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Michele Pinelli

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The regional soul of sustainability

Michele Pinelli

michelepinelli@unive.it

Department of Management
Ca' Foscari University of Venice
Cannaregio 873, San Giobbe
30121 Venice (VE), Italy

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Abstract. Profits and social-environmental performance have always been perceived as in contrast with one another. Governments and super-national authorities felt that corporations were lacking the incentives to pursue sustainable practices, which then had to be imposed through regulation. Such situation opens space to (at least) two debates: the first one is about whether or not entrepreneurs can help regulations and policies to implement sustainable development; the second one concerns how the current economic context is going to affect sustainable development. This paper joins such debates arguing that a) the role of entrepreneurs in the implementation of sustainability is increasingly important and not just complementary to regulations and policies; b) changes in the economic contexts will give an increasingly “regional” character to sustainable development. There is emerging evidence that sustainability is becoming profitable for firms as a result of a dynamics involving consumer awareness, regulations, new cost structures and market-driven requests for sustainable business practices. This new-born profitability is the incentive which will make firms play their important part in the implementation of sustainability. Increased geographical proximity among activities and less global value chains will be the result of the efforts that companies will make in order to capture these profits through sustainable business model innovation. This will lead to invest in surrounding communities and territories (Porter and Kramer, 2011), to leverage circular economies (Fang, Cotè, Qin, 2007) and to re-think logistics and transportation strategies. Entrepreneurs capable to relocate activities fitting with each other and to aggregate them properly in coherent bundles can realize durable competitive advantages (Porter, 1996). This is why sustainability has a “regional” soul.

Keywords: innovation, business model, entrepreneurship, sustainable development

JEL Classification Numbers: M14, M16

1. Introduction

The paradigm of sustainable development is a source of major changes for both the economy and society (Nidumolu, Prahalad and Rangaswami 2009), thus affecting the basis of economic research and social dynamics. Both researchers and practitioners nowadays are dealing with emerging trends that are changing the assumptions beyond the traditional value creation mechanisms. One of such now-challenged beliefs is the institutionalized conflict between corporations' interests and society's well-being (Porter, Kramer 2011). This trade-off was the outcome of both the inconclusive results of research on the economic rationale of sustainability (Salzmann, Ionescu-Somers and Steger 2005) and theoretical analyses that followed the logics that economic results decrease if social and environmental constraints are added to subjects that are already maximizing their profits (Schaltegger and Synnestvedt 2002). Following these arguments, social and environmental concerns were originally considered as either a burden (and thus to be avoided) or a luxury good, affordable only by few virtuous and wealthy companies.

As the academic community, governments and super-national authorities were feeling that corporations did not have good enough incentives to pursue social and environmental issues, it was common opinion that sustainable development had to be imposed through regulation. Such view resulted into the shaping of sustainability principles in a way that could provide guidance to legislation (Stocchetti, 2012). The situation rises (at least) two debates: the first one is about whether or not firms can help regulations and policies to implement sustainable development; the second one concerns how the current economic context is going to affect sustainable development.

By reviewing contributions from management literature this paper joins the debates and argues that a) the role of firms in the implementation of sustainability is increasingly

important and not just complementary to regulations and policies; b) changes in the economic contexts will give an increasingly “regional” character to sustainable development.

The reason for which firms can now play a more important part in the implementation of sustainable development is that paying attention to sustainability issues is becoming profitable: companies are therefore starting to have those incentives which were lacking in the past and whose absence led the authorities to put so much emphasis on regulations in order to impose sustainable business practice. Scholars (e.g. Porter and Kramer 2011) are showing that there is emerging evidence about sustainability becoming more and more profitable for firms: the original inconclusiveness of the “business case for sustainability” depended on economic conditions which often times did not make it profitable to pursue social-environmental performance. However, a self-feeding circular dynamics involving consumer awareness, regulation, changes in traditional cost structures and market-led requests for sustainable standards are now altering the economics of social-environmental performance. Such new-born profitability is the inducement that will motivate firms to play their part in the implementation of sustainability, which is going to be crucial for two reasons: first, economic activities have always been seen as the cause of a “sustainability problem”; and second, firms will always be better than governments at marketing social-environmental friendly products and technologies (Porter and Kramer, 2011).

The above reasoning leads us to the second debate, the one concerning the features of sustainable development. Management scholars are suggesting that entrepreneurs willing to catch the opportunities that emerge from the changes induced by the paradigm of sustainability will need to innovate their business models by re-configuring their value chains in a way that fosters sustainable development (Nidumolu,

Prahalad and Rangaswami, 2009). One way to achieve this goal is for firms to invest in their surrounding communities and territory (Porter and Kramer, 2011) and to exploit circular economies (Fang, Cotè, Qin, 2007). By doing so, firms growth (and sustainable development) will assume an increasingly “regional” character. Such an outcome will descend from value chains becoming more geographically concentrated as a result of the greater awareness of the productive link between a firm and the ecology in which it is embedded and because of increased energy and transportation costs. Another important element to be considered is that, in order to run sustainable business processes, it is necessary to adopt a system-level perspective on economic activities, which is fostered by geographical proximity. Finally, as more sustained competitive advantage descend from an adequate aggregation of activities, better results will come from those firms that will be capable to combine activities that are not only fitting well with each other (Porter, 1996) but that will correctly match the social and economic context in which they are embedded.

