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THE Oxford Handbook *of*
BUSINESS AND
THE NATURAL
ENVIRONMENT

THE OXFORD HANDBOOK OF

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THE NATURAL
ENVIRONMENT**

Edited by

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and

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PART I

INTRODUCTION

CHAPTER 1

RETROSPECTIVE, PERSPECTIVE, AND PROSPECTIVE: INTRODUCTION TO THE OXFORD HANDBOOK ON BUSINESS AND THE NATURAL ENVIRONMENT

ANDREW J. HOFFMAN
AND PRATIMA BANSAL

THE twentieth century witnessed unprecedented economic growth and human prosperity. World population increased by a factor of four, the world economy increased by a factor of fourteen (Thomas 2002), and average life expectancy increased by almost two-thirds (World Resources Institute 1994). In the US alone, life expectancy rose from 47.3 to 77.3 between the years 1900 and 2002 (National Center For Health Statistics 2004). But, this progress has been accompanied by unintended and, at times, extreme damage to the natural environment on which it was based.

By 2005, the Millennium Ecosystem Assessment, a study commissioned by the United Nations and involving more than 1,360 experts worldwide, concluded that humans have changed the Earth's ecosystems in the second half of the twentieth century "more rapidly and extensively than in any comparable period of time in human history" (2005: 1). Of the twenty-four global ecosystem services that were analyzed, 60 percent were found to be degraded or used unsustainably. Since the 1960s, the "modern environmental movement" had been calling attention to this outcome with an ever-growing list of environmental

problems and crises. What began as a media focus on water and air issues, expanded into areas of toxic substances, hazardous waste sites, ozone depletion, acid rain, solid waste disposal, endocrine disruption, environmental racism, climate change and others.

And with this growing list of concerns, the corporate sector became increasingly seen not only as the cause of the environmental problems but also as the source of the solutions. And with this shift in emphasis, the concept of corporate environmentalism was born. Over the second half of the twentieth century, this concept was redefined through multiple iterations with ever-increasing complexity of the understanding of the intersection of business activity and environmental protection. As a result, conceptions of corporate environmentalism as simply regulatory compliance in the 1970s gave way to newer management conceptions of pollution prevention, total quality environmental management, industrial ecology, life-cycle analysis, environmental strategy, carbon footprinting, and sustainable development. By 2010, the empirical domain of business and the natural environment (B&NE) had become an established domain of management practice.

Concurrent with this evolution in corporate practice has been the emergence of academic research focused on business decision-making, firm behavior, and the protection of the natural environment. What began as a modest offshoot of management research in the late 1980s has grown into a maturing area of study within the management sciences, encompassing a wide range of disciplines. And now, with the established body of literature that has been built, it is possible to step back and view the state of this field in terms of where it has been and where it is going.

This chapter serves as an introduction to *The Oxford Handbook on Business and the Natural Environment*, whose purpose is to consider what is distinct about existing B&NE research and present the multiple directions in which the field is going. While an expanding number of books on the topic are also evidence of the growth of interest in this field, this Handbook stands out for its encompassing goal of comprehensively surveying the field of B&NE from a multi-disciplinary perspective, targeting an academic audience. Our objective is for the contents of this volume to serve as a definitive compendium of the past, present, and future work in this growing field.

In the following pages of this introduction, we provide a three-part treatment of the themes and focus of the chapters in this Handbook. The first is a *retrospective*, discussing in broad terms the history of B&NE. The second is a *perspective*, considering the central themes in the field as they exist today. The third is a *prospective*, presenting what we find to be common and overarching themes and, therefore, fruitful areas of future research.

RETROSPECTIVE

In considering how the B&NE field arrived at its present state, it is useful to consider its trajectory both as an empirical phenomenon and as the academic endeavor that seeks to understand it.

Environmental issues within business management

The history of business and the natural environment can be traced back more than 500 years.¹ However, the issues of relevance to the research in this Handbook more commonly locate on events and issues that date from the mid twentieth century. The decade of the 1960s marks the beginning of concerted and sustained critical analysis of B&NE, marking the dawn of the “modern” environmental movement.²

With this as a starting point, the history of B&NE has evolved through periods of rapid and dramatic changes in values, beliefs, and norms: what organizational scholars refer to as a process of punctuated equilibrium (Kuhn 1970; Gersick 1991). While periods of elevated attention are finite in duration, the worldviews (including market, social, technical, and political arrangements) that precede and follow them are fundamentally different in nature. Since 1960, there have been three such periods of dramatic changes in the salience and values related to corporate environmental practice, what can be described as three “waves” of environmental management, shown in Figure 1.1 (Hoffman 2001; Elkington 2005).

Wave 1: Corporate environmentalism as regulatory compliance

The first wave of corporate environmentalism occurred in the late 1960s and early 1970s with the recognition that corporate environmental issues were a problem necessitating regulatory controls. It began with the publication of *Silent Spring* (Carson 1962), a book that challenged what Samuel Florman called the “golden age of engineering” (Florman

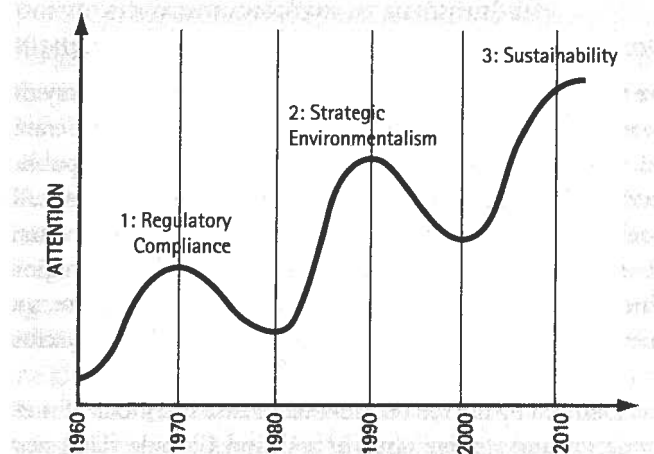


FIGURE 1.1 The Three Waves of Corporate Environmentalism, 1960–2010

¹ Post, Chapter 29.

