution systems typically show an imbalance of bargaining power in the favour of large manufacturers, who can quite freely control the significant variables that influence preferences and the behaviour of final consumers by implementing specific consumer-marketing policies and reducing distributors to mere logistic and trading roles. Vice versa, when large distributors acquire a greater bargaining power vis-à-vis manufacturers, as well as an autonomous capacity of competing for the conquest of consumer preferences by using

[4] However, additional variables are required to explain the variance of profitability in industrial enterprises as a function of the concentration of customers: in fact, this ratio seems to depend on many collinearity constraints. Briefly, we may mention, among positive components, the concentration on the sellers' side, the degree of use of the production capacity, the fact of operating in a young business, and, among negative components, the relevance of purchase costs for the customer over total costs and the wright of fixed marketing costs in the seller's cost function. The latter seems to be mainly connected with the size of the customer portfolio, for which reason they would increase profitability in case of a reduction in the portfolio, i.e. concentration.

their typical and specific levers (choice of product ranges, allocation of exhibition spaces in the point of sale, promotional policies, private labels), the marketing policies regarding products cease to be an area under the exclusive control of manufacturers and become ground for negotiation and processing within the framework of a sort of *contractual marketing* (Guatri, 1987). Under this perspective, customers' needs and requirements take on a greater importance in manufacturers' strategies, who try to meet them by offering customized "product-service packages" for the different types of commercial businesses.

All this leads to a greater economic and organizational commitment for manufacturers: more resources to be dedicated to the management of relationships with customers in general and with privileged customers in particular, and increasingly frequent cases of duplication/differentiation of facilities and operating systems due to the different requirements expressed by different customers[5].

The development of trade marketing as a specific approach to the study of manufacturer-distributor relationships allows for a more in-depth investigation of the operating and negotiation perspective of the interaction between the two categories of players, but this will probably not suffice to grasp the structural and organizational aspects of these relationships. In fact, in addition to outlining the principles based on which one should develop marketing, trade or consumer-oriented policies, it would be important to focus attention on how said policies are developed and managed, and keep into consideration the internal features of the organization that is implementing them, of the competitive scenario and of the type of external stakeholders involved (consumers and customers).

3. Innovative trends in studies on exchange relations

In order to look at manufacturer-distributor relationships under a wider perspective, we should first consider some important new trends in the approaches adopted by studies on customer-supplier relationships, which indicate that:

- marketing activities tend to be more and more considered based on their *exchange content*, that is their nature of "relationships", which characterizes interactions between market players;
- the typical relationships of competitive contexts are no longer the only aspect considered in the studies on business strategies; other factors regarding vertical relationships are also considered provided that they have developed in the context of "domesticated markets";
- within the framework of the marketing mix theory, the *Place tends to lose its traditional nature of tactical variable* to take on the role of strategic component for the different and greater relevance of distribution policies and trade relationships as competitive advantage factors.

The identification of the *exchange as a substantial aspect of the marketing*

5 For a global vision of the quantitative implications of differentiation and of the concentration of the customers of industrial businesses, see Marino (1988, Chap. 6).

function[6] is based on a notion of marketing as a frontier activity (Amdt, 1979), where relationships become particularly important. Looking at the relationships manufacturers entertain with their markets, many stakeholders can be identified: competitors, consumers, direct customers and intermediaries (Fiocca and Vicari, 1987). So, the negotiation and coordination of exchange activities are an important strength of the marketing function, particularly as regards channel relations (Frazier and Sheth, 1985; Arndt, 1983; Stern and Reve, 1980; Achrol, Stern and Reve 1983, Weitz 1981).

The number of partners interacting with each other in vertical market systems is to be associated, as is well-known, with specialization phenomena. According to some organization theoreticians, specialization is determined by the scarcity of resources (Levine and White 1961; Thompson, 1967; Jacobs, 1974; Aldrich, 1979), while, according to others, it is driven by the specificity of the manufacturing functions of the different products and services of the supply chain (Bucklin, 1966; 1972; Mallen, 1973; Stigler, 1951). In any case, the result is that the distribution chain requires many players to be involved, each with a different specialization, in mutual interactions. On the other hand, the opening of markets, the homogenization of needs and the increasingly rapid circulation of information keep widening the territorial and economic-competitive scope of business activities, thus increasing the weight of exchange relations with external entities, in addition to differentiating the types of relationships to be managed.

The tendency to *domesticate markets* mentioned in the second point above indicates that relationships between businesses tend to be less and less occasional and based on competition in the strictest sense of the word. In fact, situations arise where relationships between companies become a real cooperation and continue in the long term. According to Arndt (1979), the repetitiveness and non-conflicting nature of market relationships gives way to the so-called "domesticated markets", where the competitive spirit is following a decreasing trend and inter-company relationships are less and less based on aggressive practices and the traditional mechanisms of competition. Although the envisioned situation does not necessarily lead to the conclusion that the intensity of competition will decrease, it is at least possible to state that, in such a scenario, market relationships are managed by using new competition tools, such as cooperation[7]. As a matter of fact, the domestication of markets does not necessarily assume the emergence of "alliances", i.e. agreements implying a convergence towards common strategic objectives (Fiocca and Vicari, 1986), but simply makes it necessary to coordinate said relationships and exchanges between organizations because, in such

[6] According to Hunt (1983, 9) "the primary focus of marketing is the exchange relationship". Some basic references to this approach to marketing are: Kotler (1972), Kotlere Zaltman (1971), Luck (1969, 1974), Bagozzi (1975, 1979), Arndt (1979).

[7] As Goodman (1979) observed: "There is at least strong anecdotal evidence suggesting that voluntary groups, contractual supply arrangements, and buying contracts... are structured in order to compete with alternative systems, not to eliminate competition".

a context, the role of the market as an automatic structure for the governance of exchanges is progressively fading[8] to give way to organizational or quasi-organizational solutions.

As regards the third point, i.e. the emerging strategic content of distribution policies, a lot of work has been developed on the role of *relationships with customers in the planning and implementation of strategies*. The control of distribution channels may translate into cost savings, as well as opportunities of competitive positioning and development of strategic behaviours offering competitive advantages that are not easy for competitors to imitate or bypass (Valdani, 1986).

Giving a different and greater importance to the role of the Place in the marketing mix has led some manufacturers to change their approach to the market and pass from standardized policies to policies adapted to the specific economic contexts and environment where they operate. Just think, in this regard, of the relevance of that phenomenon for international corporations whose success is increasingly linked to the adoption of forms of flexibility and adaptation in order to keep into account the institutional, legal and socio-economic specificities of the different countries where they conduct their business.

On the other hand, distribution may be assigned a competitive role even in structural terms, beyond the constraints and opportunities it may create for individual companies. According to the extended vision of the competitive forces of a sector "customers, suppliers, substitute products and potential newcomers are all «competitors» for the companies" (Porter, 1982, 13). In these terms, the capacity to manage customers may have a strategic value because the distribution system is a competitive force of the context where the manufacturer operates. Under this structural perspective, changes in the distribution system must be constantly monitored because they directly affect the competitive relationships in the sector, and consequently corporate strategies.

4. The inter-organizational nature of manufacturer-distributor relationships: coordination structures

Day and Wensley's statement (1983, 83) that "... the marketing function initiates, negotiates, and manages acceptable exchange relationships with key interest groups, of constituencies, in the pursuit of sustainable competitive advantages, within specific markets, on the basis of long run consumer and channel franchises" is closely linked to the three assumptions highlighted in the previous point: the role of exchanges, inter-organizational coordination and the strategic role of distribution. According to the logic underlying this statement, the *structural dimension* of relationships between the enterprise

[8] The field of that issue is Williamson's "institutional economics", but interesting integrations to that approach have been progressively developed in the field of customer-supplier relationships. In particular, the economic-political approach, whose manifesto is Stern and Reve's article (1980), that integrates the economic-structural (Williamson, 1975) with the social-political vision (Perrow, 1970; Pfeffer and Salancik, 1978).

and downstream operators should be re-connected with the *relational and long-term dimension* of said relationships, which would show the *strategic component*.

Customer-supplier relationships are probably the main context where the relational dimension of the enterprise takes on a critical nature; in fact, the "physical" object of said relationships is the product or service rendered, to which the destiny of the enterprise is associated. Under a marketing perspective, therefore, the customer-supplier relationship takes on a definitely greater value than other, albeit significant, relationships.

In organizational terms, suppliers and customers have different structural or procedural alternatives available to start and manage an exchange relationship. Depending on the degree of structural integration/ centralization, these alternatives may be distributed along a continuum going from free market relationships to the integrated hierarchy (Williamson, 1979), as shown in the table below (Fiocca and Vicari, 1987) (Fig. 1).