1.1 Defining Sustainability

In the last few decades the concept of sustainability is gaining more and more interest from all kinds of disciplines. The original formulation of sustainable development from the Brundtland report (1987) – i.e. development which does not come at the expenses of future generations – has been declined very differently in a variety of fields: in biology it refers to the protection of biodiversity and natural capital; in economics it concerns the accounting for natural resources; in sociology it advocates for environmental justice (a principle which should those few groups that decide about the use of natural resources for everybody else); in architectural planning it is about integrating urbanisation and

nature preservation into the science of design; in environmental ethics it means conservation, preservation and durable use of natural resources (Grinde and Khare 2008). Such heterogeneity, together with its wild use in common language, results in a general vagueness of the terms “sustainability” and “sustainable development”. However, for what business is concerned we can say that sustainability implies the need for firms to make some changes in order to keep operating: first, practices need to be re-thought in terms of durability, as we are using more resources than we have; second, firms’ focus on pure profit is what created societal and environmental capitals’ depletion, which now are what economy needs to start paying attention to (Grinde and Khare 2008), as it is non-linear and irreversible (Dyllick and Hockertz 2002).

It is indeed no accident that illustrious scholars have remarked that “there is no alternative to sustainable development” (Nidumolu, Prahalad and Rangaswami 2009, p.2) as consumers and regulations, both voluntary and compulsory, will force business to become sustainable. Yet agreement is still to be found about whether the transition process will be driven by market forces or imposed through regulations, how long it will take and which will be its ultimate promoting actors (i.e. companies, governments, authorities or consumers). But, however the story will unfold, change is eventually going to occur as we are making decisions not consistent with a finite world: there is a need to reduce emissions and resource consumption (Grinde and Khare 2008).

1.2 Defining corporate sustainability

Now, by examining some contributions from researchers, it will be reviewed what actually means for a firm to become sustainable and what are the related issues. First of all the elements of corporate sustainability are identified as: the integration of social,

economic and ecologic aspects; the integration of long and short term perspectives; the preservation of capitals' stocks (Dyllick and Hockerts 2002). Second, it has been noticed that the implementation of a sustainability strategy has to reap economic benefits: if it is not economically feasible, then it is not sustainable by definition (Azapagic 2003). Consequently, the economic dimension results prioritized with respect to the other two because economic and financial equilibria are *sine qua non* conditions, without which no company could keep running its operations (see fig. 1).

In other words, sustainable firms are respectively economically, ecologically and socially stable in the sense that a) they guarantee at any time sufficient cash flows to ensure liquidity while producing persistent above average returns; b) they consume natural resources only at a rate below their natural reproduction, they produce less emissions than those that the environment can absorb, they do not generate degradation of ecosystem services; c) enrich human and societal capitals by considering not only the impact of their own activities but also that of the entire value chain (Dyllick and Hockerts 2002). Consequently, corporate sustainability management can be intended as a strategic

and profit driven response to environmental and social issues caused through the organization's primary and secondary activity (Salzmann 2005).

2. The implementation of sustainability

There exist two main perspectives concerning what actors are better suited for implementing the paradigm of sustainability: traditionally such role is assigned to governments and super-national organisms but recently more and more attention is paid to the part businesses may play: in the mid-90s indeed authorities were the most active players trying to implement sustainable development but in the new millennium this role is passing to business (Dyllick and Hockerts 2002; Stocchetti 2012). Scholars favoring either one thesis or the other have backed their opinions by presenting several convincing arguments and evidence; however the paper argues that such alternative views are chronologically separated and thus not in contrast with one another. Indeed the initial perspective, which considered that firms did not have the right incentives to pursue social and environmental objectives, was based on specific economic and market conditions which were valid when the principles of sustainability started to emerge. However, decade after decade, the actions of governments, NGOs, virtuous companies and private citizens triggered dynamics which resulted in an increased awareness of social and environmental issues in the eyes of the general public and, in turn, in an increase of their value to people (see fig.2). Such migration of value is what created the basis for the emergence of the new economics of sustainability, which differs from the old one because of an increased profitability that goes beyond the simple benefits coming from reputation and eco-efficiency.

Figure 2: dynamics of increased profitability

2.1 The role of authorities

Originally it was common opinion that sustainability required coordination at super-national level and that it was society's job (rather than production systems') to evaluate the actual cost of resource exploitation; this assumption legitimated super-national entities to intervene in the legal system of member states and shaped principles and concepts so that they could provide guidance to legislation (Stocchetti 2012).