² Weber & Soderstrom, Chapter 14.

1976) and helped bring about a growing awareness that chemicals were damaging the environment and ultimately ourselves. Other events that followed built on the concerns raised in this book and created support for environmental regulations as a correction and control on corporate activity. These included the initiation of the International Biological Program to analyze environmental damage and the biological and ecological mechanisms through which it occurs (1963); the formation of the Club of Rome by thirty-six European economists and scientists to analyze the dynamic interactions between industrial production, population, environmental damage, food consumption, and natural resource usage (1968); the decision by the UN General Assembly to authorize the Human Environment Conference in 1972 (1968); the Santa Barbara oil spill (1969); and the first Earth Day (1970) in which nearly 20 million people participated in a "National Teach-in on the Crisis of the Environment." The culmination of these events successfully captured and motivated a growing awareness of environmental issues in politics and, more importantly, in the press, which introduced the public to issues of population growth, air and water pollution, pesticide use, and the need for regulatory agencies.

In the wake of such events, newly formed regulatory agencies quickly became the arbiter of environmental rules and norms, negotiating on the one side with industry, and on the other with environmental activists. Although industry looked to the government for the definition of their environmental responsibilities as the general structure of environmental regulations became established in countries around the world, it also became increasingly defensive as it perceived government regulation becoming a restraint on economic activity. Within the corporate structure, environmental management was treated as externally directed "technical compliance." Although elevated to a separate corporate department, it remained an ancillary role with low organizational power, and focused strictly on legal requirements (Hoffman 2001).

Wave 2: Corporate environmentalism as strategic management

The second wave occurred in the late 1980s and early 1990s as industry moved to a proactive stance on environmental protection, treating it as a strategic concern. This shift was precipitated, in part, by two highly visible events that created public fear and distrust of corporate activities. First, in 1976, an explosion at Hoffmann-LaRoche's Icmesa chemical plant released a toxic cloud of dioxin over the town of Seveso in the Brianza district of Lombardy, one of the wealthiest and most industrialized regions of Italy. This prompted the European Community to establish the Seveso Directive, a new system for regulating industrial safety, emergency preparedness, and the disclosure of public information.

This event was followed by the 1984 accidental release of 45 tons of methyl isocyanate gas from two underground storage tanks at a Union Carbide (UC) pesticide plant in Bhopal, India resulting in the death of 3,500 people in the neighboring slums and injury to another 300,000. For the first time, a large multinational company (and importantly, its shareholders and insurers) found themselves vulnerable to massive civil penalties (the government of India issued an arrest warrant for the UC CEO and won a mediated

settlement of \$470 million) and a hostile takeover bid from GAF Corporation (after UC stock dropped from a pre-disaster price of between \$50 and \$58 to between \$32 and \$40 per share). The event forced companies and local citizenry to consider the risks that pollution creates as regulations for community “right-to-know” were established and lawsuits became more common to resolve liability concerns. Further, Bhopal altered the structure of overseas and pollution insurance liability, making coverage more difficult and more expensive to acquire.

These events were followed by several more that elevated attention to environmental issues into the second wave. For example, the Arctic ozone hole was discovered (1985); an accident at the Chernobyl nuclear reactor in Russia released a radioactive cloud over Eastern Europe (1986); the Brundtland Commission report *Our Common Future* was published, popularizing the term “sustainable development” (1987); the Montreal Protocol to phase out ozone-depleting substances was signed (1987); the Intergovernmental Panel on Climate Change was formed by the United Nations (1988); the oil tanker *Exxon Valdez* ran aground in Prince William Sound causing unprecedented damage to a fragile ecosystem (1989); and the UN Conference on Environment and Development (UNCED) was held in Rio de Janeiro (1992).

For the firm, the elevated attention to environmental issues induced by these events ushered in a new focus on B&NE as a strategic issue. Environmental management became redefined as “pro-active management.” The environmental department enjoyed new levels of organizational power, and environmental considerations began to be pushed into the line operations, integrating them into both processes and product decisions. Concepts like waste minimization, pollution prevention, and product stewardship entered the corporate lexicon.

Wave 3: Corporate environmentalism as sustainability

The third wave began in the latter part of the first decade of the twenty-first century and is focused on the merger of environmental and social issues with the global economy. This shift is driven by a series of events and issues that have forced an expansion of the scope of corporate environmentalism to include considerations for a restructuring of global economies. As a result, environmental issues are merging with broader concerns that, in sum, represent a growing awareness of our vulnerabilities and collective impact on the global environment. These concerns include:

Climate change and natural events. No single environmental issue dominates the field of B&NE more than climate change. The growing scientific consensus that humans have been altering the global climate through the release of greenhouse gas emissions since the Industrial Revolution has focused attention on the need to move the economy away from its foundations on fossil-fuel use and material consumption. Events that have galvanized public concern for climate change include the flooding of New Orleans by Hurricane Katrina, the melting of the polar ice cap and the opening of the Northwest Passage for the first time in human history, increasingly severe droughts in sub-Saharan Africa and floods in Southeast Asia.

Information technology. The spread and power of information technology (IT) has increased the pace at which concerns for sustainability have become visible throughout the world. IT makes global corporate activity more transparent, and brings issues like environmental degradation and income inequality into vivid relief. Further, IT alters power relationships, as non-governmental organizations can organize and mobilize powerful demonstrations that can force companies to alter practices (such as the Killer Coke campaign, or the Anti-WTO riots).

National security and global terrorism. As issues like climate change, drought and food scarcity force the migration of refugees and destabilize governments, many are beginning to connect environmental issues with national security. For example, disruptions in food production have led to civil unrest in many developing countries that are net food importers. A 2007 report by the US Military Advisory Board warns that “projected climate change poses a serious threat to America’s national security . . . climate change acts as a threat multiplier for instability in some of the most volatile regions of the world” (CNA Corp 2007). Further, some have begun to connect sustainability with global terrorism, arguing that markets and economic connectivity of the world’s poor is the only way to reduce the global threat of terrorism and extremism (Barnett 2003).

