Technological Forecasting & Social Change 116 (2017) 340–346

Contents lists available at ScienceDirect

Technological Forecasting & Social Change

From my perspective

Achieving environmental sustainability: The case for multi-layered collaboration across disciplines and players

Paul Shrivastava[a,b,*], Nuno Guimarães-Costa[b]

[a] John Molson School of Business, Concordia University and ICN Business School, 1455 De Maisonneuve Blvd West, Montreal, Canada
[b] ICN Business School, CEREFIGE, 13 rue Michel Ney, 54000 Nancy, France

ARTICLE INFO

Article history:
Received 10 September 2015
Received in revised form 22 November 2016
Accepted 22 November 2016
Available online 30 November 2016

ABSTRACT

The sustainable development (SD) paradigm challenges global production and consumption, and the legitimacy of corporations. In this paper we examine corporate responses to legitimacy challenges posed by SD. Corporations initially responded to SD with "eco-efficiency" and corporate social responsibility. More recently, we observe a process of multi-layered collaboration that we here call "hybridization". In this approach corporations meld their interests with those of key stakeholders – government, political actors, public, consumers, and non-governmental organizations – in the process of achieving environmental sustainability. This exploratory study describes several examples of the hybridization strategy. We explore how corporations are being transformed by hybridization and also transforming the capitalist system in the process.

1. Introduction

Over the past quarter century, scientific evidence has multiplied suggesting that much of the deterioration in our earth systems is caused by patterns of human activities (Rockström et al., 2009; Thomas et al., 2004). It is expected that by 2042 the world population will grow to 9 billion and the global economy will likely triple in size, along with a doubling of pollution and waste. Carbon concentration in earth's atmosphere is already over 390 ppm and increasing, which is considered risky by scientists. Unless these numbers are reduced dramatically they will cause catastrophic global warming (Busch and Shrivastava, 2011).

Despite the variety of responses from government, corporate, and civil society sectors, there is mounting evidence that future generations will continue to face important challenges in achieving environmental sustainability (ES). Large amounts of nitrogen are active in the environment causing substantial harm to aquatic and terrestrial ecosystems productivity. Large-scale contamination of rivers and other water bodies and the massive water demand is resulting in water scarcity. 2.5 billion people are without access to hygienic sanitation due to lack of solid waste disposal and recycling systems. Every year, 50 million barrels of oil are transformed into 500 billion plastic bags, millions of which wash up on beaches and coastlines. Annual generation of construction and demolition waste is enormous. World energy consumption remains 85% dependent on nonrenewable fossil fuels, and their combustion emits billions of tons of carbon in the atmosphere every year (Xu et al., 2010; Rockström et al., 2009).

A significant organizational literature has emerged to address these challenges of environmental sustainability (e.g., Hoffman and Bansal, 2012; Jermier, 2013; Korhonen and Seager, 2008; Welford, 1995). However, this literature has been characterized by a normative, instrumental, compliance-driven, and profit seeking approach (Rodrigez-Melo and Mansouri, 2011). Generally analyzed in the larger context of the triple bottom line performance goals of large public companies (Savitz and Weber, 2006; Schneider and Meins, 2011; Tang et al., 2012), research on management of ES focuses more on what organizations *ought to do* as opposed to what *actually happens* at the corporate, governmental and institutional levels.

This article addresses the latter situation. We highlight the new tendency that is emerging in the type of response given by corporations to environmental sustainability demands: a new form of organizing we call hybridization. In biology and in chemistry, hybridization concerns the mixing of elements. In our case, hybridization refers to economic, social, and institutional melding of corporate and stakeholder interests, resulting in new organizations and organizational forms. By doing so, we are participating on the on-going debate between the short-term need to maintain the strategic position of particular players – individuals, countries, or companies – and the long-term requirement for a comprehensive response that addresses humankind's economic necessities and environmental sustainability.

We start by describing the main ES demands on corporations and the corresponding pressures of legitimacy exerted on corporations, non-governmental organizations (NGOs), and governments. This is

* Corresponding author.
E-mail addresses: pshrivas@jmsb.concordia.ca (P. Shrivastava), nuno.guimaraes-dacosta@icn-groupe.fr (N. Guimarães-Costa).

http://dx.doi.org/10.1016/j.techfore.2016.11.019
0040-1625/

followed by the introduction of hybridization as a recent response to legitimacy pressures. We then detail two main hybridization forms: organizational metamorphosis and organizational cocooning. We conclude by discussing the implications for corporations and its stakeholders.

2. Environmental sustainability demands and legitimacy pressures

The discourses of environmental sustainability touch corporations, NGOs, and governments in many ways. Corporations are the key vehicles of wealth creation, employment, and source of products for consumers. Governments are involved in ES because they set the rules of economic and political engagement over ecological and social issues. They provide infrastructure and governance services for production - raw material, emissions and waste, consumer safety, and international coordination. Non-governmental organizations (NGOs) have arisen, especially in developing countries, to become a third sector that adds capacity for delivering social and ecological programs to wider audiences than can be reached by government and corporate sectors.