The dominant idea was that markets would fail the goal of sustainability if left alone: it was necessary that some authorities imposed rules in order to achieve those conditions which would not be realized if the players had the chance to freely play the game. Purpose of such rules was basically to find some way to internalize the externalities related to social and environmental issues and, by doing so, to charge current producers of the total costs of production, including those aspects coming at the expenses of future generations (Hawken 1993).

The role of governments was initially stressed because it was believed, correctly at the time, that firms did not have the right incentives nor time horizons extended enough to match sustainability's long term perspectives. Indeed paying attention to societal and environmental issues was originally seen as a new cost of doing business and CSR initiatives were adopted instrumentally and separately from business objectives. These dynamics led the general public to perceive business as a cause of social and environmental problems and the companies as prospering at the expenses of society. Moreover, ironically enough, the more firms committed to CSR, the more they risked to be blamed for society's failures as a result of a sort of self-fulfilling prophecy: regulations addressing social issues by constraining business practices resulted in the institutionalization of a trade-off between economic efficiency and social progress (Nidumolu, Prahalad and Rangaswami 2009; Porter and Kramer 2011).

Societal and environmental issues were traditionally seen as costs for companies because they brought limitations to business practices. By following the logic that by adding a constraint to a firm that is already maximizing profits these would decrease, such additional limitations intuitively implied new costs. So, most firms started addressing societal matters and investing in CSR more than the minimum required by regulators and stakeholders was conceived as a waste of shareholders' money (Nidumolu, Prahalad and Rangaswami 2009; Porter and Kramer 2011).

2.2 The failure of ethical arguments

Since business practices were considered responsible for sustainability issues, it was also felt that it had to be their "responsibility" and ethical duty to make it up for the crime of depleting natural and societal capitals. Most times moral and ethical arguments were

leveraged with the intent of driving firms' activities towards more virtuous operations. The weakness of such arguments is that they build on a logical paradox: they hope to solve the problem of sustainability with the same means and in the same ways which originated it in the first place. It is a real-life example of those "prisoner dilemma"-kind of situations in which players acting rationally are led to pursue strategies which ultimately result in sub-optimal equilibria whilst Pareto-efficient ones, although available, are not achieved. In other words, although theoretically there exists a scenario in which all the parties could be better-off, they are stuck in sub-optimal situations because their decision making processes, the context and the rules of the game intertwine in an unhappy fashion.

The natural and social cases for sustainability (Dyllick and Hockerts 2002), which advocate for the maximization of positive social impacts and for the fair sharing of resources, have never been too convincing as they did not represent much of an incentive for players animated by economic motives. Describing the "potential" of some scenario, however beautiful it might be, is not a good enough reason to grant its realization: in order to fill the gap between "potentiality" and "actuality" incentives capable of triggering the right dynamics are needed. In addition, ethical concerns are not universally shared and thus pleading with economic actors for their consideration is a curious strategy and certainly not a feasible solution. A much more reasonable strategy is leveraging on the economic motive and thus on the potential profitability of social-environmental performance, as the business case for sustainability does: it is necessary that companies have the right economic incentives to pursue sustainability, as profits are their main objective (although not the only one).

As financial and social equilibria are requisite for firms' survival and being firms motivated by profits, the paper derives that they will not be open, on average, to sacrifice

economic gains for superior social-environmental performance: most firms will address sustainability issues mainly as a response to the right stimuli, such as market opportunities, regulation, stakeholder pressure, etc.

Despite the above however, there exists evidence showing that some firms pursue other objectives with equal or even higher priority: sustainability-driven enterprises have both social and ecological motives and aim at sustaining their own activities while contributing to the sustainable development of the larger social–ecological system in which they are embedded (Parrish 2007). Similarly, Porter and Kramer (2011) introduce the concept of shared value as “*policies and operating practices that enhance the competitiveness of a firm while simultaneously advancing the economic and social conditions of the communities in which they operate [...]; shared value focuses on identifying and expanding the connections between societal and economic progress in order to create societal benefits and not profits coming at society’s expenses*”. However the concern on this evidence is not about the existence of firms that care about social-environmental performance but it is about the size of their economic relevance.

2.3 The micro perspective and the new economics

The business case for sustainability was used to either prove or disprove the economic rationale of corporate sustainability management by exploring the relationship between financial and social-environmental results (Salzmann et al. 2005). Empirical studies usually hypothesized some linear causal relationship between the two kinds of performance and often led to mixed and confusing findings. The existence of a direct correlation among financial and ecological results sounds logic also in the light of a clever remark: although among scholars there exists disagreement about the existence of

an economic rationale for running social-environmental practices, there is agreement that bad environmental performance does not payoff (Wagner 2002).