Economic competitiveness. Many analysts are calling for nations to maintain their economic competitiveness by developing the next generation of technologies for creating and conserving energy, food, and water (Friedman 2007). US Energy Secretary Chu, for example, equated China’s research, development, and deployment efforts into renewable and alternative forms of energy and mobility as a threat to the competitiveness of the United States akin to the modern-day equivalent of the 1960s “sputnik moment” (Chu 2010).

Religious morality. Many of the world’s religions have begun to re-examine their core values and scriptures in light of modern-day environmental issues. In 2006, more than 100 prominent pastors, theologians, and college presidents signed an “Evangelical Climate Initiative” calling for action on climate change. In 2007, the Vatican hosted a conference on climate change that acknowledged the seriousness of the issue, which was already causing suffering to the poor, and announced plans to install solar cells on the roofs of Vatican buildings and work toward carbon neutrality.

Resource and pollution prices. The increased demand for resources is affecting previously “free” ecosystem services. The Millennium Ecosystem Assessment warns that “higher operating costs or reduced operating flexibility should be expected due to diminished or degraded resources (such as fresh water) or increased regulation” (MEA 2005). Further, an October 2010 report commissioned by the United Nations Principles for Responsible Investment found that the top 3,000 publicly traded companies in the world produced over US \$2.15 trillion worth of environmental damage in 2008, the equivalent of one-third of all global environmental costs. The report argues that as governments adopt “polluter pays” principles, “companies will have to meet the costs of reducing pollution and waste or pay compensation for the damage they cause” (UNPRI 2010).

The third wave of corporate environmentalism is still in progress. But, while the seeds of the social and market shift that will result are emerging, clarity on what will ultimately transpire has yet to unfold.

Environmental issues within business research

While the topic of the environment within business schools had originally begun as a domain of “corporate social responsibility,” scholars within management schools more centrally entered the B&NE research domain in the second wave of corporate environmentalism of the late 1980s and early 1990s when business began to see environmental issues as strategic in nature. One of the first formal structures for research in this area was an international interest group of scholars, the Greening of Industry Network (GIN), which was formed in 1989. In producing one of the first collections of research in environmental management, GIN participants argued that “most regulation has not been based on a solid understanding of how industrial firms operated” and that future advances in environmental policy required an appreciation for the “intradynamic and interdynamic processes” of organizational learning that incorporate an awareness for how “various groups both inside and outside the firm conjointly shape its behavior and strategy” (Fischer & Schott 1993: 372).

This initiative to build a research community among management scholars was followed by the formation of the Management Institute for Environment and Business in 1990 (later to become a division of the World Resources Institute) and establishment of the Organizations and the Natural Environment (ONE) special interest group of the Academy of Management in 1994 (which later became a division in 2007).

Some of the research activity that these groups spawned paralleled developments in environmental sociology, such as a recognition of the differences between an anthropocentric and ecocentric perspective, as embodied in the Dominant Social Paradigm and New Ecological Paradigm (Gladwin, Kennelly, & Krause 1995; Starik & Rands 1995; Shrivastava 1995). But more commonly, B&NE research focused on variants of the question, “does it pay to be green?” and considered how to merge existing concerns for economic competitiveness with environmental demands to gain market advantage (Schmidheiny 1992; Smart 1992; Hart 1995; Porter & Van Der Linde 1995; Stead & Stead 1996; Roome 1998; Sexton et al. 1998). Much of the focus of this research was normative in nature, focusing on understanding and predicting why and how corporations “can take steps forward toward [being] environmentally more sustainable” (Starik & Marcus 2000: 542).

With this linkage more centrally relevant to the purpose and goals of the business school, B&NE began to generate its own identity within the various business school disciplines beginning in the mid 1990s. Business strategy was one of the first to enter the domain, with organizational theory following closely behind. B&NE has since

permeated other business-school disciplines, such as marketing, accounting, operations, and finance, where each is forming their own formal institutions around the area.

Special issues on B&NE have helped to spur research in this area, such as those appearing in *Psychology & Marketing* (1994), *Journal of Advertising* (1995), *Academy of Management Review* (1995), *British Journal of Management* (1996), *American Behavioral Scientist* (1999), *Business History Review* (1999), *Academy of Management Journal* (2000), *Production and Operations Management* (2001), and others. Further, academic journals dedicated to the interface between managerial action and environmental protection also began to emerge, including *Organization & Environment* (started as *Industrial and Environmental Crisis Quarterly* in 1987 and changed to *O&E* in 1997), *Business Strategy & the Environment* (started in 1992) and the *Journal of Industrial Ecology* (started in 1997). The culmination of this legacy of work has created a rich portfolio of literature to understand the B&NE interface. This Handbook is a compendium and survey of this portfolio, documenting where the field has been, where it is, and where it is going.

As many scholars in this Handbook effectively point out (see chapters in 'Future Perspectives' [Part IX] this volume), more recent developments in B&NE research, concurrent with the third wave of corporate environmentalism, have been an expansion of the research domain to include considerations for social issues in the Triple Bottom Line, the Base of the Pyramid, global sourcing protocols, living wages, income inequality, social justice, and others. These social issues are often incorporated with the environmental and economic agenda under the rubric of sustainable development.

However, it is important to note that this Handbook is not centered on the field of sustainable development, which we see as still relatively nascent, but rather on the field of corporate environmentalism which has matured sufficiently to warrant a Handbook. This volume has come at a point where there is a need to review the substantial volume of past work in order to help shape the future of the field.

PERSPECTIVE

The chapters in this Handbook are divided along fields of inquiry, with six sections representing groupings of disciplines in contemporary business schools: business strategy, policy and non-market strategies, organizational behavior and theory, operations and technology, marketing, and accounting and finance. Two additional sections offer chapters on emergent and associated perspectives of B&NE and summary remarks by leaders of the field on its accomplishments and future.