Fig. 1: The continuum of inter-organizational relationships between suppliers and customers

independent organization	
occasional exchange relationships	Market mechanisms
supply relationships	
continuous customer-seller relationships	
collective actions	
voluntary unions	
consortia	Intermediate forms
exclusive agreements	
licence agreements	
continuous product development	
franchising	
joint-venture	Hierarchy
upstream/downstream integration	
integrated organizations	

All these forms are just alternative ways to manage and coordinate inter-organizational exchange relationships. This "management" characterizes integrated forms, where the allocation process is controlled in an authoritative manner, even though the market may also exercise a control function to the extent that it is through the market that the price of said exchanges is determined[9].

[9] The management and coordination dimension - and therefore the weight of the governance cost of transactions – is not the only explanation of the variability of the existing inter-organizational forms: Williamson (1986) explicitly refers to production costs, and particularly to economies of scale and scope. In fact, the model proposed by Williamson (1986) is in line with

The different forms of organization between companies may differ as to which mechanisms each of them uses to coordinate exchanges. Market based ones rely upon competitive mechanisms, as pricing is efficient in the presence of a high number of competitors and under conditions of information transparency. The other forms of coordination, instead, require a more or less significant use of the organization and their dissemination depends on the reduced role of the market as a tool regulating said relationships. These market "failures" occur when its players have a limited capacity to process information and are prone to shrewdly take advantage of favourable situations[10], or when the behavioural conditions apply (Williamson, 1981, 1544) for the establishment of alternative governance structures. As a matter of fact, bounded rationality and opportunism influence the uncertainty that characterizes exchange relationships, and consequently the level of transaction costs, and tend to pave the way to additional coordination mechanisms aimed at defending market players from the failures of the market. For the action of these additional regulatory tools, therefore, inter-organizational forms become increasingly complex and tend towards integrated and bureaucratic forms[11].

Closer exchange relationships emerge depending on the challenges and risks associated with uncertainty, but undoubtedly integration choices are not exclusively limited to structural elements and context. As we will see later on, the *strategic component* of manufacturer-distributor relationships may be a factor of the development of durable relationships and integration among channel partners.

Apart from the causes that originate integration processes, the *degree of integration*[12] of inter-organizational forms can be described by using three parameters:
- the intensity of vertical interactions;
- the degree of formalization of relationship;
- the degree of centralization of the decision-making process.

The *intensity of vertical interactions* concerns the flows of activities, resources and information between two players belonging to two subsequent stages of a distribution channel (Van De Ven and Ferry 1979). The high intensity of vertical interactions - such as joint programs, support services, information support and so on - involves a greater involvement of stakeholders and a higher degree of coordination of their activities. In other words, we may define participation as the extent to which the two contracting parties contribute to the decision-making process (Dwyer and

the contents of section 5 of this article.

10 For a detailed analysis of opportunistic behaviours in distribution channels, see John (1984).

11 The "new institutional economics" goes much further than stated in the text. However, this is not the context for a further development of the theme of transaction costs economics, for which we refer to the work of its most representative author: Williamson (1975, 1981, 1983, 1986).

12 Integration is mentioned to describe the reunification of multiple organizations under the same decision-making authority. Within this definition framework, integration may take place at different degrees and may be pursued with different tools, as acquisitions are not the only way to obtain control over other decision-making units.

Oh, 1988, 23), meaning that objectives will be all the more interrelated as the contributions to their formulation by the two parties are equivalent.

The degree *of formalization of relationships* indicates the presence of rules, pre-established policies and standard procedures that regulate the customer-supplier relationship. Even in this case, increasing formalizations are assumed to correspond to increasing degrees of coordination.

The provides a measure of the degree of influence of either player on the other and describes a situation of asymmetric interdependence in the relationship. As we will see more in depth later on, interdependence relationships have significant effects on the management of customer-supplier relationships. When there is a high degree of centralization, a greater coordination is assumed compared to situations where the decision-making power is equally distributed.

The three variables of the inter-organizational structure that we find in all the intra-organizational literature[13] provide a measure of the degree of coordination in supplier-customer relationships. In other words, as interactions and formalization and centralization of their decisions increase, the structures at issue approach the hierarchical model, even though they do not necessarily use the tool of integration (John and Reve, 1982, 518; Heide and John, 1988; Stinchcombe, 1985).

The use of more or less integrated structures depends on several considerations that we will examine later on. At this stage, we would like to highlight that *different coordination structures will apply to different contexts, and their choice - in economic and structural terms – is based on a general principle of efficiency*[14].

The greater or lesser efficiency of coordination mechanisms is demonstrated in the real life by the progressive development of either form. This was the basis on which Williamson (1975, 1981) generally assigned a greater efficiency to integrated forms and followed a Chandler-style approach (1966), i.e. a historical assessment of the emergence of hierarchies in different fields of the economic activity.

Although further empirical investigations are necessary, we may say, as regards customer-supplier relationships, that a progressive increase is being seen in inter-organizational agreements, confirmed by the fact that the literature on the subject is developing faster and faster.

Consequently, as regards distributive functions, there seems to be a *tendency to a greater success of intermediate forms of coordination*. Agreements between companies - whether formalized or not, binding or not, signed for a long-term or not - are inter-organizational type of

13 There is a significant parallel between vertical interactions, formalization and centralization, on the one side, and mutual adaptation, standardization and direct supervision on the other side (Mintzberg, 1985, p. 40). More sources are found in Hall (1975) and Hage (1980).

14 Williamson (1986) indicates transaction costs as the primary elements on which to ground a check of efficiency. His theoretical construction is based on the assumption that transaction economies (or diseconomies) are often much more significant than production economies, so he states that "... economic institutions of capitalism have *the* main purpose *and* effect of reducing transaction costs.

relationships that have their own identity and can be perfectly adapted to the specific peculiarities of modern economic systems. And customer-supplier relationships, just like other relationships in the business world, seem to have such features as to make it convenient and functional to manage them through special coordination mechanisms that *differ* from the market and hierarchies and are not simply *intermediate*. On one side, coordination mechanisms used in inter-organizational agreements[15] like guarantees, formal clauses, consolidated business practices, and so on, tend to protect the contracting parties from the risks of uncertainty and opportunism, which remain, instead, or are even increased in market negotiations. On the other side, the "credible commitments" taken on by the parties in intermediate forms of coordination do not require "sacrifices... from the point o view of incentives and economies of scale/scope" (Williamson, 1986), as hierarchies do. In fact, if we look at economic rewards, the internal organization cannot reproduce the potential incentives implied in the entrepreneurial activity, which are guaranteed by inter-organizational agreements.

Admitting a certain degree of compatibility of the respective objectives - which can be admitted indeed in vertical market relationships (Varaldo, 1971, Chap. 4) - customers and suppliers are strongly motivated by subjective interests without this negatively impacting the interests of others, so there is no need to use complex control and incentive systems for operators to obtain a greater efficiency in the exchange processes activated in the channel.

From the point of view of economies of scale/scope, as we will see in the subsequent section, the use of a hierarchy may lead to a reduced efficiency, as the subtraction of a given set of transactions from the market may negatively impact the capacity to take advantage of said economies.

An example of "agreement" between customer and supplier is the franchising model, which generally allows the parties to obtain the typical advantages of intermediate forms of coordination. According to Sabbadin (1989), one reason for the success of the franchising model is the original and correct assessment of the aggregation of products in the assortment. Inter-organizational forms such as that of Prenatal and Benetton mostly owe their success to the criterion used for the choice of the types of product to be distributed, where the importance of economies of scope and aggregation is considered.

Another element worth considering (Sabbadin, 1989) is the effectiveness of the reward system. For example, the chain "Eleganza Veneta" uses an appropriate incentive system for its members, while, in other cases, shop managers are involved in activities aimed at sparking their entrepreneurial spirit.

In summary, the *diffusion of intermediate forms of coordination* in customer-supplier relationships seems to be favoured by the fact that they specifically respond to two kinds of needs: first of all, these solutions are more efficient than the free market because they protect the contracting parties from the risks associated with the uncertainty, opportunism and bounded rationality of the market; secondly, they do not lead to an excessive

[15] Williamson (1983, 1986, chapters 7 and 8) introduced the notion of credible commitments, which had already been analysed within the framework of law studies.

centralization, which, in integrated structures, negatively affects the degree of entrepreneurship and the competitiveness of operators.