Despite the studies trying to prove the connection between economic profits and social-ecological performance have produced inconclusive results, arguments in favor of a strategic, market-oriented, far-sighted approach to sustainability (e.g. Nidumolu, Prahalad and Rangaswami 2009; Porter and Kramer 2011) are recently proliferating. It is argued that this is the result of dynamics which affected markets' underlying economic conditions and resulted in the migration of the amount of social-environmental performance which maximizes profits (see fig. 3).

The original inconclusiveness of the results of the first studies on the economic rationale of social-environmental performance was due to markets' general immaturity: with the exception of very particular situations, which were those highlighting positive financial effects, in the majority of the situations addressing social and environmental

issues was more a burden or a moral call than else. Usually, the first empirical studies advocating for the business case for sustainability highlighted the cost-saving results of successful eco-efficient and anti-pollution programs in firms operating in very price-sensitive sectors, such as chemical (Salzmann et al. 2005). Another category of virtuous examples to follow were firms operating in very specific market niches (Parrish 2010), with business models designed around the needs of customers particularly sensitive to social or environmental matters. The peculiarity and the low economic relevance of these cases implied a general difficulty at extending the presented solutions outside those niches. These early studies, however, had in common the identification of firms that had found out the aspects of sustainability which affected profits: cost-savings coming from better use of resources and revenues coming from value propositions directed to those who might be called “the early adopters of sustainability”. The fact that markets were not mature just yet (resources did not cost enough and the majority of customers were not sensitive enough to sustainability matters) posed constraints to the generalizability of such positive economic outcomes; however, as markets are in the process of maturing, sustainability’s profitability is increasing.

The micro perspective on sustainability focuses on the role that firms can play in its implementation. It has been remarked that it is increasingly important (Dyllick and Hockertz 2002) as it may overcome two of the main limitations of the macro perspective. First, such traditional view underestimates the role of business and thus: a) no attention is paid to the factors responsible for the implementation of sustainability principles (e.g. competitive strategies, operations, sustainability management, motivations, etc.), as compliance to regulations is considered enough for achieving sustainability; b) the complex set of goals moving entrepreneurs and management are reduced to mere profit. Second, universal prescriptive principles will eventually fail sustainability as they cannot

capture the peculiar industrial, organizational and competitive characteristics which vary by market (Stocchetti 2012). In addition, companies' contribution has great potential as they will be always better than governments and non-profit organizations at marketing products which are healthier or environmental-friendly (Porter and Kramer 2011).

Anyway research is showing more and more evidence that factors capable of driving firms behavior are emerging. Shifts in customer priorities are creating new market opportunities and are attracting the interest of business. People indeed are globally acknowledging the existence of sustainability issues and new ideas and technologies for addressing these matters are proliferating (Grinde and Khare 2008). In advanced economies demands for products addressing societal needs is increasing (e.g. from tasty and big-sized to healthy and nutritious foods) and the developing countries constitute a huge potential market for products that satisfy the needs of people at the bottom of the income pyramid (Hart and Milstein 2003; Nidumolu, Prahalad and Rangaswami 2009).

These new elements are changing the traditional economics of corporate sustainability and are making it more profitable for firms to address social-environmental issues. Such economic potential comes from both components of profits: revenues and costs. On the one hand indeed social and environmental issues are becoming increasingly important, and thus valuable, for customers as there is more awareness of their existence; so, firms are becoming increasingly capable to make more and more money out of sustainable products, technologies and processes. On the other hand it has been cleverly remarked (Nidumolu, Prahalad and Rangaswami 2009; Porter and Kramer 2011) that traditional cost structures are changing as a result of centuries of unsustainable practices: some elements that once were mere externalities are turning into actual costs and some other elements are just becoming increasingly expensive.

For instance, societal issues (equality, health, safety, working conditions, resources consumption, etc.) that used to be mere externalities, by affecting productivity and value chains, are turning into actual costs (Porter and Kramer 2011) even in the absence of taxes or regulations because of stakeholders' pressure (e.g. reputational cost of pollution) and changes in the economic settings (e.g. increased costs of transportation). Moreover firms' competitive, innovative and productive capabilities are intertwined with the health of the society in which they are embedded. On the one hand indeed, companies provide their communities with products, jobs and wealth; on the other hand, market success depends much on the quality of its environment: human resources, business partners, infrastructures, institutions, academic programs, trade association, etc. For these reasons societal deficiencies have repercussions in terms of costs for firms: addressing these issues (e.g. wellness programs, company kinder-gardens, etc.) cannot be considered as just a cost or a moral call anymore. Traditional costs structures are also affected by factors which once had a low impact on a firm's income statement but that now have started to become much more relevant. As energy costs more and people are more sensitive to pollution issues, business practices are pressured to be more eco-efficient by minimizing resource consumption through new concepts, such as zero-waste, re-cycling, re-using and so on. The always higher oil prices are making transportation costs levitate and with them the whole convenience of certain distribution strategies (such as just in time, for instance), which need to be re-thought in ways that minimize shipping distances and optimize handlings. The increasing pressure towards the use of by-products and waste materials in the production process are also promoting the implementation of circular economies (Fang, Cotè and Qin 2007). All these trends taken together can have great impact on current value chain structures, making them more concentrated and less geographically dispersed.

