Sustainable Development: Social Innovation at the Interface of Business, Society and Ecology

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1 Introduction

Social innovation has attracted much recent attention from academics, policy makers and practitioners during the past 10 years, although examples of social innovation can be traced far back to the early nineteenth century, see for example the pioneering reformer Robert Owen at the New Lanark Woolen Mill (Owen 2012). The main argument about social innovation is that it has the potential to effect change in conventional sectors of the economy and society. These sectors include government and the public sector, non-profits, as well as the for-profit sector. Social innovation can also include more loosely organized actors within a community or engaged in a community venture. By its very nature, social innovation does not conform to the neat boxes of sectors instead it often intersects and overlaps sectors.

This chapter focuses on the link between sustainable development and social innovation in relation to business. It takes the position that the call for sustainable development is the greatest challenge to humanity of our time. Sustainable development represents a new and overarching paradigm for development – it stands as a new way of understanding and promoting human activities that contribute to economic and social development within the environmental limits of our natural resources and processes. Sustainable development raises key questions about how our behavior contributes to the continuation of human life at current or better levels of development given population growth. By definition sustainable development as a new paradigm represents a form of social innovation that has the potential to influence almost every aspect of human existence and cut across all sectors of our societies.

Traditionally, business has been regarded as an engine of innovation, and through that a driver of industrial and economic growth, which is commonly linked to social as well as economic development. Because of its role in development, business will have to be a full-player in the creation of the new patterns of production and consumption necessary to achieve sustainable development.

Therefore, we need to understand better what sustainable development as a form of social innovation will mean for the more traditional routes to innovation in business. To that end the chapter is divided into three sections. The first section provides some introductory remarks about the nature of social innovation. This is followed by a section that addresses the core concepts of sustainable development and links those concepts to social innovation. This leads to some conclusions on what sustainable development as social innovation means for the way business managers and leaders participate in the advance toward sustainable development.

2   Background

Innovation means developing new ideas and having them adopted in practice. Those ideas can be expressed in a range of forms – technologies, physical artifacts, ways of thinking and working, organizational and institutions systems and structures. The label "social" in social innovation signifies that the innovation process involves actors who are not necessarily professional inventors and innovators. It is located in a more social context involving a range of actors. "Social" also says something about the intent of innovation – for example advancing a "social" purpose. In this respect it is important to be clear that no social purpose can be treated in isolation from the rest of society. Innovation implies change and change invariably brings with it unintended as well as intended outcomes and impacts. Moreover, outcomes are rarely perceived by all audiences or actors in the same way: Some will see an outcome as desirable, others as undesirable. Some actors might gain others might lose. This means that social innovation is not inherently any better than any other form of innovation. The process through which ideas become adopted therefore requires the same careful consideration and screening as all innovations.

Interest in social innovation has accompanied growing awareness of the gaps in services provided by states or by traditional business. Markets and public services do not always meet societal needs. Even where public policies and services are well developed the traditional pillared or hierarchic modes of policy-delivery, which can be successful in times of stability, are less flexible and responsive in times of change. These structures are not always as responsive as they need to be in meeting joined-up problems.

The professionalization of roles in providing services can mean that, over time, constructions of policy problems come to reflect how professionals see those problems rather than reflecting the needs and experiences of clients. Professionals often develop models of problems that are abstractions of reality – these models are only as good as the limits of what they explain and, when reality changes rapidly, the models often explain less than they did before.

Professional groups are defined by their professional language as well as the models they use to make sense of the world or system of which they are part. Professional language and models provide the basis for a professional practice but

also serve to separate different professionals into cadres, while separating the providers of services from those they serve.

This means that conventional ways to respond to social needs or problems can encounter "lock-ins" – barriers to change that arise from bureaucracies, professional boundaries, as well as the limits of professional knowledge and the models used to understand the world. These factors contribute to lags in response to changing circumstances and serve to limit the effectiveness and relevance of the responses on offer.

The rigidities of many professionalized systems were recognized over 40 years ago. For example pioneering and innovative ideas about community-based approaches to planning were set out in the Skeffington Report in the UK of 1969. This was before other voices advocated that meeting social needs was best done by moving towards markets and following market signals.