As to the assessment of the efficiency of the different forms of coordination, the presence of virtually infinite forms of contracts and informal relationships to domesticate the market, and the simultaneous scarcity of downstream integration alternatives, down to the retail stage, or of absolute independence between channel operators, may provide an ex-post proof of the failure of the extremes of our continuum.

5. Assumptions and conditions for strategic developments in manufacturer-distributor relationships

As we have seen above, the downstream integration and the creation of long-term relationships with distributors are two organizational responses to the problem of coordinating channel activities. While, under certain conditions, it may be preferable to assign the distribution tasks to third parties with whom to entertain occasional relationships, in other cases a greater involvement of said operators could be necessary, even to the point of creating downstream vertical integration processes. To the extent that manufacturers establish interactive long-term relationships with their channel partners, the implications become a strategic value because they end up by affecting the behaviour of the enterprise in the market and its operating structure. There are multiple elements that define the most favourable conditions for the development of this type of relationships in the channel.

A first element is the *presence of economies of aggregation or scope*[16]. Economies of aggregation exist when the joint manufacturing or distribution of multiple different goods is more efficient than their separate manufacturing or distribution. Economies of scope exist when a company has excessive indivisible or non-fungible resources (Teece, 1982) that cannot be exchanged in the market and that can be used only for the production or distribution of other products by the same company. Economies of scope may be affected by the characteristics of both the company and the goods in question. As regards retail distribution, Williamson (1981, 1547) suggested that "Retail outlets that carry many products and brands ... presumably benefit from significant economies of scope in the retailing function". This may explain the emergence of large retailing facilities that distribute hundreds or even thousands of products.

We can find examples of these structures in the *grocery distribution*, where the product assortment has never shown uniform trends over time. In fact, while, until a few years ago, the primary objective was to increase the extension of the product range, today the focus is on the number of items available for consumers in each line of products (product range depth).

[16] There are significant similarities between economies of aggregation (Williamson, 1981) or scope (Teece, 1980; Panzar and Willig, 1981) or even joint production (Richardson, 1972).

Cleary, economies of scope are closely connected with the *characteristics of the marketed good* and with the *need to provide supplementary* services for that good. The "direction" (depth rather than width) of range expansion choices may change as a function of the goods for which consumers require a better and more qualified service and a higher number of alternatives. So, in the points of sale of large distribution stores, depth tends to considerably increase for those categories of goods that simultaneously require high levels of personal service, typically fresh food (foods and vegetables, dairy products, bakery, and so on).

Similar considerations may be developed for the distribution of other types of goods, such as the new products marketed by financial brokers. In this regard, we should point out (Mottura, 1988) the importance of both economies of scale and economies of scope in the diversification of the supply of financial services, but we should not neglect (Mester, 1987; Clark, 1988) the importance of demand characteristics if we want to state the possibility for both multi-product organizations (financial supermarkets) and single-product organizations (financial boutiques) to coexist in the market. Under this perspective, it is therefore possible to describe the importance of market segmentation even in connection with the distribution function, as the channel is defined as a further element used to adapt the product to varying demand patterns.

A further element that affects the aggregation of different goods during the distribution stage consists in the *need to adapt the product/service to the characteristics of the buyer/end user*. In the field of financial services, this sometimes translates into the distribution, for example, of life insurance policies by a bank. These products are basically standardized, which means that they cannot be modified and adapted to the request of each individual, so there is an advantage in combining these products with traditional banking products in the same retailing structure. Conversely, insurance policies, which have to be adapted to specific customer requirements, are distributed by a different channel, generally connected with an agent acting as specialized broker for a better efficiency in the placement of this kind of products.

It is worth pointing out that the services at issue are frequently offered by the same insurance company, which uses a bank office in the first case, with the necessary agreements with the bank, or a specialized agent in the second case. As regards this differentiation of the distribution channel, we should recall the problem of the choice of the vertical integration level introduced above. When an agreement is made with a bank, the insurance company uses the service of an operator that deals with other products and is assigned the task of distributing its services. When an agent is used, instead, the insurance company takes on a more definite commitment in the distribution function through the support and control exercised towards the agent, thus creating a sort of downstream integration.

Based on the considerations above, we can identify three levels of reasons for the creation of close relationships between manufacturers - or service providers - and distributors. Economies of scope, the need for auxiliary services for the marketed goods and the need to adapt goods to consumers or end users' characteristics identify the limits within which there is an advantage in aggregating different goods with each other.

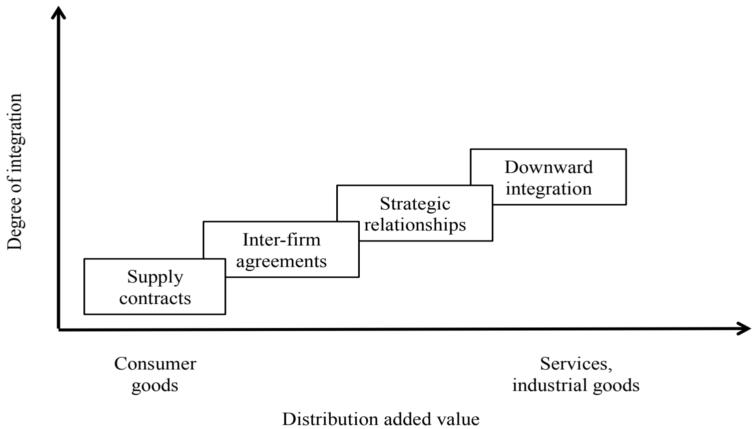
More specifically, we may observe that:

- the *intensity of economies of scope* is a measure of the development of multi-product agents, with whom simple supply relationships are established, often not long-term or strategic relationships;
- the *need for supplementary services for the goods to be marketed* increases the importance of the distribution function, particularly as regards the relationship with the final customer, and paves the way to integration or at least a closer cooperation with the intermediary or agent;
- the *need to adapt the good to the characteristics of the consumer/end user* requires a close relationship with the latter, and consequently appropriate marketing facilities to provide this type of service.

In summary, there are conditions that concern distribution structures, goods to be marketed and the related services that determine the development of multi-product or - alternatively - single-product distributors, capable of providing a different added value to the marketed product.

In practice, a positive relationship seems to exist between the added value provided by the distribution function and the creation of relationships with a strategic content, if not even downstream integration (see Figure 2).

Fig. 2: The distribution added value



In this context, one would expect the passage towards stable relationships and forms of integration with the channel to be determined not only by the greater degree of complexity or problematic nature of the product to be marketed, but also by the greater quantity and quality of the services offered by distributors, that play a more active and dynamic role in the final market. The advent of more advanced and modern forms of distribution may therefore favour, in some conditions, the development of interactive and strategic relationships between suppliers and customers and radically change the rules of the competition in vertical market relationships.

6. The “case” of consumer goods

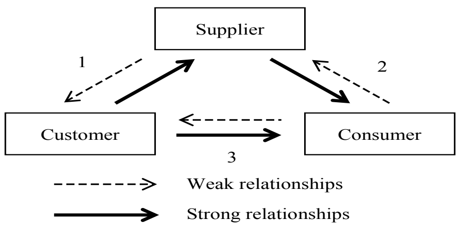
The theme of strategic relationships between manufacturers and distributors may appear to be typical of the sectors of complex and problematic goods, rather than that of food and non-food consumer goods, that is the grocery industry. In fact, the vertical competition between channel operators seems to be rather sustained in these markets, so much so that objectives of domination or rivalry seem to prevail over cooperation. For this reason, the focus on agreements and negotiations in exchange relationships ends up by prevailing over strategic contents.

The main cause of rivalry between suppliers and customers in the grocery industry lies in the fact that both are strongly motivated to establish stable and privileged relationships with the final consumer (see Figure 3). By leveraging brand loyalty, on one side, and store loyalty on the other side, interest becomes predominant in the market and ends up by being the priority objective of the strategies implemented by each player at the individual level.

In practice, as shown in the figure, a greater strength in the relationship with consumers is the tool through which the attempt is made at imposing some exchange condition to the other party, with the inevitable consequence of causing interest conflicts with the other competitor.

In the grocery industry, market-regulated relationships between manufacturers and distributors tend to easily reproduce highly competitive situations that are reflected in price pressures, and consequently on the depression of the profitability conditions of the industries. In particular, this happens because, in horizontal and vertical competition, the price variable plays a primary role and frequently leads to veritable “price wars”.