Environmental sustainability implies an understanding that the economic needs of a given group or society cannot lead to the unlimited depletion of natural resources necessary to attain those same needs for all. That is why ES imposes strict demands on economic activities.

2.1. Environmental sustainability requires control of carbon

There is emerging scientific consensus that sustainability will require reducing carbon accumulations to avoid global warming. Corporations are the main vehicle for material conversion and source of carbon. ES requires reform of corporate production and consumption practices to reduce their carbon footprint and emissions (Pachauri, 2008). NGOs in the environmental and consumer education sectors impact carbon footprints by supporting carbon efficient products and technologies, educating consumers, and addressing social barriers to carbon-intensive practices. Governments impact carbon footprint by regulating extraction and use of raw materials including fuels, subsidizing low carbon technologies while taxing carbon intensive ones, and also by allowing strategic carbon-intensive industries to maintain their business models in order to keep jobs and revenues in the short-term and by ignoring calls for the urgent curb on carbon emissions.

2.2. Environmental sustainability involves maintaining "stocks" of natural resources

Extracting resources from natural systems must be limited within the carrying capacity of ecosystems, in order to avoid their collapse. There are natural limits to extraction and growth. Corporations need to find business models that are not premised on unrestricted and eternal growth (Daly and Farley, 2010; Daly, 2007; Pachauri, 2008). NGOs typically operate closer to on-the-ground realities of development issues than the government. Their presence among the people who are recipients of development services implicates them in natural resource issues in very personal and physically proximate ways. They play a central role as protectors or monitors of environmental resources. Government agencies directly control natural resource exploitation through laws and regulations pertaining to mining and extractive industries, agriculture and animal husbandry practices, and harvesting of forest and marine ecosystems. They are responsible to keep the balance between exploitation of natural resources and protection of jobs and investments.

2.3. Environmental sustainability requires transitioning to renewable energy sources

In this transition both the producer companies (generation and transmission) and consumers (large corporations) can play important roles. Renewable energy production using solar and wind technologies can occur economically at smaller scale. So bigger corporations who are large consumers of energy can now begin to produce energy for their own needs. Some companies such as Google, BMW, and Apple have started transitioning to renewable energy for their own operations (Smith and Sweet, 2013). NGOs can play a vital role in the transition to renewable energy through education and micro financing renewable energy projects, and by pressuring heavy-consumers to find alternative energy paths. The government's main role in transitioning to renewable energy is removing subsidies in non-renewable energy sources and supporting renewable energy production while allowing for economic development in the short-term.

2.4. Environmental sustainability requires responsible consumption

Environmental sustainability requires responsible consumption, especially in the highly developed economies of the West, which are rife with over consumption and waste. Corporations have built their business models on assumptions of continued perennial growth in material consumption. They spent more than US$518 billion in 2013 in advertising to promote further consumption (Barnard, 2012). They are now being challenged to find ways of remaining financially viable while not fuelling material consumption. NGOs are well positioned to educate consumers on the harms of overconsumption and offer alternative approaches that limit material consumption while improving health and well-being. Governments can create educational programs to promote responsible consumption as well as use fiscal tools to redirect consumer behavior and patterns.

3. Legitimacy pressures exerted on corporations, NGOs, and governments

Legitimacy in the field of organization studies has been conceptualized in relation with cultural, general public, and organizational acceptance or support for another organization, given its compliance with generally accepted norms, values, and beliefs (Dowling and Pfeffer, 1975; Habermas, 1975; Meyer and Rowan, 1977; Singh et al., 1986; Suchman, 1995). Different stakeholders can ascribe different legitimacy levels to different organizations and can also vary the degree of legitimacy they confer to the same organization over time (Monin and Croidieu, 2012).

As the sense of ecological crisis is increasing, different stakeholders are seriously questioning the legitimacy of many of the current economic concepts and systems. With it, the purpose of the organizations that result from those concepts and systems – such as corporations, NGOs, and governments – is at stake. At the macro level both capitalist and statist (communist) economic systems are challenged by their increasingly untenable growth assumptions. At the *meso* level, corporate business models premised on neo-classical economic assumptions have become indefensible (Krugman, 2009). New discursive formations are emerging to explain change processes in transition to sustainability (Pesch, 2015).

3.1. Corporations

The corporation's purpose is being discussed by their different stakeholders. Shifts in hitherto mostly unchallenged social understandings of norms, values, and beliefs have often led to corporations finding themselves between different conceptions of their role in society; all demanding them to demonstrate they are legitimate and that they deserve the confidence of all stakeholders as well as the right to exist.

Stakeholders, such as customers, NGOs, and society at large, are mostly concerned about the social purpose of corporations, and are thus the first source of corporate legitimacy. They demand socially responsible behaviors, including eco-efficient products, environmental respect, and ethical conduct. To become legitimate in the eyes of these stakeholders, corporations have to respond to these concerns.