Let us be clear about the historical context of these ideas. This was before globalization of our economies provoked tensions in our system that gave rise to the search for novel social processes and solutions. Well before arguments were put forward that we needed to pursue more sustainable forms of development. And well before globalization and sustainable development collided. Although the environmental and social challenges of sustainability would provoke wider questions about whether public structures were fit for purpose and whether conventional business thinking and practice was able to contribute in any meaningful way to the achievement of a more sustainable future (Roome 2011).

Since 1969 many trends have combined to lead us to revise how we think and act and how we work with others – laying the ground for the social innovation movement of today. Factors include the speed of change; the intersection of economic and social issues – (as exampled by the environmental catastrophes of the Exxon-Valdez or Bhopal or the problems of child labor encountered by Nike); the challenge to long-held images of what organizations are, as boundaries between businesses, government, and NGOs breakdown; and as we struggle with whether organizations are real or virtual, hierarchical or networked.

The last 40 years have brought forward challenges arising from the complexity we have created for ourselves through our own actions. For example we have moved from a world shaped by the interaction between natural and human systems, to a world where natural systems are dominated by human activities. A phenomenon that has been called the 'anthropocene'; an era of global history in which humans and their activities dominate the character of the planet (Crutzen and Stoermer 2000). That move was anticipated by those who crafted the agenda for sustainable development and caused them to propose an approach to development that would enable humans to satisfy needs in ways that would not jeopardize the future and the opportunities it would need to provide.

While more and more attention has been placed on the need to address a wide range of social and environmental issues and to meet human needs through approaches that sit outside the normal structures and institutions of our economy and society, we might look back to some of the thinking that inspired the call for sustainable development rather than re-inventing this particular wheel yet again.

3 Sustainable Development and Its Relationship to Social Innovation

This section sets out to examine more deeply the concept of sustainable development. Its concern is to examine the ideas that underpinned the work that led up to the definition of sustainable development rather than with the arguments about the environmental changes that created the need for sustainable development or the agenda for action that followed. It then identifies what this implies about sustainable development as social innovation.

The imperative to move toward more sustainable forms of development was set out in the seminal report of the United Nations Commission on Environment and Development (Brundtland 1987). It was shaped into an agenda for action at the Earth Summit in Rio de Janeiro in 1992 (United Nations 1992). Despite a seemingly endless discussion of the meaning of sustainable development, the principles behind sustainable development are clear. Human-beings engage in activities that shape economic and social development. These activities require inputs from natural environmental resources, processes and systems and those same human activities can have a positive or negative impact on environmental resources and systems. Looking forward it was anticipated that the environmental demands and impacts of developed economies, the growing demands of developing economies, coupled with the anticipated growth of population and its technological advance could not be supported indefinitely by natural systems, processes and resources. This gave rise to the need to consider how to better integrate environmental considerations into the development process of both developed and developing economies so as to ensure that development could be sustained in the long term. This approach to development was termed sustainable development.

Two critical points emerge from this description of sustainable development. First, at the time of the Brundtland report contemporary approaches to economic and social development in developed and developing economies were not seen as sustainable. Second, this implied that any move toward sustainable development would require changes in the way actors in all sectors of society including business understand and act out their contribution to the development process. This means that sustainable development is best understood as a new paradigm for development. A paradigm represents an intellectual perception or view that is held by a group of actors or a society providing a clear example, or model, of how things work in the world (Kuhn 1970). Sustainable development was advanced to replace traditional models of development that were not regarded as sustainable. By definition the development of a new paradigm involves innovation and change, requiring the inclusion of a wider range of human considerations and environmental limits in the frame of the many choices that contribute to economic and social development – in other words sustainable development constitutes a 'grand social innovation project'.

Insight into the nature of sustainable development as a form of social innovation is gained by looking more deeply into the core ideas that fed into the Brundtland

report and Agenda 21 that defined the need and the approach to sustainable development.

Three lines of thinking can be detected: Ideas from systems science and cybernetics, approaches that deal with social complexity, and, the functional interaction of people in teams and organizations in ecologies.