Fig. 3: The triangle of supplier-customer-consumer relationships



Configuration	Probable consequences
# 1 is relatively strong, while # 2 and # 3 are relatively weak	Cooperative relationship between supplier and customer
# 2 is relatively strong, while # 1 and # 3 are relatively weak	Due to a strong brand loyalty, the customer retains the consumer if it replaces the supplier
# 3 is relatively strong, while # 1 and # 2 are relatively weak	Due to a strong store loyalty, the customer retains the consumer even if it replaces the supplier
# 1 is relatively weak, while # 2 and # 3 are relatively strong	There are competitive and conflicting relationships between supplier and customer
The three relationships are all strong	Strategic relationships are established between supplier and customer

If the regulation of exchange relationships is left to the prevailing bargaining power, the competitive game may degenerate to the detriment of the interests of both contracting parties. And it is precisely the consideration of the risks and costs of the excess of conflict that can push players to look for contract solutions and forms of integration that may evolve towards real strategic relationships where supplier and customer reach an agreement about their reciprocal benefits in leveraging their relationship with the consumer to achieve shared objectives rather than pursuing a dominant position in the market.

In the supplier-customer-consumer triangle, the perspective of strategic relationships may provide a possible exit from the "season of conflicts", particularly by virtue of the recent trends that are emerging even as regards non-problematic goods.

The present situation of vertical competition relationships highlights an excessively and permanently conflicting climate that triggers high competition levels in the distribution markets, with the consequence that profitability margins tend to considerably decrease. We may mention a significant example of this situation in the French distribution sector where the price war - between manufacturers and distributors, and among distributors - is connected to very low levels of profitability - approximately 2% versus 5.5% for Western Germany and the United Kingdom (Grasset and Mamou, 1989).

The Italian distribution industry is also starting to perceive the criticality of the conflict with manufacturers. According to the representatives of some of the largest Italian distribution chains, they should "avoid the French excesses … that is, to create conflicts between manufacturers and distributors" (Taino, 1989). The main reference point for the future relationships between manufacturers and distributors seems to be a correct identification of their mutual interests and how these could be taken care of by correctly setting exchange terms, so as to shift those relationships from the area of conflict to that of cooperation.

All this is progressively showing a need to push manufacturer-distributor relationships towards a passage from the "discrimination" to the "differentiation" of sales conditions in order to free the contractual field from distortions that fuel conflict and competitiveness beyond measure. The emerging logic of the differentiation of sales conditions as a new strategic behaviour does not exclusively lie in the recognition of the different bargaining power associated with the different sales intermediaries, but also considering actual differences between the services provided/requested by the different distribution channels and the companies involved. More specifically, there is a focus (Lugli, 1989; 39) on the requalification of trade services and the transparency of the services market, with the purpose of creating more stable and equal negotiation conditions, to seek better integrated performances between manufacturers and distributors. The prevalence of collaboration relationships inspired by a strategic vision seems to characterize the present situation of the two main non-European countries: while in Japan quality and service are the ground on which manufacturers and distributors fight their battle, leaving price at the stage of a second-tier variable (Lapone, 1989), in the United States distributors consider price as one of the possible tools for competition and not as the priority tool. This behaviour is explained by the fact that large distribution chains have now integrated marketing in their competitive strategy and assigned a critical weight to service in the marketing mix, by using market segmentation policies to upgrade in competitive terms the specificities of the demand for the different, appropriately identified customer groups through an offer of different product/service mixes (Clordjman, 1988).

7. Further developments in manufacturer-distributor relationships

7.1 The relational dimension of customer-supplier relationships

Customer-supplier relationships can be more or less strong and stable depending on the intensity and specificity of the factors that bind the two partners to one another and influence the degree of their mutual integration. On the other hand, the evolution - improvement or worsening - of the relationship depends on how the nature and intensity of said interaction factors may change.

In such a context, it is the presence of *idiosyncratic investments* in the customer-supplier relationship that initially takes on quite a significance. These are tangible or intangible elements that are assigned a high value as a function of the specific situation, but that value will be significantly lower if they are transferred to other relationships. For example, in the case of a manufacturing plant for the fabrication of a product meant for a single large customer, the supplier cannot use the facility for other receivers and simultaneously the customer cannot easily replace the supplier, so certain stabilization conditions are created for that relationship. The effect if idiosyncratic investments is that of "freezing" the exchange relationship and making it continuous[17] in an otherwise dynamic context where, on one side, the investments may increase in number, quality and intensity, thus ensuring the persistence of the relationship, and on the other hand, they may lose their aggregation power due to the disappearance of the conditions for their existence.

The typical stabilizing effect of idiosyncratic investments is also found in the accumulation of experiences, practices and habits that take place over time within a customer-supplier relationship. In fact, we should remember that the more operators interact and make long-term alliances, thus adapting their structures and management models to the characteristics of the partner, the more their relationship will tend to be transformed into something more involving and binding than a simple occasional supply

[17] Cf. Williamson (1986): "...1) the specificity of resources refers to durable investments made in support of specific transactions, whose opportunity cost is much lower than the cost of the best alternative uses or of an alternative user should the original transaction be concluded prematurely, and 2) in these circumstances, the specific identity of the parties to the transaction is clearly relevant, which is like saying that the importance of the continuity of the relationship is recognized.

relationship[18]. The human component becomes essential in this context: the habit to interact with a certain contact, the progressive development of mutual trust and the constantly increasing knowledge of the respective operating contexts will create close interpersonal connections that are often the basis of long-term business relationships. Within the framework of international relationships, for example, this component has been seen to be very important; in spite of the physical and cultural distance between operators, long-term business relationships are often developed. In addition to that, these relationships often affect new developments in the distribution activity. In this regard, Anderson and Coughlan (1987) identified the use of pre-existing integrated distribution (or independent) facilities as one of the main reasons for the use of integration (or decentralisation) in the distribution of new products abroad.

Based on these relationships, a sort of interdependence may be created between two business partners, up to the point that the underlying relationship tends to be prolonged even more in time[19]. According to the terminology used by Dwyer, Schurr and Oh (1987, 15), this means that the operators who have an interest may not only share objectives and programmes, but also show a high level of interest for the mutual involvement in the exchange relationship. This happens even more easily when the customer and the supplier are *both* strongly motivated to entertain common relationships.

Figure 4 (Dwyer, Schurr and Oh, 1987; 15) shows a comparative analysis of the reasons of two business partners during an exchange relationship. The characteristics of the relationship change as the interest of the two operators change. The more unbalanced that interest is, the more the relationship will be dominated by one of the two operators, and this will make it less likely to last for a long time. A classical example of an unbalanced situation is the case when a customer absorbs a greater percentage of the turnover of a supplier, but simultaneously the same supplier does not buy a significant portion of the purchases of its customer. In such conditions, the relationship is supported *by the seller*, who has an interest in not losing such an important customer.

The conditions for a stable bilateral relationship are placed in the top right section, where both operators have good reasons to preserve the business relationship over time.

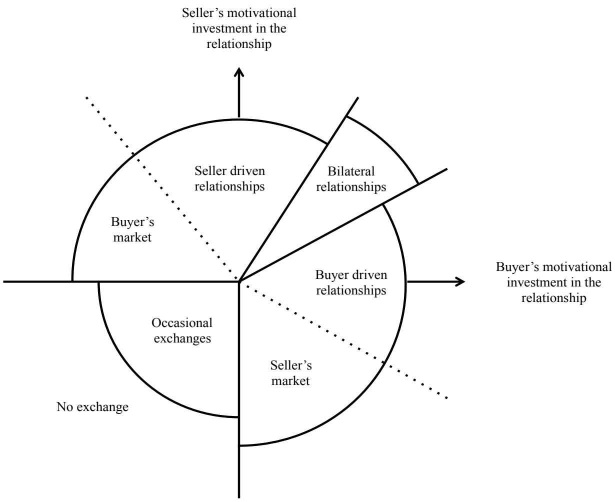
The greater or lesser involvement in the relationship may derive from structural, but also strategic considerations. As we will see later on, both manufacturers and traders can tribute certain competitive advantages that are precious for the business partner. Examples of these strategic resources are the ownership of critical information regarding the

[18] These substantially dynamic phenomena are those referred to by Williamson (1986) together with the fundamental transformation: even in the presence of ex ante "market" conditions (high number of suppliers), the relationship that is created between a customer and a seller can change over time ad be transformed into a bilateral supply relationship. This happens because investments in specific resources are made by the two operators over time that the other operators in the market do not make.

[19] Concerning power-dependence relationships, there is a specific literature that cannot be discussed here; for a survey, see Gasky (1984).

industry - large grocery chains often use this resource in their negotiations with suppliers - or of a well-known and well established brand. Similarly, reputable brand owners will leverage the appeal of their products in negotiations with retailers.

