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business case for
sustainability**

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The new economics of the business case for sustainability

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Abstract. This paper joins the debate on business' role in the implementation of sustainable development and argues that firms are beginning to run more sustainable practices as these are becoming increasingly profitable. It is also argued that such evolution of the economics of social-environmental performance is the result of a three stage dynamics which involves consumer awareness, industrial policies, new cost structures and stakeholders' pressure. Moreover, it is also considered that such a phenomenon implies that corporations can be of huge help to regulations in the implementation of sustainability. Finally, by running analyses of the relevant literature on the business case for sustainability, this paper reconciles the mixed and inconclusive results which the academic research on the economic rationale of sustainability has always produced.

Keywords: corporate social responsibility, sustainable development, social impact, environment, sustainability

JEL Classification Numbers: M14, M21

1. Introduction

The paradigm of sustainability and sustainable development is a source of major changes for both the theoretical framework at the basis of economic research and the dynamics of society's evolution. Both researchers and practitioners are getting involved with new emerging trends which are raising the issue of value creation within a holistic perspective. Such perspective is now merging two elements which in the past have always been considered as antithetic rather than synergic: economic results and social-environmental performance. This dichotomy was the outcome of both theoretical analyses and the inconclusive results of research on the economic rationale of sustainability: also for this reason social and environmental concerns were originally considered as either a burden or a luxury good, affordable only by few virtuous and wealthy companies. As the academic community, governments and super-national authorities as well felt that corporations were lacking the incentives to pursue sustainability, it was common opinion that it had to be imposed through regulation. This conception resulted into the shaping of sustainability principles in a way that could provide guidance to legislation. Such situation opens (at least) two debates: the first one, is about whether or not regulations and policies alone are enough to assure sustainable development; the second one is about whether or not firms have reason to pursue social-environmental performance at a level which assures sustainable development (or, in other words, whether or not firms have the right incentives to pursue sustainability).

This paper joins these debates by collecting contributions from management literature and it argues that a) the role of firms in the implementation of sustainability is not only complementary to regulation but it is increasingly central; b) firms are now beginning to pursue sustainability more and more, as it is becoming increasingly profitable. The paper however also highlights that it has not always been like this: the original inconclusiveness of the “business case

for sustainability” depended on market and social-economic conditions which often times did not make it profitable for firms to pursue social-environmental performance. It is also to remark that the two made points are inter-connected: *as* paying attention to sustainability issues is getting increasingly profitable, *thus* firms can play an increasingly important part in the implementation of sustainable development.

Through literature analysis and the definition of a framework which connects contributions from several scholars, this paper wants to identify the determinants of a phenomenon which is bringing social and environmental matters away from the periphery and closer to the center of companies’ concerns in reason of their capability to positively affect profits. As a result a three stage dynamics is identified: first, unsustainable patterns of consumption and industrial models became a threat serious enough to catch the attention of governments and super-national entities, which started issuing laws and educating the general public. Then, the increasing awareness of sustainability problems made social and environmental concerns more valuable to customers and in turn it made it more profitable for firms to address them. Finally, both firms and institutions realized that sustainability constraints and opportunities are interconnected in a way which is becoming more and more synergic and always less detrimental. For what business is concerned, this process is creating new market spaces, is originating a demand for the adoption of sustainability-standards and (together with the advancing depletion of societal and natural capitals) it is starting to affect the traditional cost structures by turning previous externalities into actual costs. In other words, consumer awareness, policies and new combinations of market requests for sustainable business practices have changed for companies the economics of social-environmental performance.

1.1 Defining Sustainability as an unavoidable force of major change

“There is no alternative to sustainable development” (Nidumolu, Prahalad and Rangaswami 2009, p.2): regulations, both voluntary and compulsory, and customers’ priorities will force business to become sustainable. Although the paradigm of sustainability is a force of major change which will eventually affect the entire economy, it is still unclear: who will be its ultimate promoting actors (firms, governments, authorities, consumers), what will be the pace at which the processes of implementation of sustainable technologies and productions; whether the process will be driven by regulations or by market forces. Anyway, change is eventually going to occur as we are making decisions not consistent with a finite world: there is a need to pursue new technologies and to reduce emissions and resource consumption (Grinde and Khare 2008).

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 (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 deals with environmental justice, which should be a leading principle for those few groups who 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 (and abuse) 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 the depletion of societal and environmental capitals, which now are what economy needs to start paying attention to (Grinde and Khare 2008).