3. The regional character of sustainable development

It is argued in the paper that the transition from growth to sustainable development implies an increased emphasis on geographical proximity. Such proposition stems from the idea that value is jointly created by groups of actors (Zott, Amit, Massa 2011) and therefore from the notion that firms' performance is dependent on its ecology (Porter and Kramer 2011), in the sense that business performance is also affected by both the quality of local infrastructures and the features of communities and organizations with which relationships are established. Such conceptualization departs from the notions of clusters and industrial conglomerates (Porter 1990, 1998) and it merges them in a broader idea of ecology. On the one hand clusters are traditionally defined as geographical concentrations of semi-identical specialized firms running very similar operations, producing the same kind of output, using the same inputs from the same providers and employing the same high-skilled local human resources. On the other hand industrial conglomerates are identified as concentrations of multinational corporations' plants and manufacturing sites that came to the same geographical region in order to exploit local advantages (such as low-wages, good-quality or low-cost of inputs, efficient infrastructures and state aids) but that share few connections with one another.

Here the idea is that firms can unlock the potential benefits deriving from their surrounding environment exactly because they are different and by leveraging economies of scope and not because they are specialized in the same portion of the same value chain. According to this framework then, companies operating in different industries or businesses are attracted by good local conditions such as human resources' competences or the quality of infrastructures and institutions but they also establish strong exchanges with one another and with the local environment. In this sense, proximity's importance is a consequence of increased transportation costs, of greater relevance of the

interconnections and interdependence among activities and between companies and the social-ecological environments in which they are embedded. Such view implies a reconsideration of international business literature, which has so far assumed an association among organizational and geographical dispersion of activities (e.g. Kedia B. L., Mukherjee D., 2009; Contractor et al. 2010), whilst the paper suggests their unbundling: on the one hand, continuously increasing complexity of markets, products and technologies forces firms to specialize their competence and resource bases thus preventing integration and promoting alliances and networking; on the other hand, elements such as reverse logistics, higher transportation costs, minimization of wastes, re-using and re-cycling are reconfiguring value chains by promoting geographical proximity.

Decreasing the level of value chains' geographical dispersion does not necessarily mean that firms will bring all their operations back in their home country but it implies that companies will need to arrange their interdependent activities into coherent and self-reinforcing clusters, which will also have to be wrapped in the local social and ecological environments. For instance, in countries where quick and intense industrial development gave birth to immense sustainability problems such as China, governments and authorities are responding through an increased emphasis on circular economies and eco-industrial areas. Elsewhere, MNCs looking for high-quality natural products such as coffee, tobacco, cocoa, etc. are heavily investing in rural areas of developing countries thus fostering local businesses' productivity, strengthening local infrastructures and developing skills competencies and education of local communities.

Globalization increased distances between firms, suppliers, manufacturers and consumers and made value chains longer and more complicated (Fang, Cotè and Qin 2007; Porter and Kramer 2011). Now competitive pressure and awareness of

sustainability issues are raising the need to redesign and reorganize processes and value chains in order to optimize the use of resources and to minimize social-environmental impacts.

3.1 Bundling activities in circular economies

It is not new in strategic management literature the idea that firms could experience higher performances by organizing mutually-reinforcing activities in coherent clusters (e.g. Porter 1996; Contractor et al. 2010). A first example of value chains re-thought and re-designed in tightly-coupled sets of coherent processes can be found in China. The country experienced in few decades the industrial development that took almost two hundred years in western countries (Kiujis, Wang, 2006). Drawing from the notion of time compression diseconomies (Dierickx and Cool, 1989), it is immediate to infer that such tremendous pace of growth came with substantial social and ecological repercussions. Chinese economy indeed is characterized by high levels of emissions and natural resources' consumption and by low efficiency of the productive processes: indeed although China consumes respectively the 7%, 30%, 31%, 27%, 25% and 20% of global consumption of oil, coal, iron-ore, steel, alumina and cement, the corresponding GDP is just the 4% of the world (Fang, Cotè and Qin 2007); Chinese pollution is by now a serious threat as contaminated water and solid waste per unit of GDP are much higher than in developed countries; widening inequality among the incomes of urban and rural areas are sources of social tension (Kiujis, Wang, 2006).

