



Building and maintaining sustainable organizations

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Abstract

As our planet's resources and carrying capacity have become exponentially strained in the last century of vast industrialism, it will be imperative for the corporations that currently determine the flow of global economic resources to advance into a position of sustainable post-industrial prosperity. It is essential that firms create and maintain synergistic relations with the biosphere, key stakeholders, and the global community. There have been many great strides in the last decade to expand environmental and social considerations in business and a path toward a sustainable future has been initiated. Today the corporation must go beyond pollution prevention and product stewardship toward a holistic and proactive model of management in a network of mutually beneficial relationships with the Earth and communities. Significant challenges remain with respect to large system changes and creating a new set of norms that are widely accepted by organizations worldwide.

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Introduction

The use of the term *sustainability* has grown rapidly in the last two decades, as it has become increasingly evident that global economic systems are on a course that will overwhelm the carrying capacity of our planet in the foreseeable future. Since 1987, when the Brundtland Commission defined sustainability as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987: 23), sustainability has acquired many connotations at various levels of economic, social, and political organization.

The goal of this paper is to better explain sustainability's role in corporate management through (1) an overview of the historical evolution of the principles of industrial management and a critique of those principles, (2) an outline of the fundamental principles of current sustainable organizations, (3) an overview of the evolution of management theory from a sustainability perspective, and (4) suggestion of guidelines for managing future organizations in increasingly sustainable ways.

There is now a great need to begin integrating the various elements and levels of sustainability into a coherent and systemic approach that will guide large-scale change. A network of global organizations, such as the World Business Council for Sustainable



Development and the Global Reporting Initiative, is currently being developed to nurture and disseminate sustainability principles and practices. However, to better understand the significant challenges and opportunities that lie ahead, it is instructive to look back.

Past

The history and evolution of industrial organization management

Social responsibility is a “fundamentally subversive doctrine in a free society,” according to Milton Friedman (1970), Nobel Laureate economist and intellectual luminary of the modern free-market capitalist movement. “There is one and only one social responsibility of business,” he wrote, “to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud” (Friedman, 1970). In an idealistic sense, this capitalist philosophy has produced an impressive record of economic efficiency and productivity unequalled by any other form of economic development. However, the inherently negative social and ecological consequences that evolved almost simultaneously with its achievement in societal advancement have produced consequences to the environment and labor relations that even the most pessimistic of 19th century theorists could not have imagined. This paradox has established a need for oversight of the corporation that continues to gain support in today’s business sphere.

The roots of these consequences first became obvious in the post Civil War era in the United States as the unbridled and often unregulated corporate structure of business brought a merging of already expansive firms in several basic industries, including sugar, whiskey, and meats. For example, in 1882, John D. Rockefeller was able to consolidate the management of a large segment of the petroleum industry under one board of directors, which he chaired. Over the next two decades, the American Sugar Refining Company, United States Steel, Du Pont, and other corporate pioneers followed Rockefeller’s lead. Soon large industrial corporations controlled not only the American economy but also much of the political process as well. Political bribes, corporate lobbyists, and corporate financing of campaigns became commonplace. These industrial organizations were simply fulfilling Friedman’s (1970) later concept

of “social responsibility” by using their resources and engaging in activities to increase the profits of their stockholders, a common rule in the game of competitive industry that predominantly provided a higher standard of living for the wealthy consumer while it diminished the quality of life for the laborer.

These disproportionate rules between the labor class and the managerial class were an inevitable evolution from Adam Smith’s science of industrial management rooted in the basic concept of “division of labor.” However, his original goal of efficient wealth production was not without its premonition of class struggle. In the *Wealth of Nations*, in which he proposed the division of labor, he warned that workers who spend their whole life performing a few simple, repetitive operations have no opportunity to develop the capacity for creative thinking because they have no opportunity to solve problems on their own. He suggested that such workers naturally lose the ability to think for themselves and degenerate into a state of “stupidity and ignorance” (Smith, 1776/1904).

The realities of this warning, as recorded in Upton Sinclair’s (1981) scathing description of the Chicago meat trust and embodied in his destitute protagonist, Jurgis, created a general consensus among the American public that the economy’s expansion was inhumanely alienating the worker and that the rules needed to be changed. The public reaction to this new awareness created the Progressive Movement of the early 1900s as a populist political response to the widespread economic exploitation and political abuse by American corporations. With extensive popular and congressional support, President Theodore Roosevelt was able to bring about effective enforcement of the Sherman Antitrust Act of 1890 and to pass a number of new laws to address discriminatory trade practices and strengthen the Interstate Commerce Commission. During Roosevelt’s two administrations, the Justice Department brought more than 40 antitrust actions against the corporate trusts and won a number of important judgments, one of which dismantled Rockefeller’s Standard Oil Company trust.