Fig. 4: Reciprocity of customer and supplier motivation to continue the relationship (Dwyer et al., 1987)



The behaviours adopted by the partners within inter-organizational relationships tend to play a key role in affecting the nature of channel relationships and their evolution towards conflict or cooperation positions. We are not going to further investigate the theory of power and conflicts in distribution channels here, as it has been analyzed in the last 10-15 years in the U.S. marketing reviews and in some isolated studies in our country (Varaldo, 1971). However, we should remember that, within the indicated perspective, the study of channel relationships even in the socio-political dimension takes on a particular importance in integrating economic-structural aspects with operation issues (Stern and Reve, 1980). This approach was formalized and checked in some studies (Reve and Stern 1986) and the most significant results of this theoretical approach concern the relationships that connect the inter-organizational form with the *trading climate*, where the latter is characterized alternatively by high levels of conflict or high levels of cooperation.

The notion of *trading climate* defines the degree of effectiveness-efficiency of both the inter-organizational structure and the way this is managed to achieve the objectives of the contracting parties. While the greater frequency and intensity of vertical interactions and formalization are associated with a climate of cooperation, centralization shifts the situation towards the area of conflict (Reve and Stern, 1986; 89 ff.) because friction is created by the excessive compression of the independence of either of the two contracting parties. For these reasons, *the tools used to obtain coordination – i.e. intensity of vertical interactions, degree of formalization and level of centralization –*

cannot be replaced as tools for the management of the customer-supplier relationship. In fact, depending on how exchange relationships evolve, a choice must be made between them. More specifically, in relationships where the negotiation issue is predominant, one must take care not to introduce the conflict components that stem from an excessive use of decision-making centralization, which might cause the business partner to be lost. These implications are typical of the hierarchic structures that sometimes replace the market, but seem to take on a certain importance even in the framework of intermediate forms[20].

The considerations above suggest the need to integrate a structuralist, and therefore static, vision with a socio-political and dynamic vision of interactions between customers and suppliers. This would be the only way to identify the full scope of the issues that determine the appearance and fields of validity of certain coordination structures rather than others, also offering decision and assessment criteria for the corporate choices on the matter.

7.2 Complex coordination structures: networks

The presence of several operators in the supply chain is explained in the literature by making reference to technical-economic efficiency (economies of scale/scope, economies of specialization). Another line of research has been developed in recent years, which tackles the problem of interdependence in more general - and probably more realistic - terms by considering the distribution channel as a network of companies.

According o the definition adopted here (Cook, 1977), a network is a cluster of two or more (individual or collective) players, each of whom provides/uses exchange opportunities with at least one of the other n-1 players. Interdependence, and therefore the "cohesion" of the network is the fact that each operator has its own distinctive competencies, which are the added value for the good to be distributed and indirectly for the other operators of the network. Under this perspective, the interdependencies between the members of the network will acquire a strategic content, so that having a certain critical resource for the sector or for the relevant operating context will be the requirement to enter and remain in the network of a given operator. Examples of strategic resources (Volpato 1984) may be, as applicable, cost leadership, technological superiority, the expertise and know-how related to a product, a process or a market.

The network logic is being extensively used within the marketing framework (Thorelli, 1986; Andersson and Soderlund, 1988), although it seems to be rapidly spreading in other fields as well. For example, some authors (Mottura, 1988) point out a progressive "de-integration" of the banking system due to the pursuance of strategic diversification objectives; "thanks to the network, individual entities can expand their product portfolios, access new customer segments, geographically extend their operating range, use precious expertise (...), based on a logic

[20] Other studies, albeit more limited in scope and extension, have been conducted on the relationships that link the inter-organizational form to the socio-political variables (Dwyer and Oh, 1988) and the latter to the efficiency of control (Etgar, 1976).

of systematic and preferential exchange of «distinctive competencies» ...” (Mottura, 1988; 36).

In practice, the network is like a new form of coordination of relationships between distributors and manufacturers, with bilateral relationships losing their individuality because they are set in a context of *multilateral exchange*, where each business entity contributes its own resources and makes them available for the other to receive, in exchange, portions of the others’ resources. Clearly, it is difficult to determine a value of these exchanges outside the network where they are implemented because they are “calibrated ” on the specific characteristics of the companies of that specific network.

The consistency and stability of the network over time affect its role as inter-organizational coordination structure and not as intermediate solution in the evolution towards other forms of coordination and integration. The conditions for the stability of the network may be either a *convergence of objectives* (Mottura, 1988, 35; Varaldo, 1971, cap. 4) or the *sharing of values and principles* among its partners (Ouchi, 1980). On these bases, and in connection with a context that, in itself, does not prevent the emergence of strategic relationships, the network may develop and stabilize over time as a complete organizational structure[21].

For example, the characteristics defined above - strong functional specialization and strategic diversification, community of objectives, sharing of values – characterize some franchising systems that are particularly representative for their success and dissemination. According to some authors (Gaeta, 1989), the Benetton system has many features that coincide with the stability characteristics identified; the fact, inter alia, that the system is shaped as an *informal agreement* seems to show the presence of ties based on mutual trust and shared objectives, with a managerial culture as the main control tool. In the second place, the system consists of *operators specializing in an extremely diverse range of functions and activities, such as* trade entrepreneurs – each of whom controls many points of sale – sales agents, large sub-suppliers, and so on. Finally, the cohesion of the system is ensured by the continuous *offer of opportunities to its members*, which positively affects their motivation to remain in the network and adapt their objectives and behaviours to those of the network.

In summary, the network may be considered as a specific answer to the typical inter-organizational problems of the operators involved in the process of production-distribution-consumption of goods. More specifically, when the coordination of exchange relationships is strongly connected with the strategic component of said relationships and the number of companies involved in exchange processes increases, then bilateral negotiation allows room for the network for the benefits it offers both at control and performance level[22].

[21] As for other governance structures, networks may also be characterized by a variable degree of integration: in fact, strong forms (diversified groups) exist together with weak forms (quasi-markets). Generally, the strength (or weakness) of the network depends on the presence (or absence) of a leader that substantially affects the activities of the other companies.

[22] In these terms, we may say that the network creates a situation of coordinated interdependence (Mottura, 1988; 33): interdependence has a selective nature

8. Resuming a corporate perspective

The characteristics of manufacturer-distributor relationships that have been dealt with in the previous sections of this article should now be seen from a corporate perspective to examine their explanatory power without forgetting that there are two more variables to be considered at single company level, which had previously been set aside, namely:

- the possibility and practice for companies to simultaneously manage multiple channels;
- the importance of customer attractiveness as a parameter for the choice of a sales structure.

In business practice, the process of selecting a distribution channel does not consist in identifying a single entity or distribution mode, but rather multiple channels. In this context, we will only try to see whether the variables considered above maintain their significance even in a multi-channel structure even in connection with the second point above, i.e. customer attractiveness, which often significantly affects the choice of a distribution channel, particularly by suggesting the use of more integrated organizational solutions to manage relationships with the most important customers.

We will examine the case of the company "Ing. C. Olivetti & C. S.p.A."[23], which has recently implemented a significant transformation of its sales organization to introduce innovative criteria reflecting the renewed requirements of a sector that is rapidly evolving from both a technological and commercial point of view. First of all, we should specify that the product portfolio of the company is very diversified, going from typing machines to the big computerization projects of large private and public organizations.

These products may be categorized as follows:

- *Volume products:* these are products with a lower technological content that are sold without an after-sale support service and could also be called "turnkey products"; typing machines, low to medium performance personal computers, standardized software packages, and so on.
- *Solution products*: they have a higher technological added value and their users require higher levels of service in terms of before- and after-sale consulting and support. They are advanced personal computers, mini-computers and dedicated software applications.
- *Support and consulting projects*: these cannot be strictly defined as "products" because the sale is more similar to a job order; for

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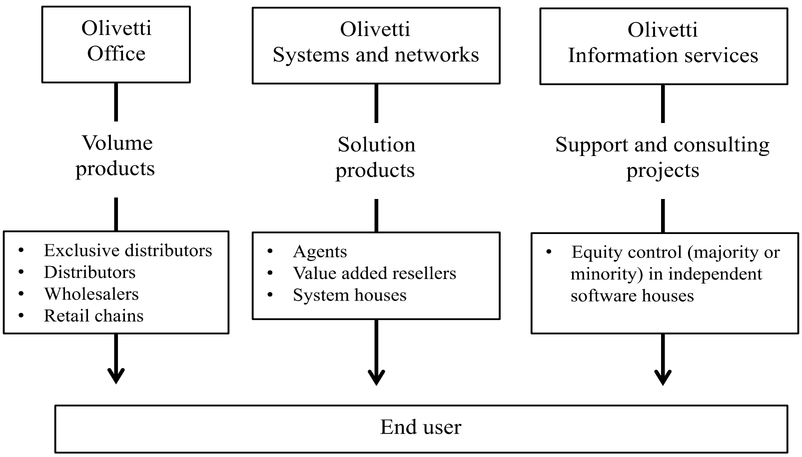
– not all the aspects of inter-organizational relationships have dependency constraints, so external alternatives are always available outside the network, if they are more efficient. In addition, coordination, which is characterized by reciprocity, cooperation and mutual adaptation, is not considered as a variable to be maximized because the strategic dimension can become increasingly important.