In order to cope with such weaknesses of its industrial structure, Chinese government has officially committed to sustainable development (e.g. *all round better off society* act, energy economization law, cleaner production promotion law, etc.) and is

experimenting new ways to increase social well-being and to optimize energy and resource consumption through circular economies, eco-industrial sites and ICTs investments. Eco-industrial sites, which may be firms, aggregates of firms, cities or provinces, aim at finding ways to connect different waste-producing processes, plants, industries and consumers into operating webs which minimize the amounts of industrial materials wasted in intermediate processes. In these areas networks of firms and local communities try to realize symbiotic production lines and recycling webs by redesigning and reorganizing processes and by sharing material and energy flows and technologies: the basic idea is to turn linear chains into cycles or closed-loops supply chains characterized by shared activities such as product-recovery processes and reverse logistics. Fostering circular economies means establishing networks between businesses and communities in order to realize an eco-efficient use of resources through the adoption of cleaner production and through the re-using and re-cycling of by-products from other subjects as raw materials. Closed loops for circular economies involve forward movements of materials (traditional flows from suppliers to manufacturers and end users) and inverse flows of wastes and byproducts (collected by re-manufacturers from processors, manufacturers and end-users or consumers).

Realizing such webs of interrelated sub-processes will have important implications for the configuration of value chains: on the one hand, it will require *ad-hoc* activities such as asset management, facility re-designing, product planning, new inventory practices, life cycle assessment (LCA), material flow analysis (MFA), etc; on the other hand, it will create hard-to-disintegrate, tightly coupled, modular bundles of activities which will reduce the degree of value chain's geographical dispersion. In other words re-discovering the interconnections among activities means designing more

complex and interdependent business models and therefore it will stress even further the notion of joint-value creation.

A nice example of eco-industrial sites is provided by Fang, Cotè and Qin (2007), who describe the Guigang group, a large Chinese state-owned corporation operating in many industries, the main of which is sugar making. When the recession of sugar industry put the company's survival at serious risk, it reacted creating an industrial eco-system with the purpose of reducing raw material consumption, energy costs, waste management costs and environmental compliance costs; the firm also worked to strengthen the environmental image of the group in order to operate in green markets. Initially the Guigang group produced only sugar but today its business has extended to include paper, alcohol, cement alkali and fertilizer, whose production is based on the by-products of sugar-making processes. The circular value chain is a web of activities designed around two main production processes sugar and paper. Along each of these chains every down-stream plant uses as raw materials the by-products of up-stream plants. In this way plants producing paper, alcohol, compounds and fertilizer are alimented with inputs from the sugar-making processes whilst cements are made from paper-making by-products.

3.2 Strengthening the link among business and surrounding communities

The regional character of sustainable development also stems from the idea that firms' competitiveness, surrounding communities' health and local institutions and infrastructures are mutually dependent (Porter and Kramer 2011): communities need businesses to provide jobs and institutions for education and services; companies satisfy people's needs, provide supporting businesses with services and bring wealth to the

society; institutions provide firms and communities with a stable and safe environment in which to operate and to live.

Globalization and reduced ICT costs resulted in great popularity of offshoring practices, which in turn weakened the link between communities and firms thus damaging some of the exchanges of the above mentioned cycle. Similarly, born-global MNCs prevent themselves the innovation and productivity benefits deriving from a greater commitment to the local societies.

In addition, now that energy is more expensive and transportation costs are higher, distant procurement of inputs is becoming less advantageous; increasing customer attention to social, environmental and labor issues is making pay high prices (in terms of both image and market share) to companies exploiting cost advantages coming at the expenses of people's safety or environmental degradation, such as those involved with the collapse of the Rana Plaza building in Bangladesh on April 2013.

Whilst re-location choice were once based on criteria mostly concerned with the exploitation of advantageous condition, by now it is evident that abuses lead to depletion and degradation which in turn result in deficiencies of the ecology into which businesses are wrapped. Therefore the way in which firms can gain more durable competitive advantages is developing local clusters: by investing into infrastructures; by helping underdeveloped suppliers to have access to financial resources and providing them with know-how and more modern technologies; educating local communities; by bringing more pleasant working condition; by establishing mutually beneficial connections with the society.

Porter and Kramer (2011) also provide a good example of how deeply MNCs can link with distant territories. Nestle's division Nespresso, which is very fastly growing since 2000 has strongly invested in its suppliers geographical regions in order to assure

volumes, productivity and quality. The majority of the different kinds of coffees needed by Nespresso for its broad array of flavors were grown in underdeveloped farms of Africa and South America characterized by serious constraints in terms of volumes, productivity, quality and ecological care. In order to overcome such problems, through its *Ecolaboration* and *AAA Sustainable Quality* programs, Nespresso redesigned its value chains by concentrating its activities in strategic locations, which is close to the source of its inputs, and invested in the development of the nearby communities. It helped them gathering financial resources and provided them with guidance on growing techniques, production's conservation practices, plantations' ecosystems protection, soil erosion and water management optimization). The above mentioned programs allowed 50.000 farmers to obtain better competences and more modern technologies which resulted in increased lands' productivity and output's quality and in reduced environmental impacts at the same time. Simultaneously Nespresso assured a more reliable and higher-quality supply of coffees for its capsules.