As the momentum built in favor of focus on labor prosperity rather than that of the owners, theorists began looking at economic efficiency from the labor perspective, such as in 1911 when industrialist Frederick W. Taylor wrote, “The best management is a true science, resting upon clearly defined laws, rules, and principles, as a foundation.” In

extolling the benefits of “scientific management,” he pointed out that success under ordinary management depended almost entirely on “getting the ‘initiative’ of the workmen,” which he suggested is rarely, if ever, attained. Taylor proposed a new scientific approach to management to better engage employees in their work. The key elements of this approach were teaching, training, and developing the worker to understand the methods of production and cooperate with the manager in the process, forcing both sides to equally share in the accountability for production quality.

He believed that the responsibility of management to the employees of an organization was just as important as management’s responsibilities to the owners of the organization. He warned that organizations of both employers and employees are concerned far more with defending their individual self-interests than in working together, and perhaps most on either side don’t believe that it is possible to carry out their work in ways that are beneficial for both employers and employees (Taylor, 1911).

This decade’s long ideological struggle between worker and manager finally gave way to a strong political consensus supporting an active role for government in the oversight of business and industry throughout much of the 20th century. The Great Depression of the 1930s was widely viewed as being, at least in part, a consequence of the corporate excesses of the early 1900s, and acted as a catalyst for sweeping economic reforms by the F.D. Roosevelt administration. And even though their profits and growth were constrained by an increasing number of government rules and regulations designed to protect a growing list of public interests, post World War II industrial organizations in the United States were able to regain their earlier levels of prosperity while adhering to a modified concept of labor brought on by the mass mobilization of global Socialist activism at the time.

However, the socialist governmental reforms of other countries, especially in Europe, were never fully incorporated into the existing American capitalist system. The structure of worker to benefits ratio was unsustainable and the added burdens of equal employment opportunities, worker health and safety, and environmental protection during the 1970s triggered a corporate backlash. Many corporate managers and stockholders were more than willing to join Milton Friedman (1970) in labeling any demand for “social responsibility” beyond maximizing profits as a “fundamentally subversive doctrine.”

According to popular business writer and consultant Tom Peters (2005), this decline in relations was due to the early 1950s when the fast growing complexity of organizations made the tool kit used by managers obsolete. In his opinion, it was not until the writings of Peter Drucker (1954) that a handbook was finally provided for that task. During his long career, Drucker (1954) taught managers to go beyond scientific management by focusing on opportunities rather than problems, putting themselves in the place of their customer, and understanding and continually refining their competitive advantages.

But Drucker’s (1954) suggestions were soon co-opted by a new business model that minimally satisfied the public advocacy while allowing corporations to circumvent the existing regulations all for the benefit of increased economic productivity. By the early 1980s, with Ronald Reagan in the White House, corporations were able to garner enough political and popular support to effectively blunt the effects of any further social legislation and to marginalize new advocacy for expanding environmental regulations. The Reagan administration also began to weaken enforcement of many of the laws and regulations that had restrained corporate profits and growth. The George H.W. Bush and Bill Clinton administrations attempted to hold the line on social and environmental regulations. But both continued to allow virtually free rein to corporate consolidation. Antitrust regulations were simply “reinterpreted” to allow widespread corporate consolidation, under the dubious argument that concentration of economic power often improved market performance by reducing costs of production and promoting technological innovation.

Drucker (1989) was quite critical of this shift in thinking. Although he had envisioned the corporation as an ideal environment in which to create a new concept of community and society, he saw, instead, corporations that had become places where economic self-interest precluded any real sense of social and ethical responsibility. He opposed unrestrained corporate mergers and acquisitions. He argued that CEOs’ salaries and benefits packages were out of control and should be tied in some way to the wages of their workers. Regarding the growing tendency of corporations to reap massive profits by firing thousands of workers, he wrote, “This is morally and socially unforgivable, and we will pay a heavy price for it.” Drucker



emerged as one of corporate America's most important critics, and his later books, including *The New Realities* (Drucker, 1989) and *Post-Capitalist Society* (Drucker, 1993), called for a revolution in business management.

Even with this rebirth of corporate excess during the 1980s, Drucker (1989) was not alone in his critique of this unstable system. W. Edwards Deming, the father of the modern quality movement, was the next luminary to have a similar major influence on the discipline of industrial management. Deming began his work in Japan and in 1982 published his classic, *Out of the Crisis*, which identified 14 points that had enabled Japanese manufacturers to realize significant efficiencies in production (Deming, 1982). These points included: creating constancy of purpose and continual improvement to support long-term planning rather than relying on short-run reactions, building quality into the product and process rather than relying on inspections, choosing quality over cost in raw materials, improving processes constantly, and training continuously to reduce variation in all aspects of the business. Deming (1982) wrote, "Long-term commitment to new learning and new philosophy is required of any management that seeks transformation. The timid, the fainthearted, and the people that expect quick results are doomed to disappointment. What would be of benefit, these critics might suggest, would be better, perhaps mandatory rather than voluntary, ways of holding companies accountable for their actions, of controlling their cloud and impacts." He believed that management must be judged not only by the quarterly dividend, but also by innovative plans to stay in business, protect investments, ensure future dividends, and provide more jobs through improved products and services.