[23] In this regard, we should thank Ing. C. Olivetti & C. S.p.A., and specifically the engineers Mr. Federico Di Trapani and Mr. Luigi Roux, for heir precious cooperation and assistance.

example, a bank orders a large number of hardware products and software applications for its various branch offices, for which supply very high specialization and professional skills are required from the sales function.

These three groups of products are managed by three separate divisions: Olivetti Office for volume products, Olivetti Systems and Networks for solution products and Olivetti Information Services for projects. The trade operators associated with each division are described in Figure 5.

Fig. 5: Olivetti's sales organization



The sales organization described is completed by the *branch offices* disseminated throughout the national territory, which directly depend on the headquarters and carry out administrative and support functions or the activities of sales operators. The branch offices have a certain degree of "strategic responsibility", although only at local level, where they take care of selecting the operators to be entered in the sales structure (agents, potential value added resellers, etc.).

8.1 The different characteristics of sales organizations

The products marketed by *Olivetti Office* are sold through operators who purchase the products and then take care of their distribution. Apart from the case of exclusive dealers, who have signed explicit agreements, we may say volume products are sold through the free market. In fact, the absence of the requirement of support services and adaptation of the product to the characteristics of each customer allows for the use of independent intermediaries who aggregate different types of products, thus allowing significant transaction economies.

The case of *Olivetti Systems and Networks* differs in the fact that there is a close correlation with the customer/end user, which increases the *added value of the distribution function*, and consequently the need for the manufacturer to integrate downward towards the market. This is why third parties are used, and the divisions entertain very close relationships with them, which are often formalized with an agreement. In this regard, we should immediately point out that the relationships with these contractors often become very important from a strategic point of view.

Agents distribute both the hardware and software of the company and invoices are issued as typically required in this type of channel. Beyond the strict sales function, the agent may also have other functions that increase the added value of the product, like that of installing and implementing the customer's systems, if necessary. This second part of the activity is carried out on a personal basis and is billed separately.

The *value added reseller* carries out the same functions as the agent, but differs in the fact that he buys and resells products. In addition to that, this professional may also be responsible for after-sale customer support.

System houses are considered as business partners and do not take care of the distribution of normal products, but they play a role when special sales conditions occur. In practice, they are operators with a specific competence in certain fields of IT applications and are used when the hardware and software alternatives available cannot meet the customer's requirements. Even in this case, however, these are formally independent organizations that have privileged relationships with Olivetti.

Software houses connected with *Olivetti Information Services* are companies that have acquired a specific state-of-the-art competence in the field of information processing, which are used on the basis of specific significant projects. In particular, these projects are:
- High unit price projects;
- Quite infrequent and long-term projects;
- High-technology and innovation content projects.

In such a context, the management of job orders requires a strong direct presence of Olivetti, which is implemented through the financial control of the connected software houses.

8.2 Multi-channel structure and significance of the customer

The issues dealt with up to this point have very interesting implications for the research of an empirical confirmation of the considerations developed in the previous sections.

First of all, we have seen a process of selection and assignment of distribution functions to different sales/marketing facilities and operators. *To the extent that the good to be marketed requires strong doses of service and processes of adaptation to specific customer characteristics, the exchange relationships are controlled by more integrated structures.* In other words, we may say that with increasing added value levels in the distribution function there is a passage to independent suppliers (competitive market) first, and then to forms of inter-organizational agreements and finally to quasi organizational forms of participation.

Said implications lead to the conclusion that, even within the framework of the same company, the choice of marketing facilities, and therefore the nature of relationships with distributors, may extend significantly within the market-organization range. This differentiation can be explained with the same variables that explain, ex-ante, the existence of different coordination facilities in the market.

The observed trends towards integration do not follow a uniform pattern, but rather have different degrees and structures. More specifically, it is important to highlight that there will never be a total integration, but *a trends towards an increase in the degree of control on sales operators through formal and informal forms of cooperation.* The formal component of agreements is often associated with a number of informal issues that contribute to make relationships closer. The practice of organizing periodic update meetings with intermediaries, for example, which can even be compulsory under the agreements signed, takes on a social value in the field of interpersonal relationships and serves the function of intensifying and enriching the contents of the exchange relationship.

Even within the same company, there seems to be a clear emergence of *the importance of intermediate forms of inter-organizational coordination*. In fact, the creation of strong and long-lasting relationships with independent operators with common objectives, without the complications of integrated structures, determines a capacity to control and coordinate the system, while preserving the economic independence and entrepreneurial thrust of the partners involved.

As regards the case at issue, we should point out that *as the unit value of the exchange item increases, the sales organization tends to be more integrated.* And if the company distributes products with a different value, a selection is made from among individual exchange relationships, so that those related to the highest value transactions are supervised with higher degrees of control by the company. Conversely, lower unit value transactions may be decentralized to subcontractors because the degree of economic dependence of the company on each individual transaction is reduced, and consequently a lower degree of control is required.

In the case we are discussing, large job orders are therefore supervised by dedicated facilities characterized by a greater specialization and expertise, which are also more directly controllable by the company.

8.3 Incentive and control systems

In the general discussion developed above, we highlighted the importance of the capacity of intermediate forms of relationships to develop a strong motivation and, at the same time, ensure the coordination of the activities of operators in inter-organizational relationships. As regards the case at issue, *incentives for distributors are perhaps the most direct method to achieve said objectives and ensure the development of long-lasting and profitable relationships*.

If we analyse, in particular, Olivetti's Systems and Networks division, we will see that high-potential incentives are used, such as those ensured by free entrepreneurial business activities. Commissions, determined as a percentage of the hardware turnover, vary from a minimum of 9% for sales until to 350/400 million ITL to a maximum of 20% for sales beyond one billion ITL. These data show the strong economic driver the company offers its collaborators.

In addition to quantitative considerations, it is important to mention the presence of qualitative incentives to cooperation that are particularly important for the maintenance of long-term relationships. This is due to the fact that *distributors (agent and VARs) and Olivetti Systems and Networks exchange resources with a strategic content* as a function of the specific requirements of the partner. While research and development activities, as well as the image policy of Olivetti, matter for distributors, Olivetti cares much more for the information input due to the proximity to the market of agents and VARs and the added value they give the distributed product.

The value of these resources is closely linked to the specific identity of the operator that owns them (agent or VARs, on the one side, and Olivetti, on the other), but also to the specific identity of the operator to whom they are offered. Therefore, that value tends to decrease if one of the players involved in the exchange tries to "recycle" its resources by activating relationships with other companies. In this regard, consider that distributors did not sign exclusive clauses and Olivetti ensures exclusive territorial rights, so there is a strong motivation in both categories of operators to develop long-lasting relationships. Clearly, the system of incentives and the importance of exchanged resources determines a sort of loyalty of partners even without explicit obligations to promote cooperation.

In such a situation, customer-supplier relationships are based on high levels of *idiosyncratic investments*. In the case at issue, both partners (the distributor and the parent company) made significant idiosyncratic investments, but of a relative homogeneous weight. This explains why the turnover of the new sales organization did not reach 10% during the first year over 300 agents and VARs in spite of the presence of over 5,000 operators in the market who may potentially have the same functions[24]. In practice, making proportionally homogeneous idiosyncratic investments determines a sort of *symmetry of the exchange relationship* that favours the creation of relationships between partners where long-term bilateral cooperation replaces market negotiations.

In summary, we must confirm the significance of certain aspects of coordination that have been introduced above, and particularly the role of *high potential incentives* - which are similar to motivation in the entrepreneurial activity - and *idiosyncratic investments* as drivers of success of intermediate inter-organizational models.