A good description of these capitals and their related issues is offered by Dyllick and Hockertz (2002). Traditionally the economic capital is defined as the sum of the assets minus the liabilities. However its calculation is becoming more difficult as intangible components (which are what determine the difference between book value and market value) are gaining importance and as a result new forms of capital (e.g. organizational capital, intellectual capital) arise. The environmental capital consists of the natural resources and the ecosystem services (e.g. climate stabilizing function of the forests, sun protection offered by the ozone layer, etc), which are very important in terms of value but that have a hardly quantifiable price. If economic systems consume more energy and materials than what they produce or if they create more emissions than what they can absorb, they become ecologically unsustainable. Finally, social capital is both of the human kind (e.g. motivation, skills and loyalty of people, employees and partners) and of the societal one (e.g. quality of public services, infrastructures, institutions, etc).

These authors also highlight how these capitals are not completely substitutable with one another and how their depletion can follow nonlinear and irreversible patterns. Contrary to traditional economic theory indeed, the natural capital cannot always be substituted with the economic one (e.g. technology may compensate for reduction of some natural resources but cannot perform ecosystem services functions) and neither can the social capital (e.g. productivity may be enhanced by economic incentives but these cannot offset a complete lack of motivation and education). Moreover, sometimes human activities have a deteriorating effect on social and natural capital that is not perceived until a certain degree of depletion is reached and recovery is no longer an option.

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 implementation of a sustainability strategy has to reap economic benefits: if it is not economically feasible then it is not stable by definition (Azapagic 2003). For the same logics it is assumed that all firms are profit seekers: thus it is generally unreasonable to expect that the average firm will be willing to sacrifice profits for achieving superior social and environmental performance (although it is acknowledged that companies are moved by a complex set of motives and principles, not just money). Second 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). As a result, it is to remark that the economic dimension results prioritized with respect to the other two because economic and financial equilibria are *condition sine qua non*, without which no company can run its operations.

[Insert Figure 1 about here]

In other words, economically sustainable firms guarantee at any time sufficient cash flows to ensure liquidity while producing persistent above average returns. Ecologically sustainable firms consume natural resources only at a rate below their natural reproduction; produce less emissions than those that the environment can absorb so that they do not accumulate; do not generate degradation of ecosystem services. Social sustainable companies add value to their community by increasing human and societal capital by considering not only their direct activities but also those of the entire value chain. (Dyllick and Hockerts 2002).

As already said, although it is assumed that profits are companies' main goal, 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 (Atkinson 2000; 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”.

The main difference between conventional and sustainability-driven entrepreneurs is thus in their goals. The formers view firms as a means of profiting from the exploitation of resources in order to maximize financial returns in the shortest time possible. The latter are moved by equanimity and see enterprises as a means of enhancing with equal priority the quality of human and natural resources together with the entrepreneurs' financial aspirations; environmental and social outcomes are not seen as costs at all but they are a central purpose for being in business in the first place (Parrish 2010).

Another important difference concerns those who can claim their rights to the firm’s financial results. Traditionally, the primary intended beneficiaries are those with the most power (typically the owners of scarce resources) and then come the others. Under these conditions those benefits that flow to low-priority beneficiaries, according to the logic of single-objective maximizing, are considered as costs of doing business and thus either minimized or sacrificed in trade-off decisions. As sustainability motives challenge such established legitimacy to benefits’ claims, they add another element of complexity which creates an “organizational tension” that has to be properly managed (Parrish 2010).

Although the economic relevance of sustainability-driven enterprises is debatable, as there exist other sorts of alternative organizations available to people who are strongly inspired by

social and ecological causes, Parrish (2010) made some interesting considerations about this intense approach to sustainability, which it is worth to mention. If decision making works differently when entrepreneurship is not moved by mere profits, thus some of the assumptions that are taken for granted by classical entrepreneurial research are inappropriate for sustainability-driven entrepreneur, to whom research's general results may not be extendable.

Concluding, with the exception of sustainability-driven firms which accept to embrace societal and environmental motives even at the expenses of profit maximization, it seems safe to assume that most firms will address sustainability issues as a response to market opportunities, regulation, stakeholder pressure, etc. This happens because, although companies may differ in terms of vision, mission and motives, they all are founded with the intent of making money. So, if we agree that sustainability is a source of major change and innovation and if we agree that sustainability is eventually going to occur, then the management of corporate sustainability is a practice which will find huge application in (near) future. 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. 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 a 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. 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.

[Insert Figure 2 about here]

2.1 The macro perspective and the old economics

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 quest for 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 the long term perspectives of sustainability. 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 when they started to be considered by governments and the general public, they brought limitations to business practices. By following the logic that by adding a constraint to a firm that is already maximizing profits these will decrease, such new limitations intuitively implied new costs. So, most firms started addressing societal matters only as a response to regulations and stakeholders' pressure: investing in CSR more than the minimum required was conceived as a waste of shareholders' money (Nidumolu, Prahalad and Rangaswami 2009; Porter and Kramer 2011).