3.1 Systems Science and General Systems Theory

In the lead up to the Brundtland report there were a series of influential reports and meetings addressing environmental concerns provoked by human activity. Notably these included the work of the Club of Rome (Meadows et al. 1972), the Stockholm Environment Conference (United Nations 1972) and the World Conservation Strategy (IUCN 1981). The thrust of this work was to draw attention to the increasingly precarious state of the planet in terms of natural processes, the use of resources, the reduction of key habitats and ecosystems and the limits on pollution sinks and the effects of human activity. It drew attention to the need for new public policies and institutions that would attach greater account to environmental issues that had until then been the province of specialized ministries at the periphery of government. The focus was on public policy but the concern was with the continued lack of attention in social choices to environmental limits and concerns.

The analysis of problems and the suggestions for institutional change were informed by the work of authors such as Ashby (1962), Beer (1972, 1984), Boulding (1966), and von Bertalanffy (1968). While these authors came from a variety of backgrounds each explored ideas that linked biological systems, organizational systems, physical systems and social and economic systems. They suggested that there were fundamental system archetypes and that these would offer insights into how to function at the interface between natural and social and organizational systems. Their work had significant impact on the search for solutions to environmental degradation and change. At the core of this body of work is systems thinking which stands in stark contrast to 'classical' models of human and natural behavior and 'classical' views of knowledge that are found in the discipline-based approaches to knowledge and the functional divisions in practice that have characterized development since the enlightenment. In contrast, systems thinking seeks to develop a more holistic view of relationships within and between systems and to strive to link knowledge and theory more closely with the realities of everyday life.

Systems thinking and the systems theories that derive from it represent an innovation in how we develop knowledge, how we think about problems and how we model the World. In practical terms the new paradigm of sustainable development was based on models themselves based on systems thinking, whereas conventional development had been associated with the reduction of knowledge and the division of knowledge and practice. Of course since the concept of sustainable development was presented to a wider public the tendency has been for academics

and practitioners to interpret sustainable development through the lenses of reductionist science and knowledge. Trying to understand a new paradigm through the lens of the old paradigm and its theories is somewhat paradoxical.

3.2 Social Complexity

Insights into organizational responses to complex social problems also contributed to the development of the sustainable development paradigm. Since the 1960s a class of social problems had been identified that were variously called meta-problems (Chevalier and Cartwright 1966), wicked problems (Rittel & Weber 1973) or messes (Ackoff 1974). The characteristics of this class of problems is that they are problem sets that are made up of interconnected problems. These individual problems and their solutions are ambiguous and contestable. Moreover, the interactions between problems in the problem-set mean that when an organization goes about responding to the problems of concern to it, its policies and actions have the potential to impact other problems in the set and through that the interests of other organizations. Individual un-coordinated actions undermine the ability of other organizations to meet their mission and obligations.

Normally no organization has an overview of the problem-set as a whole. It is more common for organizations to have distinct responsibilities and interests and to take into account only their view of the problems they are addressing. Summing these different perspectives does not constitute a picture of the system as a whole. When Chevalier and Cartwright first discussed meta-problems they centered on public sector organizations and their interests in relation to problems such as poverty, pollution and health. Yet the same principles of their analysis apply to other types of organizations.

The solution they advanced to the problems created by meta-problems required some coordination of policies and actions. As different organizations see the meta-problem through different lenses they all have a contribution to make in constructing a picture of the problem-set as a whole. The search for policy options and actions that would address problems; the assessment of the possible outcomes arising from those options; their implications for other problems and interests in the set; and the selection of which options are pursued, are regarded as necessary pre-conditions for the development of actions to improve conditions in the problem-set as a whole.

The fashioning of coordinated and integrated actions in response to problems of this kind requires organizations simultaneously to hold a focus on their area of policy and interest while also developing a shared perspective on the problem-set as a whole. That process requires a forum or platform through which actors can contribute to a strategy for the problem set as a whole that also determines the freedom of manoeuver for the strategy, policies and actions of individual organizations.