8.4 The Olivetti network

In the previous considerations we highlighted some aspects of the Olivetti sales organization that characterise it as a *network of businesses* both for the configuration and specialization of its members, and for the *nature of the relationships* between them, and from the point of view of the *strategic content* of the exchanges that take place within that network. In addition to that, we may describe a high level of *sharing of objectives*

[24] These data have been provided by Olivetti Systems and Networks.

in the different players involved to the extent that each of them is strongly motivated to contribute to the added value of the product.

A further condition for the stability of the network is *sharing values and principles*, an element that is not easy to measure, but the direct contacts we had with the management of the company allowed us to infer a strong predisposition to establish a dialogue with distributors, exchanging entrepreneurial culture and values in addition to products and services.

The configuration of the Olivetti sales network can be inferred from Figure 6, keeping into account that it refers to the structure called Olivetti Systems and Networks, because it is prevalently characterized as a network.

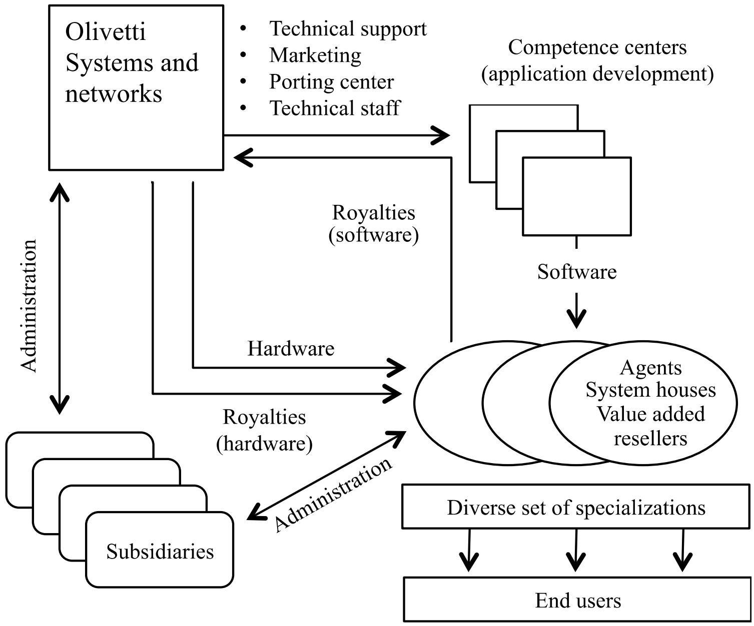
When we accurately examine the figure, we find further evidence in support of the nature of said structures, which are veritable networks, particularly due to the *diversification* of their competencies and resources. The Olivetti Systems and Networks division operates in close contact with some manufacturers of software applications (*competence poles*) specialized in specific fields of activity. These are given generous contributions and support for the development of the product against an exclusive supply of the product to the Olivetti distribution network and the use of the related trademark. Applications are then sent to intermediaries (*agents, value added resellers and software houses*), who will install them on Olivetti hardware under the framework of deep cooperation relationships between distributors and end users. Intermediaries pay a royalty to Olivetti on the sale of those applications.

Simultaneously with the distribution of applications, hardware products are sent to end users passing directly from Olivetti Systems and Networks to sales intermediaries and on which commissions are paid. The chart does not include the activities sales intermediaries carry out on a personal basis, which consist in implementing hardware and software products, but we should not forget that these also contribute significantly to the creation of the added value of the distributed goods and to increase the continuity and profitability perspectives of participating in the network.

Finally, the chart should include *branch offices*, which substantially play an administrative and technical-information support role for all distributors and have a geographical jurisdiction.

One last consideration concerns the *contribution of the different operators involved in the network to the development of corporate strategies*: they can affect the strategic choices of the company not only indirectly and ex-post through their own activity, but also ex-ante, during the preparation of the strategy. Obviously, strategic contributions differ depending on the functional specialization of the various players involved, so competence poles may contribute to product innovation and R&D policies, distributors may implement marketing strategies and branch offices will have strategic responsibilities at local level, because they will take care of selecting the new potential operators of the network. It is important to point out that *assigning a strategic responsibility does not stem from the recognition by* Olivetti of the power that is in the hands of the operators with whom it entertains these relationships, but is the result of a specific choice made within the framework of an operating and competitive context where interacting with partners does not mean losing one's independence; rather this is a precondition for success in the market. In this perspective, sales operators and the other parties involved are recognized an active role in making strategic choices in the light of the contribution each of them associates with the product in terms of support and auxiliary services.

Fig. 6: Olivetti's sales network



9. Concluding remarks

The perspective of strategic relationships between manufacturers and distributors seems to leave the field of pure theoretical speculation and offer ground for new experiments in the regulation of relationships between suppliers and customers in the markets of the present economy. In fact, the interest for cooperation toward more efficient and effective inter-firm arrangements in the field of marketing strategy seems to be a powerful driver in a condition in which the role of distributors is the more and more important in meeting consumers' requirements.

The demand of final consumers for a greater quantity and quality of services is enriching the distribution function, with a growth of its significance in the formation of the global added value of the various industries. For this reason, strategic relationships have become a priority in manufacturers' marketing strategies, in order to avoid the risk of reducing the competitive advantage of both parties due to the excessive importance assumed by pricing policies.

The dynamic environment and competitive context are pushing manufacturers and distributors to invest in strategic relationships and this trend implies innovative and complex management efforts. In fact, the perspective of strategic manufacturer-distributor relationships may realize only by adopting a *relationship management* approach where the systematic nature and consistency of relationships between partners must be an actual point of reference. In substance, for relationships to become strategic in nature, they must be controlled rather than left to the market, without this having to imply vertical integration processes that may have a negative impact in terms of economic results and competitive success in the market.

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Book reviews

Daniele Pozzi, **Una sfida al capitalismo italiano: Giuseppe Luraghi**, Marsilio, Venezia 2012, pp. 318.

Basandosi sullo studio dell'archivio di Giuseppe Luraghi (1905-1991), custodito presso l'Istituto di storia economica della Università Bocconi, dove egli era laureato, l'autore di questo saggio ricostruisce con puntigliosa verifica documentaria la biografia professionale di un importante manager italiano del secondo Novecento.

Già dalla intitolazione del volume si intuisce che tale biografia è caratterizzata, come si legge nel risvolto di copertina, della «vicenda per diversi aspetti anormale di un dirigente che intende rivendicare il ruolo e le responsabilità dei manager nel contesto del capitalismo italiano, che, nella seconda metà del Novecento, appare invece condizionato dagli interessi delle grandi dinastie industriali o da quelli della classe politica».

Una vicenda del genere non poteva che riguardare una figura di spicco come quella di Giuseppe Luraghi. Poche altre figure di dirigenti altrettanto eccezionali sono state oggetto di studio, una delle quali, per fare un esempio appropriato, è stata la figura a tutti nota di Enrico Mattei (1906-1962). Il volume si offre alla attenzione del lettore per suggerire quanto sia stata notevole, per assunzione di responsabilità, nella maggior parte dei casi, la trasformazione della professione del dirigente nel panorama dello sviluppo industriale in Italia, nel periodo storico successivo alla fine della seconda guerra mondiale e che si è esteso anche nella nostra più recente contemporaneità.

Con riferimento specifico alla generazione di Luraghi, si deve ricordare che essa iniziò ad operare ai primi livelli dirigenziali negli anni Trenta per raggiungere i vertici della carriera più tardi, dopo la fine della guerra in coincidenza con gli anni del cosiddetto miracolo economico, mentre poi tale generazione progressivamente si è ritirata dagli impegni più onerosi, tra la fine degli anni Sessanta ed il decennio successivo.

Qualche tempo dopo la assunzione nel 1929 presso la Pirelli, Luraghi diventò uno dei principali dirigenti di questa grande impresa milanese specializzata nella fabbricazione di pneumatici, cavi e articoli in gomma. Con la ripresa delle attività industriali, alla fine della seconda guerra mondiale, egli fu protagonista, con altri fidati collaboratori, di un progetto di riforme molto ampio e coraggioso da realizzare proprio con l'azienda milanese. Infatti la Pirelli, come altre imprese private, momentaneamente libera dal controllo familiare dei proprietari, allontanati dalle forze antifasciste, poteva essere ristrutturata con indirizzi strategici nuovi ed una autonomia operativa del tutto moderna in grado di conciliare gli obiettivi ambiziosi della efficienza manageriale con quelli del legittimo mantenimento del controllo dinastico.