As business practices were considered responsible for sustainability issues, it was also felt that it had to be their "responsibility" and duty to make it up for the crime of depleting natural and societal capitals. Often times moral and ethical arguments were leveraged with the intent of driving firms' activities towards more virtuous operations. However 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.

The problem of arguments highlighting the ethical responsibility of firms is that they hope to solve the problem of sustainability with the same tools and in the same ways which originated it in the first place, which is a clear logical paradox. It is a real-life example of those game-theoretical 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. Describing the “potential” power of some actors, however important it might be, is not a good enough reason to grant it becoming an “actuality”: in order to fill the gap between “potentiality” and “actuality” incentives capable of triggering the right dynamics are needed.

Although it is true that firms are moved by a complex set of goals (Stocchetti 2012) and not only by profits, it is equally true that they are companies’ main objective. Ethical concerns on the other hand 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 potential of social-environmental performance, as the business case for sustainability does. This 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 kind of performance and often led to mixed and confusing findings; it was then remarked that a bell-shaped kind of relations would better explain the empirical difficulty to identify a simple positive (or negative) association between financial

and social-environmental outcomes. Such a kind of linkage would also suggest the existence of an optimal level of commitment to sustainability (Salzman et al. 2005), which is a sound notion as it is unreasonable to think that profits will always be positively affected by indefinite increases of social-ecological performance. Following a similar logic, in an environmental “contingency theory” Schaltegger and Synnestvedt (2002) suggested that empirical studies needed to pay attention to the initial level of a firm’s environmental performance because, depending on that, further increases (or decreases) may have both positive and negative financial effects: when the relation is bell-shaped, if the initial level is higher than the optimum, a further increase will reduce profitability whilst a decrease in environmental performance will increase the profitability; the opposite would happen in case the initial level is lower than the optimum. Additionally, they remark that each level of environmental performance can have several levels of economic performance and vice versa. It can be argued that this can be the consequence of the ability of a firm’s business model to capture the economic potential of societal and environmental values.

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).

2.2 The micro perspective and the new economics

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 (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.

[Insert Figure 3 about here]

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 and 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 basic limitations of these cases were the low economic relevance which implied a general difficulty at extending the presented solutions outside those niches.

These early studies, however, had in common the identification of firms which 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 we might call "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 getting mature, so is that of sustainability's profitability.

[Insert Figure 4 about here]

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). Such consideration however is subject to the same limitations affecting ethical arguments advocating for responsible business practices: describing a potential, utopic scenario is not a good enough incentive.

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.

[Insert Figure 5 about here]

Describing the process that resulted in the emergence of social-environmental needs for customers, everything started when governments and interest groups acknowledged the existence of a “sustainability problem”. For the reasons previously described, as it was believed that companies were the reason of the problem, institutions had to be the solution. So, governments and super-national entities started to issue regulations and policies in order to constrain business practices. Programs and initiatives to educate the general public were also launched, although they could not prevent a high level of misinformation and misconceptions among people (Lemonick 2009) and companies (Bonn and Fisher 2008). As the buzz about the existence of social and environmental situations was spreading, so did their awareness among customers, who then started to place positive and growing value on sustainable products, technologies and practices. Such trends, not only created new market spaces around sustainability-related needs and boosted even further the issuing of related regulations, but also affected business to business kind of relations: as customers were becoming more eco- and social- sensitive, firms have started

asking their suppliers to adopt product and process certifications. Finally, customer awareness, regulations and demand for market standards have resulted in a pressure that is forcing to act in a less unsustainable way also firms not willing to pursue sustainability-driven market opportunities.

Aside such dynamics of value migration, the increased awareness, together with important mutations of the economic context, affected firms' established cost structures as well and, with them, the convenience to adopt certain practices and to think according to certain logics. 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 and addressing these issues (e.g. wellness programs, company kinder-gardens, etc.) cannot be considered as just a cost anymore.

Traditional costs structures are also affected by factors which once had a low impact on a firm's income statement but 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 the current value chain structures, making them less “global” and more “local”.

As these forces intertwine in a way that results in a framework which creates a mass big enough to trigger self-fulfilling and self-sustaining mechanisms pushing towards sustainable practices, many scholars supporting the business case for sustainability agree that there are and there will be more and more environmentally- and socially-induced economic opportunities for companies, although they are not static and it will be challenging to identify the factors affecting the link between social-environmental and economic performance.