We chose a disciplinary structure for several reasons. First, it is the way in which business schools are generally organized. Researchers build identities within these

disciplinary domains, and their research is positioned within the journals that serve them. Within each disciplinary tradition there exist distinct language, constructs, methods, and research tracks that build on prior work. Second, although we are adhering to convention, we hope that scholars can begin their inquiry in disciplines that represent familiar terrain but will then explore other traditions for fresh and new ideas to both invigorate their field and find opportunities for cross-disciplinary linkages. Ultimately, the key to fully addressing issues of B&NE lies in treating its extant questions holistically.³ In this way, while we have structured this Handbook based on existing conventions, we hope that it will serve as a catalyst to help revolutionize both management research and the nature of the business school itself. What follows is a brief synopsis of the key questions and issues that guide each of the sections of this Handbook.

Business strategy

The chapters in this section make the economic case for environmental stewardship, but recognize that firms often go beyond what makes purely conventional economic sense to satisfy other strategic considerations. The contributing chapters isolate multiple mechanisms that result in a competitive advantage or higher profits for the firm, such as their resources, capabilities, and structure, and how they manage their stakeholders. The level of analysis is primarily focused on the organization, although some attention to the context, such as the international context, is also addressed.

Public policy and non-market strategies

This collection of chapters elevates the level of analysis from the firm to the macro environment, and addresses the question of what happens to the natural environment when markets fail. They recognize the importance of cooperative relationships among firms, certification agencies, non-governmental organizations (NGOs), and government regulations in addressing market failure. This work relies heavily on the fields of economics and political science to guide its analysis.

Organizational behavior and theory

The chapters that comprise this section span a range of levels of analysis and theories. At the individual level, researchers emphasize the constraints to individual cognition

³ Banerjee, Chapter 31; Shrivastava, Chapter 35.

which shape individual behavior through biases such as discounting the future, positive illusions of the state of the world, and self-serving behavior, which are shown to harm the environment. At the organizational level of analysis, researchers emphasize attributes such as organizational culture, structure, and symbols that influence organizational behavior. The analysis is raised to the institutional level by recognizing the importance of social movements as well as the institutional environment (regulative, normative, and cognitive-cultural) in shaping organizational actions. Although the level of analysis shifts among the chapters, each chapter acknowledges the role of psychology and sociology in understanding the interactions of individuals and organizations in explaining the impact of organizational actions on the natural environment.

Operations and technology

These chapters adopt a technology-based posture towards the natural environment. The operations chapters analyze the environmental impact of the flow of goods and services within the firm and throughout the supply chain. The firm is seen as a production system, where the boundaries can span either a single firm or an entire supply chain. These chapters reconsider the conventional forward-flowing supply chains with a growing emphasis on reverse and closed loop supply chains. Also, they introduce the notion of industrial symbiosis, where geographic proximity enables the waste products of one firm to serve as valuable inputs for another. This set of chapters also highlights the value of information, both across firms by building supply chains, as well as within firms through information management.

Marketing

The three marketing chapters shift focus to the consumer, either from the perspective of the corporation, where the central question is how firms can target green consumers, or from the perspective of the consumer, where the central question is if consumers value environmental attributes in products. These chapters rely heavily on psychology and economics to unpack consumer-buying behavior and segmentation, with the ultimate goal of shifting markets to capitalize on green attributes.

Accounting and finance

The accounting and finance chapters focus on the firm and its relationship with its financial stakeholders. These chapters emphasize the role of information, which can be used to guide managerial control functions and communicate the firm's commitment to the natural environment. The chapters also take the perspective of the investors, recognizing that there is still a great deal of reticence by most investors towards behaviors that

attend to the natural environment, but also an acknowledged growing interest. Investors, therefore, are looking both for firms to report their environmental impacts and for new instruments, such as weather derivatives, to hedge their risk.

Associated perspectives

The five chapters in this section offer alternative views of B&NE that do not neatly fit within a single theoretical tradition or discipline, although the perspectives they offer are growing in prominence. Three strong themes emerge in this section, each pertaining to the role of the social environment in understanding the natural environment. The first is an acknowledgement of the role of responsibility and morality in environmental decisions. The overlap between corporate social responsibility, stakeholder theory, and the natural environment is becoming increasingly evident, especially as the discourse moves towards sustainability and the triple bottom line. Another theme in this section acknowledges that our perspectives on the natural environment are socially constructed, and often by individuals and organizations with an economic interest in the final outcome. These chapters challenge us to take a more “critical” perspective and redefine the role of corporations in society. A final theme also recommends that the social and natural environments be integrated, applying systems theory to acknowledge the complex relationships among actors and elements within the system.

Future perspectives

The final section of this Handbook offers views of the future of the B&NE field from six individuals who have watched the field grow from its infancy. We selected contributors for this section from a broad range of perspectives, including academia and practice. These people took risks early in their careers, and in doing so, legitimized B&NE research and practice. Each contributor, in his own way, asks that we move the needle forward either by reinventing the field of B&NE or, in some cases, returning to its original root foundations. They argue that the position in which both society and the B&NE field currently sits is not “sustainable”, and they implore researchers to find new ways of looking at the business enterprise.

PROSPECTIVE

Several themes emerge within the chapters of this Handbook: themes that transcend any individual discipline and offer directions for future inquiry within the B&NE field. This section delineates those themes along three dimensions: theoretical themes and opportunities, paradigmatic choices, and methodological themes and opportunities.

Theoretical themes and opportunities

B&NE research borrows heavily from existing theory within each of the business disciplines, allowing it to both build upon and expand prior research streams and create powerful linkages with tested insights that have accrued elsewhere. Chapters in this Handbook move beyond treatment of the natural environment as simply another empirical context with few distinctive elements. Instead, they identify themes that create opportunities for building the research domain through the identification of theoretical themes that are both unique to the field and are synergistic in spanning disciplines. In the section that follows, these themes allow us to map some future directions in which B&NE work may be extended.