Ma una volta rientrati, i proprietari disattesero le aspettative di Luraghi che nel 1950 decise di abbandonare la Pirelli è in proposito scrisse: «Mi dimisi perché, finita la grande paura, inaspettatamente si volle ridare alla società una organizzazione che ritenevo inaccettabile: si tendeva a cancellare rapidamente la più aperta e progressiva struttura adottata durante il periodo della Liberazione. Come se nulla fosse successo, senza tener conto delle nuove necessità, si doveva ritornare molti passi indietro e richiudere l'ambiente alla ventata d'aria fresca, che pur fra le tante eccezionali difficoltà il Commissario aveva immesso nella azienda».

Già prima di lasciare la Pirelli, Luraghi aveva ricevuto una interessante offerta di lavoro da Ferdinando Innocenti, uno degli industriali più attivi del dopoguerra, inventore della mitica Lambretta e poi della omonima casa automobilistica. L'offerta non fu accettata e il nuovo posto di lavoro di Luraghi fu la carica di vicedirettore della SIP (Società idroelettrica piemontese) che diventerà poi familiare agli italiani come l'azienda pubblica dei telefoni con sede a Torino.

Ma poco tempo dopo Luraghi dalla SIP passò alla Finmeccanica, la società finanziaria costituita nel 1948 dall'IRI (Istituto per la ricostruzione industriale), come ente gestore del sistema delle partecipazioni statali. Da questo volontario cambiamento del posto di lavoro si intuisce che Luraghi andava alla ricerca di un ruolo con la massima responsabilità manageriale possibile, che non aveva trovato alla SIP e che ottenne invece con la direzione della Finmeccanica. Così egli poté finalmente avere a disposizione il migliore punto di osservazione diretto per verificare il quadro scarsamente produttivo della industria pubblica italiana.

Questa nuova stagione della carriera professionale di Luraghi era rivolta ad analizzare quel coacervo di imprese che facevano capo alla Finmeccanica, molte delle quali ereditate dopo la fine della guerra, e che formavano una congerie di imprese meccaniche. Esse facevano un po' di tutto ma avevano fortissime presenze nelle costruzioni navali e nella produzione delle armi. Pertanto è indispensabile, da parte della dirigenza, «trovare il modo di coordinare le imprese tra di loro per creare sinergie, di evitare doppioni ed esaltare la specializzazione» (Vera Zamagni). Per l'industria pubblica italiana era dunque necessario, secondo Luraghi, ristrutturare e riconvertire le aziende uscite dalla guerra decotte, anche se purtroppo le risorse finanziarie a disposizione non erano «sufficienti per coprire tutte le necessità e anche i vertici delle imprese in alcuni casi non erano all'altezza di comprendere la nuova fase dell'economia italiana».

Come sottolinea l'autore di questo saggio, si comprende bene che le enormi difficoltà di attuare un piano strategico di lungo periodo, anche per le continue devianti interferenze del potere politico, portarono Luraghi a dover subire il fallimento di una riforma di ispirazione manageriale per l'intero settore della industria pubblica controllato da Finmeccanica, da cui Luraghi si dimise nel 1956. Fino al 1960 egli assunse la carica di presidente e consigliere delegato della impresa tessile vicentina Lanerossi, nella quale confermò le doti di essere un tecnico capace della amministrazione e della organizzazione anche di grandi aziende private.

Ma sempre nel 1960 il ricambio alla presidenza del IRI, con la nomina di Giuseppe Petrilli, riaprì la possibilità per Luraghi di un suo reinserimento ai vertici dell'Alfa Romeo, con la quale, durante il periodo alla direzione di Finmeccanica, egli aveva instaurato un rapporto molto stretto. Sempre nel 1960 venne avviata la costruzione del nuovo stabilimento di Arese, presso Milano, perché lo storico impianto del Portello era ormai insufficiente a fronteggiare la domanda del mercato, dal momento che, anche per merito di Luraghi, l'Alfa Romeo si era avviata finalmente sui binari giusti dello sviluppo.

Tra gli anni sessanta e l'inizio del decennio successivo, sotto la guida di Luraghi, l'Alfa Romeo ebbe la capacità di realizzare auto di grande qualità, potenziando il successo già avvenuto nel 1955 con la Giulietta, vettura diffusa all'inizio però secondo una logica da mercato di nicchia, poi inserita nella grande diffusione assieme ad altre vetture di successo come la Giulia, che diedero all'impresa Alfa Romeo la possibilità di realizzare bilanci positivi, di competere con i produttori privati dell'automobile e di dare dignità e prestigio all'industria di Stato.

Un elemento qualificante della svolta dell'Alfa Romeo fu rappresentato dalla costruzione di uno stabilimento nella area di Pomigliano d'Arco, presso Napoli, costruzione avviata nel maggio del 1968. Nel febbraio del 1972 le linee produttive iniziarono a funzionare ed i prototipi della nuova vettura, l'Alfa-sud, fornirono subito ottimi risultati. Ma Luraghi per smorzare le polemiche nei suoi riguardi, essendo stato accusato di aver voluto costruire una cattedrale nel deserto, così scrisse: «Penso che davvero la nuova fabbrica Alfa Romeo a Pomigliano rappresenterà un importante centro propulsivo per tutta la economia del Mezzogiorno [...], sono sicuro che essa avrà anche un grande valore psicologico per i giovani; molti volonterosi troveranno un ambiente adatto per sviluppare le loro capacità ora deluse o assopite».

Molto significativa ci sembra questa riflessione, perché indirizzata all'obiettivo di realizzare una produzione automobilistica che non c'era mai stata nel Mezzogiorno e conseguentemente, come sottolinea l'autore di questa biografia, pure idonea a contrastare la espansione della FIAT, rompendone il monopolio privato. Si può dire inoltre che l'iniziativa di Luraghi prevedeva sia un largo impiego di manodopera sia molte attività accessorie in grado di dare finalmente al Mezzogiorno e soprattutto alle sue generazioni più giovani l'opportunità, fino ad allora inesistente, di un riscatto sociale e civile di una gran massa di lavoratori.

Purtroppo, come mette in rilievo l'autore della biografia, lo stabilimento di Pomigliano d'Arco funzionava progressivamente sempre meno, sia perché la forza lavoro spesso risultava priva di competenze professionali sufficienti sia perché le imprecisioni del progettato ciclo della produzione non potevano essere corrette in modo tempestivo e ciò non era certamente da addebitarsi alla diretta responsabilità di Luraghi. Nel 1973 si esaurì il rapporto di fiducia tra lui ed i vertici dell'IRI e verso la metà di quell'anno si aprì un contenzioso fra l'Alfa Romeo da una parte e l'IRI e il CIPE (Comitato interministeriale per la programmazione economica) dall'altra.

La polemica in particolare tra Luraghi e il ministro delle Partecipazioni statali Antonio Pietro Gullotti portò nel 1974 alla mancata riconferma di Luraghi nell'incarico di presidente dell'Alfa Romeo, una azienda in seguito entrata in profonda crisi per oltre un decennio e che fu acquisita nel 1986 dalla FIAT. La lunga carriera professionale di Luraghi si avviava alla conclusione con la responsabilità della ristrutturazione della Necchi, la grande impresa specializzata nella produzione di macchine per cucire, di cui egli fu vicepresidente dal 1974 al 1979.

Con la presidenza della Mondadori, mantenuta dal 1977 alla fine del 1982, Luraghi terminò la sua carriera manageriale, sulla quale viene orientata la copiosa bibliografia che in appendice correda il saggio di Daniele Pozzi, autore consapevole di aver dato uno spazio troppo limitato alla personalità di Luraghi come uomo di cultura e come letterato, personalità ben documentata dal suo archivio presso il Fondo Manoscritti custodito dalla Università di Pavia.

Infatti egli fu il fondatore di due prestigiose riviste aziendali, la Pirelli (1948) e Civiltà delle macchine (1953) di Finmeccanica. Fu apprezzato intenditore di arti figurative, fu stimato poeta e scrittore di opere narrative e saggistiche. Non solo. Fu anche fondatore di una piccola, ma prestigiosa casa editrice, la Meridiana, attiva a Milano dal 1947 al 1956, che si adoperò per divulgare per un pubblico di lettori selezionato e competente le opere più recenti di alcuni poeti e letterati diventati famosi in quegli anni.

Umberto Casari

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Books
GOLINELLI G.M., (2010), *Viable systems approach (VSA). Governing Business Dynamics*, Cedam, Wolters Kluwer, Padova.

Articles
BACCARANI C., GOLINELLI G.M., (2008), "The enterpreneur and the frontiers of complexity", *Sinergie*, n. 75, pp. V-X.

Book chapters
VARALDO R., (1987), "The internationalization of small and medium-sized italian manufacturing firms", in Rosson P., Reid S., (edited by), *Managing export entry and expansion: concepts and practice*, Praeger, New York.

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