This account suggests the need for innovative organizational structures to address meta-problems such as pollution, poverty and health. Of course those approaches are also appropriate in tackling sustainable development, which constitutes a meta-

problem of even greater proportion than the problem-sets' identified in the 1960s – pollution, health and poverty. Add to this the complexity of sustainability development that comes from the multiple overlapping levels of organization and scale it has to consider – local, regional or bioregional and global – and it is evident that sustainable development demands innovation in the way organizations work together. It also requires organizations and their managers to work together to build a collective or holistic view of the problem set.

3.3 People, Teams, Organizations and Ecologies

Other authors built on these ideas, notable Fred Emery and Eric Trist. Their work began by looking at participative work designs and how team members work together, then at how the parts of organizations interact with one another and then at how organizations work in the context of social ecologies (Emery and Trist 1973). This echoes the idea gained from general systems theory that systems conform to common properties, irrespective of scale. That is they have recursive properties.

Trist also developed ideas about how actors respond when faced by turbulent fields that link with the ideas of Ackoff, and Chevalier and Cartwright, about meta-problems. Trist (1983) argued that turbulent fields arise when the actions of one actor interact with the field and with the actions of other actors. These interactions can become very complex and under these circumstances the pursuit of organizational self-interest can create chains of interaction that potentially contribute to systems collapse. Faced with this possibility actors in the field have to join together and agree 'new rules for the game' that seek to eliminate the cause of the turbulent interactions so that the actors can then continue to compete but in a stable field (Trist 1983). This approach implies the ability of actors to be able to discriminate between when and how to co-operate and when and how to compete.

Emery and Trist's contribution to the paradigm of sustainable development is also found in the process used at the Earth Summit at Rio de Janeiro in 1992. This was organized along the lines of a 'search conference' following the model they first developed in 1958 (see for example: Emery and Purser 1996). Search conferences are platforms where individuals (managers, citizens, politicians, policy-makers) become a 'planning or design community', learning together. In these settings participants do not represent others – they are not then stakeholders representing an interest rather they are co-actors that come together to develop a plan or design for the future, that supports their shared human aspirations and ideals. The process leading to the plan involves establishing those shared values, appreciating the nature of the changing context, knowing where the 'system' they are dealing with comes from and assessing and agreeing where it is going. The plan involves creating a practical vision of the future, establishing some appreciation for current reality and identifying the steps to move from today toward that future. The plan is put into action by the participants. This process offers a practical response to

any socially and institutionally complex system confronted by turbulence and uncertainty. Despite being established in the late 1950s the approach of the search conference is an innovation in planning and action even when it involves collaboration. Its adoption is hampered by many things – not least the very simple but unhelpful notion that there are stakeholders that represent interest claims rather than actors who are committed to innovation and change.

3.4   Relationships to Social Innovation

The description above presents in brief the major strands of thinking that contributed to the generation of the new paradigm of sustainable development as well as the thinking that underpinned the design of the process of the Earth Summit that led to Agenda 21 (United Nations 1992). It shows something of the qualities of the process as a way of thinking, a way of planning and a way of acting. The basic perspective derives from the notion of building a holistic view through a collaborative systems perspective. It brings together natural processes and systems on the one side and human and organizational systems on the other. The approach recognizes that no one actor, individual or organization, possesses adequate knowledge of the system or has the capacity to construct a vision and design of a more desirable future or take meaningful action on their own. The search conference provides one means to facilitate a collective, participative process that draws on the knowledge and perspectives of participants as well as building the commitment of many people to change. Practicing this approach more widely would constitute a social innovation with major impacts for how we think and learn and act when confronted by social and environmental problems and needs – as well as for how we define knowledge and measure progress. Sustainable development then has to be regarded as a new paradigm precisely for these reasons and, as with all paradigm shifts, its adoption would make many aspects of our past understanding of the World obsolete.

4   Sustainable Development, Social Innovation and Business

This chapter argues that sustainable development is a new paradigm that will involve all actors in society that participate in economic and social development and to envision their role in the processes of development in practical terms that has consequences for all organizations including business. If business is to contribute to sustainable development in an effective way it will have to participate in the types of processes described above. This will mean business and its managers participating in a grand form of social innovation.