Does it pay to be green? Or, should it even matter?

The question “does it pay” is worked into many chapters. Grounded primarily in the discourse of strategy, finance, and accounting,⁴ the question draws a clear link between actions that are good for the environment and good for the firm. At the heart of this question is the assumption that there exists a win-win relationship between the interests of business and the environment, not a trade-off.⁵

While the question of whether it pays to be green has probably generated more research pages than any other single question, the answer remains unresolved. The meta-analyses point to either a small net positive or neutral relationship.⁶ And ongoing studies on variants of this question seem to merely contribute to the growing cacophony of results. But, chapter authors point towards an increasing discomfort with this question and a recognition that increasingly more research is asking when, where, and how corporate activity can simultaneously promote economic and environmental growth.

It is clear from the chapters in this Handbook that the question of whether greening pays is highly contingent on the context and the approach. For example, resources and capabilities that can build competitive advantage or the way in which a firm markets its products can explain ‘how,’⁷ and the international context can explain ‘when’ and even ‘where.’⁸ Also, researchers are trying to disentangle how environmental performance affects not just financial performance, but also the reactions of key stakeholders,⁹ such as investors¹⁰ and consumers,¹¹ who may influence and be influenced by the extent to which the firm benefits financially from greening activities.

⁴ Bauer & Derwall, Chapter 25; Bondy & Matten, Chapter 28; Cho, Patten, & Roberts, Chapter 24; Russo & Minto, Chapter 2.

⁵ Banerjee, Chapter 31; Buhr & Gray, Chapter 23; Hart, Chapter 29.

⁶ Russo & Minto, Chapter 2.

⁷ Scammon & Mish, Chapter 19.

⁸ Christmann & Taylor, Chapter 3.

⁹ Kassinis, Chapter 5; Delmas & Toffel, Chapter 13.

¹⁰ Bauer & Derwall, Chapter 25; Cho, Patten, & Roberts, Chapter 24; Routledge, Chapter 27.

¹¹ Devinney, Chapter 21; Gershoff & Irwin, Chapter 20.

Whereas the bulk of work continues to be rooted in the question of whether, when and how greening pays, an increasing number of scholars argue that this is not even the right question to be asking. Some suggest that economic growth and corporate competitiveness may not be the real motivation for environmentally responsible managerial actions. Rather, they suggest that beliefs, values, and preferences shape individual and corporate actions.¹² Others suggest that this question taps into organizational actions that do not need to elicit substantive, deep-rooted change within organizations, but rather are based on the objective of greenwashing or astroturfing.¹³ In fact, organizations will often use self-regulations (i.e. voluntary agreements among organizations to go beyond compliance) in an effort to deflect regulations or public pressures and stall substantive changes.¹⁴

Some scholars go beyond mere disenchantment with the question of whether greening pays, and argue that this question is distracting us from more important, relevant, and urgent questions. The question privileges the firm, rather than society or the environment, so that the environment serves the firm, rather than the firm being dependent on the environment.¹⁵ Searching for the “holy grail” or win-win, they argue, dupes us into believing that there is no need to make difficult trade-offs when the integrity of the environment is at stake.¹⁶

The notion of trade-offs between business and the environment and society is peppered throughout the chapters, and nowhere more than in the section on Future Perspectives. Several authors in this section suggest that practitioners and researchers have not been willing to make the tough decisions necessary to foster environmental protection when the economic imperative may be threatened.¹⁷ They argue that strategy scholars continue to advocate for growth, marketing scholars for selling, operations scholars for efficiencies, and finance and accounting scholars for control and valuation and that, taken together, the business disciplines are the ingredients of a recipe destined for collapse.¹⁸

The role of biases, passion and emotions in environmental decision-making

Most chapters assume that decisions are rational. In other words, actors act consistently, according to a set of ordered preferences to achieve a clear objective. Rational decision-making models are used to explain green behavior, where consumers, investors, and

¹² Buhr & Gray, Chapter 2; Lenox & York, Chapter 4.

¹³ Lounsbury, Fairclough, & Lee, Chapter 12; Melville, Chapter 18; Forbes & Jermier, Chapter 30.

¹⁴ King, Prado, & Rivera, Chapter 6.

¹⁵ Banerjee, Chapter 31.

¹⁶ Forbes & Jermier, Chapter 30.

¹⁷ Banerjee, Chapter 31; Ehrenfeld, Chapter 33; Gladwin, Chapter 38.

¹⁸ Roome, Chapter 34.

managers value the environment and it is integral to their preferences. If we can model preferences, we can predict individual behaviors.¹⁹

But several authors point out that, although actors may value the environment, they often act contrary to their interests. There is ample evidence that shows that consumers do not buy green²⁰ and that the majority of investors still do not invest in it.²¹ Research in the area of cognitive barriers explores the biases that impede rationality and explain sub-optimal decision-making.²² For example, evidence shows that consumers and investors generally prefer immediate certain rewards over future uncertain ones.

In addition to these alternatives to the rational decision-making model, there are two additional areas that provide opportunities for further research. First, most decision-making models privilege profit-seeking or self-interested values.²³ Valuing the natural environment is often seen as an aberration of, or departure from, self-interest. But there is a small but growing community of scholars who suggest that strict, economic self-interest is not always the norm. Positive Organizational Scholarship (POS) and Appreciative Inquiry (AI) are two such emergent areas that offer interesting avenues into the ways that individuals deviate positively to foster greater environmental progress.

The second avenue for further inquiry lies in the exploration of the role of emotion, art, and esthetic.²⁴ For example, entrepreneurs act on emotion,²⁵ and managers attempt to reduce their footprint even when it doesn't pay.²⁶ There is an opportunity then, for future researchers to consider decision-making models that do not assume rationality (as presently defined) and seek to develop more complex models of human behavior and the environment that are based on an expanded set of assumptions.

New actors, new organizations, new partnerships

Business makes money through markets, governments regulate market externalities, and NGOs protect the interests of civil society. This model of the economy and its constituent actors has historically been relatively clear and stable.