3. New economics, attitudes and strategy

Depending on how much firms embrace the triple-bottom-line paradigm, it is possible to find in the marketplace different degrees of commitment to sustainability:

1. Avoidance. Social and environmental concerns are perceived as mere costs of doing business, which should thus be minimized. Firms move operations in countries where regulations are less strict or where their enforcement is milder.
2. Compliance to legislation and market requirements. Regulations, policies and stakeholders’ pressure push firms towards sustainable practices and the adoption of product and process certifications (e.g. ISO 14001, EMAS, GRI, etc). So, even when adopting CSR, environmental and societal matters are peripheral and instrumental: addressing them is a response to regulations and to stakeholders’ pressure; investing in CSR more than the required minimum is conceived as a waste of shareholders’ money

3. Market- driven commitment to sustainability. As consumers are always more eco-friendly (Nidumolu, Prahalad and Rangaswami 2009), changes in their priorities create new market spaces which can be filled up by firms that aim at capturing the economic potential of new social and environmental values. Such goal implies going beyond the adoption of process certifications and a simple re-thinking of the value proposition: it is about building competencies and creating, delivering and capturing value in new ways and jointly with other firms.

4. Sustainability-driven vision. It is reasonable to expect higher levels of commitment towards sustainability (i.e. levels of social and environmental performance coming at the expenses of economic performance) only from firms that decide to pursue social and environmental objectives per se (as long as economic and financial equilibria are assured).

[Insert Figure 6 about here]

As the economics of sustainability are shifting from a lower to a higher level of profitability, so is the convenience to assume one or the other kind of attitude; this is the result of the strategic implications moving with the broader social and economic context. As a general bottom-line, the more social and environmental concerns represent a burden for companies, the more a strategy aiming at avoiding restrictions to business practices pays-off; similarly, the more customers value sustainability-related needs and the more it is worth to build business models around them.

Since there is no alternative to sustainable development (Nidumolu, Prahalad and Rangaswami 2009), its paradigm will eventually permeate business logics as much as the principles of efficiency and effectiveness do. If we assume that to be true, on the basis of the evidence coming from other big infrastructural changes studied in the past, it is also reasonable to

assume that tomorrow's leaders will be those firms that, rather than fighting the change, will proactively embrace it and ride the related waves of innovations by questioning the assumptions underlying current practices (Nidumolu, Prahalad and Rangaswami 2009).

According to this view, investing in the development of sustainability management competencies fastly will give firms first-mover advantages (more time to experiment with materials, technologies and processes) and more favorable attitudes by governments and finally it will allow companies to spot market opportunities earlier. Such considerations can change the calculus of regulation's compliance. In an economic system where social and environmental concerns represent just a cost for firms, it may be tempting either to establish operations in countries with milder regulations and enforcement or to comply only with the minimum level of requirements. However under the current trajectory, it is wiser to comply with the strictest rules and standards, even before they are enforced, in order to build the above-mentioned competencies; similarly, putting efforts in the investigation of value migration's dynamics will allow firms to identify emerging and still non-satisfied customers' needs and to avoid the value denials that the paradigm of sustainability is going to introduce, such as the declined profitability of resource-intensive industries (Nidumolu, Prahalad and Rangaswami 2009).

4. Conclusions

Sustainability is a force of major change. It is unclear neither which will be its ultimate promoting actor (firms, governments, authorities, consumers) nor whether it will be enforced by regulation or imposed by market forces. But there is no doubt that our development will eventually become sustainable, as choices not consistent with a finite world cannot last forever. However, although sustainability demands tremendous change to the economy and society, it is

not to consider as a revolution: revolutions indeed are different from normal paradigms as they shatter tradition instead of preserving it (Kuhn 1969).

The concept of sustainability is not that revolutionary after all as it is very close to that of responsibility, the same kind of responsibility which we learnt has to come with freedom. Humankind never thought about the consequences of growth: we took the liberty of growing indiscriminately because it is in our nature to do so and because we believe it is our natural right to pursue our development.

If we agree that our rights have to end in front of those of others, then sustainability just means that we understand that our actions can affect the freedom of other people in ways that once were not conceivable. But now we have better knowledge of the connections amongst subsystems, of natural resources' limitations, of the impact of current human activities on future generations.

So the quest for sustainability means reducing our freedom and our rights, as it implies the acknowledgement of a quantity of interconnections and interdependencies, not only across space (i.e. across populations) but also across time (i.e. across generations). It is also to remark that acting responsibly towards foreign population is much easier than doing it towards future generations because the latter have no defense.

Achieving sustainability seems costly and tough because it implies change, which is both costly and tough. It is however not that revolutionary because it is just an extension of the concept of responsibility: we cannot do whatever we want disregarding the consequences coming at the expenses of someone else. Social stability is built on the concepts of equity and justice and societies use the law to protect the weakest from the strongest, who would otherwise exploit them: future generations are the weakest of all because they cannot defend themselves yet.

As these kinds of reasoning are spreading broadly and fastly among people all over the world, the economics of sustainability are changing and so is the role of firms in the implementation of sustainable development.

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Figures

Figure 1: elements of corporate sustainability management

Figure 2: dynamics of increased profitability

Figure 3: the migration of the trade-off

Figure 4: the new economics of sustainability

Figure 5: changing cost structures