Such a kind of examples show how buying and investing locally trigger positive cycles and spillovers on local communities: suppliers' incomes increase, environmental impact decreases, innovation is fostered, new jobs are created, local education and competences are promoted and wages get higher.

3.3 Eco-coherent bundles of activities in geographically concentrated value chains

Management literature generally agrees that competition and globalization forced firms to disaggregate value chains both geographically (offshoring) and organizationally (outsourcing) in order to reach foreign markets, to procure higher-quality or lower-cost inputs and to establish relationship with valuable partners. Consequently a corporate global strategy is concerned with decisions about the optimal level of value chains'

shattering and the organizational and geographical allocation of resulting fragments (Contractor et al., 2010), the general bottom-line being that core activities are kept in-house and the rest dispersed wherever is best.

Although general relocation initially involved mostly non-core activities such as IT services and manufacturing, with time even core processes such as R&D, product design, engineering and marketing have been further separated into essential sub-processes to be retained and operational sub-processes that can be outsourced. Also, the market for business process outsourcing has been favored by: companies' need to specialize and to dedicate resources to the activities essential for the competitive advantage; the quest for legitimacy in strategic markets; the flourishing of more specialized and sophisticated offerings from always more efficient providers; the codification of corporate knowledge (Contractor et al., 2010).

Since such trends result in an increasing share of value added externally by other firms and in a reduction of global total costs, they emphasize two key findings: first that value is jointly created by groups of actors and second that the key pillar on which outsourcing is built is the exploitation of suppliers' economies of scale and competences. Although some scholars have remarked that firms' boundaries are becoming more permeable and tend to shrink organizationally and to expand geographically (Contractor et al. 2010), this paper suggests that value chains' concentration and geographical proximity among activities will become increasingly important due to factors related to sustainable development, namely the increased costs of energy and transportation, the necessity to optimize the use of raw materials, to minimize the production of waste and to strengthen the links with surrounding communities and businesses (see fig. 4).

Figure 4: Value Chain Dispersion

It is important to understand how the elements traditionally behind outsourcing and offshoring decisions are going to be affected by the emergent paradigm of sustainability. The most influencing driver for activities relocation has always been cost reduction, particularly for poorly-performing firms looking for low-wages employees and low-cost inputs (Thakur and Contractor, 2010). Although costs savings are essentials, it is to notice that some of the basic conditions for the realization of such economies are changing: first transportation costs are now much higher than in the past and thus distant procurement is losing part of its attractiveness; second, the reputational damage for exploiting developing countries poor working conditions or the indulgent environmental regulations may offset any short-term saving; third, labor cost, that is a strong offshoring motivator as it is the a big share of many firms' operational costs, tends to increase with time. Lastly infrastructures' features and human resources' quality matter a lot when flexibility and quick time to market are relevant, which is precisely the case of contemporary economy: although evidence is increasingly showing that emergent markets are becoming less imperfect and employees there have often better qualifications

than their counterparts in America and Europe (Kedia and Lahiri 2007), which are facing deficiencies of skilled professionals in knowledge-intensive sectors.

As products, markets and technologies are increasingly complex it is more difficult for organizations to control all the competences and diverse components of knowledge needed to realize their production. Thus the need to access external expertise and knowledge inputs is another important driver for outsourcing decisions. Since technologies and markets are not becoming any simpler and since firms are retaining in-house fewer and fewer processes while acquiring the rest on the markets, it is reasonable to assume that this trend would not be inverted by the paradigm of sustainability. On the contrary, as sustainable development implies marked emphasis on activities' interconnections and non-immediate repercussions, links among firms and between firms and institutions will get stronger, more frequent and will involve new aspects of doing business. Moreover, such increased embeddedness of companies in the locations where they will establish their operations will positively contribute to reach other goals of offshoring strategies: building legitimacy among local customers and institutions and gathering intelligence about unknown markets.

Another important element to be considered when decisions about activities' allocation are to be made is that value chains fragmentation and dispersion raise the level of complexity and the cost of coordination: each time a new geographical market is approached information is to be acquired about possible partners, culture, work habits, institutional environment and where to establish plants; additionally, although ICTs and globalization significantly reduced communication costs, cultural and institutional distance still represent an obstacle to economic exchanges.

In order to understand how sustainable development will affect global value chains configurations, it is useful to consider the framework that Kedia and Mukherjee

(2009) provide for explaining corporate global strategy decisions, which are based on disintegration advantages, location-specific procurement benefits and incentives for externalization.

The disintegration of production processes and the unbundling of non-core functions are generated by the need for different knowledge bases, managerial styles and incentive structures (Jacobides 2005) and they may lead to several benefits: hierarchical coordination costs reduction, resource allocation on core capabilities and establishment of more flexible and responsive modular structures.