But environmental issues demonstrate that markets often fail, that prices do not reflect social interests, and that goods are not allocated efficiently or effectively.²⁷ Such failures can arise when property is shared,²⁸ which permits free riding and undermines environ-

¹⁹ Devinney, Chapter 21; Routledge, Chapter 27.

²⁰ Devinney, Chapter 21; Gershoff & Irwin, Chapter 20.

²¹ Bauer & Derwall, Chapter 25; Bertrand & Sinclair-Desgagné, Chapter 26.

²² Shu & Bazerman, Chapter 9; Tost & Wade-Benzoni, Chapter 10.

²³ Bauer & Derwall, Chapter 25.

²⁴ Shrivastava, Chapter 35.

²⁵ Lenox & York, Chapter 4.

²⁶ Buhr & Gray, Chapter 23.

²⁷ Baron & Lyon, Chapter 7; Coglianesi & Anderson, Chapter 8; King, Prado, & Rivera, Chapter 6.

²⁸ Routledge, Chapter 27.

mental justice.²⁹ Recent scholarship has stepped up to recognize important new developments in organizations and organizing.

There are new actors, and they span different levels of analysis. At the institutional or societal level, greater attention is being directed to social movements³⁰ and institutional entrepreneurs.³¹ Social movements are taking on the many roles of “adversary, collaborator, monitor of soft regulation, ally in influencing governments or service provider.”³² NGOs are also playing a more active role in stepping in where governments fail, prodding firms to act responsibly.³³ The license to operate is shifting to stakeholders, so even fringe stakeholders or communities, who have never before had power, voice, or justice, are recognized as being increasingly influential.³⁴ Finally, organizational members are also acting as agents of change. The C-Suite is now welcoming chief environmental or sustainability officers,³⁵ and tempered radicals are being noticed throughout the organization (Meyerson 2003).

We are also seeing new organizational forms emerge. The lines between business, government, and NGOs have begun to blur to reveal new hybrid forms of organizing. Unbridled self-interest is yielding to organizations that balance self and society, sometimes referred to as social entrepreneurs, social enterprise,³⁶ B corporations, or hybrid organizations. These hybrids capitalize on market failures to expose an opportunity to repurpose the organization towards using the market to improve the natural environment. In addition, there are a new breed of organizations whose sole mission is to monitor, audit, and certify the reporting, management, and environmental performance of corporate practices, effectively acting as new forms of regulation and governance.³⁷

The chapters in this Handbook also call attention to new and strange partnerships that form among organizations. Industry coalitions are emerging, through industry self-regulation, aimed not at pushing only their own self-interests but also the public interest.³⁸ Supply chains are becoming relevant units of analysis, as products are being pushed forward, backwards and even connecting front to back to form closed loops.³⁹ Industrial ecology is opening up unlikely partnerships, such as between a fish farm and a power plant.⁴⁰ These networks of organizations raise new questions, such as how do we measure a firm’s environmental footprint, as what one firm does cascades through the network? At

²⁹ Bondy & Matten, Chapter 28; Weber & Soderstrom, Chapter 14.

³⁰ Weber & Soderstrom, Chapter 14.

³¹ Lounsbury, Fairclough, & Lee, Chapter 12; Lenox & York, Chapter 4.

³² Weber & Soderstrom, Chapter 14.

³³ Baron & Lyon, Chapter 7.

³⁴ Lounsbury, Fairclough, & Lee, Chapter 12; Kassinis, Chapter 5.

³⁵ Elkington & Love, Chapter 36.

³⁶ Lenox & York, Chapter 4.

³⁷ Baron & Lyon, Chapter 7; Delmas & Toffel, Chapter 13; Gray & Herremans, Chapter 22; King, Prado, & Rivera, Chapter 6; Lounsbury, Fairclough, & Lee, Chapter 12.

³⁸ King, Prado, & Rivera, Chapter 6.

³⁹ Abbey & Guide, Chapter 16; Klassen & Vachon, Chapter 15.

⁴⁰ Lifset & Boons, Chapter 17.

what level do we optimize the environmental footprint—the firm or the network? And, how can we reduce the environmental footprint, given the complexity of the system? The global/local tension is becoming more acute, as more micro enterprises are emerging, and forming collectives to manage local energy and water resources.

No longer does business represent a single-minded, profit-seeking monolith. Instead, there is more color and texture to organizations, replete with examples of businesses that mobilize against other businesses, NGOs that seek profit to further environmental goals, and networks of organizations that form strange bedfellows. Such organizational forms are revealing the value of “institutional pluralism” and organizational diversity,⁴¹ which is a clear departure from the set of actors that once graced the business-school stage.

Bridging and blending the social and the natural environments

B&NE research, unlike research in most other business fields, touches both the social and natural environments. Although most prior B&NE research has focused on management and the goals of the corporation, efforts are increasing to see research opportunities at the interface.

For example, most chapters in this Handbook are firmly entrenched in the social environment and its many facets. They acknowledge the importance of socially constructed symbols that shape organizational actions, such as reporting, auditing, management systems, certifications, and technology.⁴² Information becomes a critical medium for firms to measure, control, and communicate their environmental impacts.⁴³ They also recognize that socially constructed symbols are particularly open to manipulation and can be easily disconnected from substantive actions, resulting in greenwashing.⁴⁴ This leads some scholars to become preoccupied with the truthfulness of corporate claims on the environment and apply an ethical lens to corporate behavior, a theme that has been only marginal within the B&NE domain. But some argue that questions of morality and what individuals or firms ‘should’ do is the hallmark of discriminating sustainability from responsibility.⁴⁵ By bringing morality back into the fold of B&NE research, we bring greater attention to the individuals within the organization.⁴⁶ Some scholars criticize B&NE research for studying organizations whose humanity has been silenced. Instead they call for a focus on more embodied

⁴¹ Delmas & Toffel, Chapter 13; Lounsbury, Fairclough, & Lee, Chapter 12.