But, Deming, like Taylor and Drucker before him, also saw his ideas used by corporate managers to maximize corporate profits and growth, with little attention to the ecological or social impacts of their decisions on the sustainability of the natural and human resources that must support the company's long-term economic viability. However, their writings did build a solid foundation for more accountability and oversight of corporate development. This evolving zeitgeist has created a need for the public, the government, and the corporations to innovate new methods for the industrial structure that satisfy both human prosperity and environmental sustainability.

Present

The evolution of managerial attitudes to the present

Today, the American corporation is being forced to address public and consumer concerns similar to those addressed during the turn of the century and through World War II. Just as the neglect of labor, safety, and economic security led to the vast reforms of the New Deal, systematic neglect of environmental regulations and global social issues have created unavoidable consequences such as global warming, waste excess and war in unstable third world economies. The legislative power has once again shifted back to the public interest, resulting in a decade's long period of public support for increased regulation and exploration of alternative methods. The Air Pollution Control Act of 1955 marked the beginning of this process, and the Clean Air Act of 1970 significantly raised the regulatory requirements. During the 1970s, in the face of mounting regulatory pressures, companies came to accept the reality of the regulatory environment and viewed the cost of compliance as a necessary but negative economic factor. The trade-off mentality was central to managerial thinking and resulted in a reactive posture, while regulators often did not have a systems perspective with respect of how to proactively address the issues. However, in the next two decades regulations, especially from EPA and OSHA, required firms to attend to issues of health, safety, and environment thereby providing a point of departure for future market-based developments.

Yet in Europe, this American reactionary mentality was contrasted by a history of cooperation among firms, governments, and communities in the creation of regulations that were seen as more legitimate and effective. At about the same time, the Japanese auto industry demonstrated that, with good design and manufacturing, it was possible to dramatically improve quality and reduce costs simultaneously, thus dispelling the notion of trade-offs. By the early 1990s, the idea of designing manufacturing systems that prevent waste was well established and was gaining a competitive edge in the global marketplace. The "greening" of business was underway, as companies sought ways to better align their objectives with those of society at large. It was becoming possible to improve economic, environmental, and social performance simultaneously by adopting proactive strategies and nurturing the necessary skills and capabilities.

Hart (1997) called for a move beyond greening and described the progression of stages as pollution prevention, product stewardship, and clean technologies. He argued that formulating a sustainability vision for eco-effectiveness with the development of new technologies would create an entirely new set of opportunities and capabilities that have the potential to reinvent a firm's core business (Hart, 2005). Hart (2005: 16) provided a summary of the key periods:

1. 1945–1960s: pollution denial,
2. 1970–1980s: end-of-pipe regulation,
3. mid-1980s–1990s: greening,
4. mid-1990s–present: beyond greening.

Yet, with all of these strides in consciousness and progression, under the George W. Bush administrations, there has been little pretense of any form of government restraint or oversight of corporations for sustainable purposes. Environmental and social regulations have been systematically weakened or ignored, and corporate mergers have continued unabated (Kennedy, 2004). Many of today's corporate managers have been largely absolved of any "social responsibility" other than maximizing profits and growth. As corporations continue to grow, at some point they begin to gain sufficient political power to influence their legal and regulatory environment. This has allowed corporations to make economic development a priority of local, state, and national government by means of campaign contributions and their ability to affect economic activity within their sphere of influence, even though it is not mentioned in the Constitution or any other foundational document of the American democratic republic. This current ability to change the "rules of the game" by removing environmental and social constraints for profit becomes a more important means of continuing corporate growth than greater economic efficiency. As corporations within an industry continue to expand and then consolidate into larger organizations, they inevitably move away from the classical economic concept of competitiveness. Gains from efficiency are no longer passed on to consumers but are retained as corporate profits. Potential new firms find it increasingly difficult to enter markets with new and better ideas, and old organizations gain the ability to persist in spite of their inefficiency.

Corporate managers and workers are humans, of course, and many have a strong sense of personal commitment to their families, to their

communities, and to society as a whole. Many also feel an ethical or moral responsibility for protecting the natural environment and conserving the resources of the Earth. And there have been some experimental business models to explore this more humanistic method of business. But modern corporations as a whole are intolerant of humaneness because social relationships and personal ethics can affect decisions of workers and managers and create economic inefficiencies that restrict corporate profits and growth. Family corporations and other closely held corporations can reflect the social and ethical values of their owners in management of the corporation. However, whenever corporate shares are openly traded in the stock markets, any links between personal values and management decisions are effectively broken. Once a corporation goes public, corporate managers have a fiduciary responsibility to maximize economic returns to their stockholders.