It will require a capacity for managers to engage in platforms that bring actors together in a planning or design process that builds through steps from the development of shared values, constructing a practical vision of the future, establishing

the character of current reality, identifying and assessing the options to move toward that future and agreeing among the partners which pathway to take.

This will require new skills to communicate and collaborate across old divisions created by disciplines, functions and sectors – it goes beyond professionalism as specialization promoting instead professionalism as the capacity to engage with diverse communities of actors to facilitate learning, innovation and change. It goes beyond competition as the driver of change to a more complex blend of co-operation coupled with competition. Co-operation that helps to define where it is we want to go and where we are now, and competition in terms of how to get there and where opportunities and performance are measured in terms of economic, environmental and social impacts rather than returns.

It will mean trying to develop an agreed view on the key systems on which the quality of human existence depends. These include: nutrition; energy; water and the hydrological cycle; household services; transport & communication; health; entertainment; finance and insurance; the carbon-cycle and weather system and our ecology.

It will involve far greater attention to environmental limits and impacts than has been the case to date as well as attention to the demands of those confronted by poverty and lack of opportunity. This is a completely different orientation to innovation than is normal for business. It is a process that turns every actor into a potential agent of change.

It will turn much of our current understanding of management education and leadership on its head.

This is a radical vision of business and management. To be realistic it seems unlikely that companies and managers who have only recently begun to emerge from a period of hyper-competition and a belief in the supremacy of market signals will yet accept the need to address more fundamental questions about the role of business and its guiding purpose. Sustainable development and the principles outlined above, on which it is founded, seem to run counter to the thinking dominant in most business education programs and to the practices found in many companies. But this is precisely why what is discussed above represents a social innovation – innovation without which sustainable development will simply to be a grand illusion rather than a paradigm in practice.

References

Ackoff R (1974) Re-defining the future. Wiley, London

Ashby WR (1962) Principles of the self-organizing system. In: Von Foerster H, Zopf GW Jr (eds) Principles of self-organization: transactions of the University of Illinois symposium. Pergamon Press, London, pp 255–278

Beer LS (1972) Brain of the firm. Allen Lane/The Penguin Press, London

Beer LS (1984) The viable system model: its provenance, development, methodology and pathology. J Oper Res Soc 35(1):7–25

Boulding K (1966) The economics of the coming spaceship earth. In: Jarrett H (ed) Environmental quality in a growing economy. Resources for the Future/Johns Hopkins University Press, Baltimore, pp 3–14

Brundtland G-H (1987) Our common future, report of the United Nations commission on environment and development. Oxford University Press, Oxford

Chevalier M, Cartwright T (1966) Towards an action framework for the control of pollution. In: National conference on pollution and our environment. Canadian Council of Resource Ministers, Ottawa, paper D 30–1.Meta-problems

Crutzen PJ, Stoermer EF (2000) The anthropocene. Glob Change Newsl 41:17–18

Emery M, Purser RE (1996) The search conference: a powerful method for planning organizational change and community action. Jossey-Bass Public Administration, San Francisco

Emery F, Trist E (1973) Towards a social ecology: contextual appreciation of the future in the present. Plenum Press, New York

IUCN (1981) World conservation strategy. IUCN, Gland

Kuhn T (1970) The structure of scientific revolutions. Chicago University Press, London

Meadows D, Meadows D, Randers J, Behrens W (1972) Limits to growth. Universe Books, New York

Owen R (2012) http://www.robert-owen.com/. Accessed 10 October 2012

Rittel H, Webber M (1973) Dilemmas in a general theory of planning. Policy Sci 4:155–169

Roome N (2011) A retrospective on globalization and sustainable development: the business challenge of systems organization and systems integration. J Bus Prof Ethics 30(3&4):193–228

Skeffington (1969) Report on people and planning. HMSO, London

Trist E (1983) Referent organizations and the development of inter-organizational domains. Hum Relat 36(3):269–284

United Nations (1972) Report of the United Nations conference on human development. http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=97, 10 October 2012

United Nations (1992) Earth summit – Agenda 21, the United Nations programme of action from Rio. United Nations, New York

von Bertalanffy L (1968) General system theory: foundations, development, applications. George Braziller, New York