⁴² Buhr & Gray, Chapter 23; Forbes & Jermier, Chapter 30; Gray & Herremans, Chapter 22; King, Prado, & Rivera, Chapter 6.

⁴³ Melville, Chapter 18; Cho, Patten, & Roberts, Chapter 24.

⁴⁴ Forbes & Jermier, Chapter 30.

⁴⁵ Bondy & Matten, Chapter 28; Post, Chapter 29.

⁴⁶ Banerjee, Chapter 31; Gladwin, Chapter 38; Shrivastava, Chapter 35.

organizations with human-nature relationships that involve mind, emotions, sensory awareness, and esthetic.

But going further, many researchers are seeking to explore links between the social environment, and the natural or physical world, shifting their focus from the financial outcomes of environmental actions to the material or substantive impacts of firm actions on the natural environment. For example, several authors focus on the interaction between the social and material worlds and advocate for a systems view of material and energy flows.⁴⁷ Such systems acknowledge the complexity of the B&NE relationship, explicitly introducing multiple levels of analysis that incorporate the social and natural environments, and appreciating small adaptive changes that alter the system with both positive and negative feedback loops. Quick wins through technology, for example, can unlock solutions to environmental challenges (such as providing clean energy, developing new forms of energy storage, reusing material resources, and cleaning carbon sinks), but also expose new and unintended consequences that lead to new environmental problems (such as end-of-life treatment of rare earth metals in batteries and computer equipment).⁴⁸ A shift to a systems view of the B&NE relationship offers greater opportunities for optimizing social and environmental systems, but also greater complexities and challenges in managing them to predictable ends.

Paradigmatic choices

The chapters in this Handbook speak to one of two dominant paradigms, each representing distinctly different approaches to addressing environmental issues within the business school. The first thread involves a focus on environmental issues within the existing models, theories, and paradigms. The second pushes the literature to ask the “big” questions and push beyond the existing paradigm. The first is built on a model of “normal” science (Kuhn 1970), where existing theories are applicable to current dilemmas and problems. It generally assumes positivism, where business performance is the dependent variable and decision makers are rational. The second is built on a model of “revolutionary” science (Kuhn 1970), where the problem domain represents an anomaly such that existing theories no longer work, and new models and theories are necessary. This approach laments the natural environment’s decline, questions the centrality of humankind, and believes that business studies need to be reoriented so that business no longer seeks to force the environment to serve the economy, but rather seeks economic activity to fit within environmental parameters.

The central argument of revolutionary science in B&NE is that business and business research cannot continue as is, if we are to tackle the arguably incommensurable assumptions of business and the natural environment. For example, scholars in the

⁴⁷ Levy & Lichenstein, Chapter 32; Lifset & Boons, Chapter 17; Ehrenfeld, Chapter 33; Gladwin, Chapter 38; Roome, Chapter 34.

⁴⁸ Ehrenfeld, Chapter 33; Gladwin, Chapter 38; Post, Chapter 29.

camp of revolutionary science advocate for “strong sustainability”, and for researchers and managers to stop dabbling in “weak sustainability”.⁴⁹ These proponents apply concepts rare in the business lexicon such as flourishing,⁵⁰ morality,⁵¹ citizenship,⁵² and esthetic and passion.⁵³ Ehrenfeld challenges us to reconfigure our approach,⁵⁴ recognizing that “reducing unsustainability” is not the same as “creating sustainability” and that “virtually everything that business has done in the name of environmental management, greening, eco-efficiency, sustainable development, or, as it is mistakenly used, sustainability fits only under the first rubric—reducing unsustainability.” Gladwin goes further to excoriate the field for its failure “to substantively acknowledge the magnitude, severity, persistence, complexity, exponential acceleration or the transformational urgency of the global environmental crisis.”⁵⁵ He asks “Is the field disconnected from environmental science? Is it addicted to reductionism, positivism, empiricism, relativism, rationalism, and objectivism as the only basis of knowledge generation?”

Whereas some might argue that the normal and revolutionary threads are orthogonal, we see both themes emerging within the chapters of this Handbook to various degrees and that they feed each other towards stronger and more fruitful research. Normal science helps to build upon models and theories with rigorous analysis; revolutionary science pushes for an examination of those theories for possible alteration and adjustment. Normal science patiently fits within existing paradigms for research, while revolutionary science impatiently calls for more rapid change to address the pace at which environmental systems threaten collapse. For example, much fruitful research work on environmental management measurement controls is documented in chapters in this book, but questions emerge as to whether they will have the impact we need and at the pace with which we need it.⁵⁶ Or, research within the systems view⁵⁷ is starting to shape a different paradigm—one in which business and humankind are not necessarily the focal point of study, but embedded within a complex system, which privileges elements based on their centrality and importance to the sustainability of the network. In the end, research in normal science anchors B&NE research as a legitimate domain of empirical study within the structure of business-school research, while revolutionary science becomes a force for rejuvenation and reorientation of that research tradition, seeking to bring it more in line with the critical empirical issues on which it must focus.

⁴⁹ Roome, Chapter 34.

⁵⁰ Ehrenfeld, Chapter 33.

⁵¹ Gladwin, Chapter 38.

⁵² Banerjee, Chapter 31.

⁵³ Shrivastava, Chapter 35.

⁵⁴ Ehrenfeld, Chapter 33.

⁵⁵ Gladwin, Chapter 38.

⁵⁶ Buhr & Gray, Chapter 23.

⁵⁷ Ehrenfeld, Chapter 33; Levy & Lichtenstein, Chapter 32; Roome, Chapter 34.