Location has long-time being identified as a major determinant for FDI (Dunning 1977) and so it is for global strategy decisions as it may lead to advantages related to the territory (infrastructures, country risk, investment-friendly policies, cheap natural resources, market size, transportation costs, taxation, structure of competition) or to the people living in it (low wages, labor productivity, cultural similarity, quality of human resources, skills and competencies, exploitation of different time zones)

Externalization is based on the ideas that some activities are general in nature and can be decoupled from their value chains (Jacobides and Winter 2005) and that suppliers can achieve economies of scale and specialization that clients cannot. In this way, value is jointly created (Zott, Amit and Massa 2010) and mutual trust and shared values allow extracting relational rents from good partnership relationships (Dyer and Singh, 1998).

Globalization and technological advancements have favored offshoring because, by reducing geographical and cultural barriers, they increased the offer of human capital, raw materials, semi-products and potential partners and, because of the augmented rivalry from international players from emerging markets, they also amplified the competitive pressure. Such scenario changed the advantages of activities internalization and the market of global resources: for instance the complexity of markets, products and

technologies increased the coordination costs of vertical integration whilst cooperative organization forms reduced the need for it; at the same time ICTs made cross border coordination cheaper and emerging countries are becoming more interesting product, labor and capital markets with less barriers and tariffs to trade and they are plenty of human capital and firms with superior resource and competence bases; finally the always increasing level of rivalry is forcing firms to specialize in core activities. As a result not only MNCs but all small and medium-sized firms reacted by shattering their value chains, relocating process away, shifting resources in higher value-added activities and looking for resources in the global market. Consequently the business process outsourcing market has grown fastly, many jobs have been offshored and cooperation through alliances, joint venture, etc. at various organizational levels has become enormously more frequent (Danskin, Dibrell and Kedia 2005).

It is to remark that literature on international business tends to analyze offshoring and outsourcing practices at the same time and to assume an association between geographical and organizational dispersion (e.g. Kedia and Mukherjee 2009; Contractor et al.2010; Thakur and Contractor, 2010). In such frameworks are usually present a dichotomist geographical variable (onshore versus offshore location) and a discrete organizational variable (spacing from vertical integration to market transactions) which, depending on the specific benefits and costs of dispersion, result in a specific optimal global strategy (in-house development, domestic outsourcing, off-shore outsourcing, global insourcing, etc.). Stemming from this paper contributions, namely the sustainability-driven push towards activities' integration in eco-consistent bundles and the importance of their trophic embeddedness in the local ecology, emerge two limitations of such frameworks: first, the increased emphasis on activities' interdependence is amplifying the importance of geographical proximity of business

processes therefore separating the so-far assumed association between geographical and organizational dispersion (see fig. 4); second, as these frameworks is a single firm or value chain, they fail to capture the way in which different value chains interact, intertwine and overlap with one another therefore missing the actual level of their disintegration and concentration. Indeed, in an age in which organizational exchanges is the new normal, the concentration and dispersion of value chains is not determined just by how much previously vertically-integrated production processes are disintegrated: instead, they are also very much characterized by the degree in which business process once belonging to separated value chains are now getting in touch with one another. All in all, dispersed and isolated production systems and distant procurement are becoming much less advantageous and business operations will start to be ran into fewer bigger highly-integrated production sites (Porter and Kramer 2011).

Figure 5b:
Geographical and
organizational dispersion
of activities among
separated value chains

Figure 5c:
Geographical concentration
and organizational
dispersion of activities
among connecting value
chains

4. Conclusions

The paper joined two debates related to the increasingly pressing paradigm of sustainable development: one concerning its implementation and the other one concerning its characteristics.

With respect to the first one, the paper argues that the role of companies is going to play a major role in the future as changes in the economical context are increasing the profitability of social-environmental performance. Market opportunities and stakeholder pressure are creating for firms the incentives to establish sustainable business practice, whereas these needed to be imposed by governments through regulation: if once CSR could be considered as either a burden or a moral call, now for companies it is worth pursuing sustainable development as it affects both income statements' components: revenues (changes in customer needs and wants, employees' productivity, et.c) and costs (increasing energy and transportation costs, reputational damages of blamable practices, pressure for eco-efficiency).

On the second debate, the paper argues that sustainable development will be characterized by a "regional" soul: the emphasis on activities' interdependencies, the disadvantages of distant procurement and the pressure for eco-efficiency are going to deeply affect value chains configuration. Such factors are challenging the assumed trend on value chains' disintegration: so far management literature has considered organizational and geographical dispersion as tied together and doomed to increase. However, although market, product and organizational complexity is going to keep forcing firms to increase their focus on core-areas therefore increasing organizational dispersion, at the same time geographical concentration is being promoted by the increasing costs of distant procurement and transportation and by the benefits stemming from deeper bonds with surrounding communities and businesses.

Shifting the unit of analysis from individual value chains to aggregates of value chains, it is possible to recognize that activities will be re-combined into eco-coherent clusters embedded in their ecology.

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