Methodological themes and opportunities

The methods used in B&NE research reflect disciplinary preferences and rely on a broad range that demonstrate particular benefits from the strengths of methodological diversity and plurality. But with each method comes weaknesses. For example, B&NE research grounded in economics tends to rely on large volumes of archival, quantitative data focused on large corporations. Insights from such datasets allow us to see the existence and persistence of predicted relationships. However, such approaches also rely on past trends, observable and accessible data, and stable relationships, which may not apply to a natural environment that we are only beginning to understand and is undergoing rapid and, at times, non-linear, changes. Institutional/macro level research grounded in sociology, relies heavily on archival longitudinal data and qualitative data which bring us closer to the richness of phenomena but limit the possibilities for prediction and actionable recommendations. Organization-level research relies heavily on ethnographic case studies but limits the opportunities to generalize key insights. Individual-level research grounded in psychology often relies heavily on lab work, which is often criticized for being context specific and not reflecting actual behavior.⁵⁸

No one method can address all the challenges that the natural environment poses to business. Each has its strengths and weaknesses. But the chapters in this Handbook offer multiple suggestions for strengthening the methodological approaches that are used to study B&NE research. Some methodological opportunities include:

- Move beyond a predominant focus on large multinational corporations in dirty industries (such as coal, mining, oil, and timber), and broaden the scope towards small and medium-sized enterprises, as well as new emerging forms of organizations, such as social enterprise, or non-traditional organizations, such as religious or values-based institutions.
- Draw on a wider range of methods, such as ethnographies that bring the researcher closer to the phenomena, and mixed methods that expose multiple perspectives on the phenomena; employ new information sources that permit insights into changes in eco-systems, such as global information systems; or engage in critical analysis, such as narrative and discourse analysis.
- Include multiple levels of analysis, recognizing that an individual's behavior depends on the context of the organization, which further depends on the institutional and natural environments.

Whereas methods shape the way in which we explore an issue, there is also call to shift the focus of the issue that we explore. We are encountering systematic biases in our research focus, which has blinded us to opportunities for new insights that can be encountered by expanding our field of vision. Some of those opportunities are listed below.

⁵⁸ Devinney, Chapter 21.

- Recognizing that climate change has been the target of much B&NE research, researchers should expand the breadth of environmental issues and corporate goals, including the Millennium Development Goals, which connect natural environmental issues to social and development issues. Critical environmental issues include water scarcity, biodiversity loss and species extinction, fisheries over-exploitation, ecosystem destruction, toxic pollutants, deforestation, nutrient loading and nitrogen fixing, land use changes, and urban sprawl. And with environmental issues rapidly being subsumed into the broader topic of sustainability, the issue domain is expanding into issues of population growth, poverty, widening income disparity between rich and poor; access to food, water and housing, health care and pandemics, and employment and fair wages.
- Focus not only on identifying solutions, but build greater understanding of the problems.
- Focus not only on examples of organizational success, but also organizational failure.
- Expand the focus of research from national activities to both the local as well as the transnational and global spheres. The latter represents an empirical necessity, as companies are embedded in global supply chains, and local environmental movements are increasingly connected internationally.

CONCLUSION

As sustainability alters the global marketplace and the role of the business enterprise within it, questions emerge about how environmental and social sustainability might alter the role of research and education within the contemporary business school. Indeed, the entire field of “management,” as we now know it, is faced with new and emerging challenges. Some have begun to question whether business schools are falling out of step and irrelevant to the world of practice (Stewart 2006; Economist 2007; Jacobs 2009; Podolny 2009) and whether the modern business school must fundamentally alter its teaching and research in order to respond to the environmental and sustainability challenges of the twenty-first century.

Khurana (2007), for example, points out that “as things stand, there is little sustained discussion among business school faculty and administrators about whether new technologies, the globalization of trade, demographic trends, the growing inequality between rich and poor, the shifting social norms may be rendering the investor capitalism model unsustainable, if not actually obsolete. Yet these developments in the world since the rise of investor capitalism suggest that a new model . . . may well be called for.” Ghoshal (2005) goes further to argue that the financial crises and abuses of the corporate sector are in fact caused by the foundational elements of some of the theories, such as agency theory, that underpin the business-school agenda—elements that the B&NE research agenda

often challenges (such as the profit motive being the singular objective of the firm, the value of the environment being measured solely in terms of its commodity value, the firm as socially and environmentally separate from its social context, the unquestioned imperative of economic growth, etc.). In short, the underpinnings of management research and education are being called into question.

A widening circle of business-school academics are raising questions over the “rigor and relevance” of management research (Tushman & O’reilly 2007). Bennis & O’Toole (2005) state: “The root cause of today’s crisis in management education is that business schools have adopted an inappropriate—and ultimately self-defeating—model of academic excellence. Instead of measuring themselves in terms of the competence of their graduates, or by how well their faculty members understand important drivers of business performance, they assess themselves solely by the rigor of their scientific research.” Schmalensee (2006) concurs. “The academic system’s current methods of hiring and rewarding professors don’t necessarily attract or encourage the kind of practitioner-oriented faculty we need to make business-school research and MBA education much more attuned to meeting today’s and tomorrow’s management challenges.”

But lying within the growing tensions over the role of the modern business school, there exists the opportunity for sustainability research to offer a solution. The focus of B&NE research demands that we cast our eyes on issues, not merely on functions and disciplines. It re-engineers business models to not be self-serving, but to honor the system in which the models are embedded. It restores people and the planet to a central position within business schools, recognizing that businesses can cause great harm and perform enormous good. Addressing environmental issues (and sustainability more broadly) in our research, teaching and outreach (to both scholars and practitioners) holds the promise to restore our field and craft—as well as the profession we serve—towards addressing the pressing needs of our day.

B&NE research forces the kind of problem-based, temporally relevant research that critics and business practitioners demand from business schools. As such, environmental sustainability offers an opportunity for rejuvenation and repurposing of management research and education to reflect changes that are already underway. As problem-based research becomes increasingly common (Biggart & Lutzenhiser 2007; Davis & Marquis 2005), opportunities for environment-centered research (and sustainability-centered research more generally) improve. In fact, few contemporary problems warrant analysis by academics more than environmental and sustainability issues, both for the benefit of the field and for the benefit of society. The opportunities for the field of research represented within the pages of this Handbook are vast and exciting.

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