These responsibilities of industrial management are derived directly from the process by which economic organizations increase economic productivity. Regardless of corporate mission statements or personal preferences of corporate managers and workers, the only "social responsibility" that makes sense to publicly owned corporations is economic productivity, and the only means of achieving greater productivity are through profits and growth. All present industrial organizations are primarily guided by the economic principles of profit and growth. Any attempts for experiments in mainstream alternative business models are therefore often times bought out by the larger, more economically productive corporations because the smaller businesses cannot maintain a profit margin to stay alive.

Management theory of post-industrial organizations

Although many aspiring sustainable enterprises find it hard to exist independently, theorists still treat the development of these enterprises as a very possible alternative to the conventional corporation. During the 1980s, several futurists began to write about a fundamental transformation from an industrial to a post-industrial society. In his book *Power Shift*, Alvin Toffler (1990) suggested that industrial models of management were becoming increasingly obsolete, and that industrial measures of efficiency and productivity were no longer sufficient. He predicted that customized goods and services targeted to niche markets, continuous



innovation, and value-added products were the trends of the future. He believed that knowledge, an understanding of how the world works and how to function effectively within it, would be more important to future economic success than access to natural resources, labor, or capital.

Peter Drucker (1989), in *The New Realities*, agreed that the most significant development of his lifetime was the shift to a knowledge-based society. He went on to explain that industrial work is a mechanical process, whereas the basic principles of knowledge work are biological. This difference has important implications in determining the right size for business organizations. In a mechanical world, greater efficiency is generally associated with greater size, but in a biological world, efficiency results from fitting size to function. Drucker (1989) observed, "It would surely be counterproductive for a cockroach to be big, and equally counterproductive for the elephant to be small" (p. 259). He suggested that knowledge-based organizations of the future have to be managed as living organisms rather than as non-living mechanisms.

Yet, while data, information, and knowledge have become increasingly important drivers of the US economy, most modern corporate managers exhibit little evidence of real change in their management philosophies. Dee Hock, founder of Visa Corporation, wrote in 1999, "The Industrial Age, hierarchical, command-and-control structures that have grown to dominate our commercial, political, and social lives are increasingly irrelevant. They are failing not only in the sense of collapse, but also in the more common and pernicious form of organizations that are increasingly unable to achieve the purpose for which they were created, yet continuing to expand as they devour resources, decimate the Earth, and demean humanity" (pp. 5–6). Most corporate managers, even those in knowledge-based organizations, still cling to the industrial philosophy of management, and thus continue to manage unsustainable organizations. This mode of thinking has disconnected many corporate managers from the current advocacy by consumer groups for a more ecologically minded business model.

Sustainability of post-industrial organizations

Until recently, the study of organizations did not include the natural environment (Shrivastava, 1994). Gladwin *et al.* (1995) have called for shifting paradigms to achieve reintegration of organizations with their natural and social environments. In

evaluating alternative paradigms, the authors utilized the criteria of inclusiveness, connectivity, equity, prudence, and security. The techno-centric and eco-centric paradigms were deemed to be incomplete and ineffective. Gladwin *et al.* (1995) favored a "sustain-centric" paradigm because of its ability to achieve higher and deeper integration and establish intergenerational moral obligations.

In strategic management, the resource-based view of the firm offered new insights into the ability of firms to build and sustain competitive advantage (Barney, 1991; Conner, 1991). Resources that are valuable, rare, non-substitutable, socially complex, and causally ambiguous can be combined into appropriate capabilities, which form the basis for competitive advantage. Hart (1995) argued that changes in the natural environment will pose significant challenges to the competitive advantage of firms and require the development and deployment of new capabilities. The exponential growth in the human population offers economic opportunities but also places tremendous pressures on natural resources and ecosystems (Gore, 1992). The growing awareness that corporations must respond to these challenges has placed significant constraints on the resources firms can use and how these resources are utilized. The natural resource-based view of the firm links the key resources of continuous improvement, stakeholder integration, and shared vision with the strategic capabilities of pollution prevention, product stewardship, and sustainable development (Hart, 1995).

The natural-based view is achieved by collaboration on the part of the consumer and producer to work towards ecological embedding. Whiteman and Cooper (2000) have defined ecological embedding as "the degree to which a manager is rooted in the land" (p. 1267). They argued that just as social embeddedness is valuable in understanding managerial perspectives and actions, ecological embeddedness is linked to managerial knowledge and practice of sustainability. Whiteman and Cooper's ethnographic study yielded four key dimensions: (1) personally identifying with the land, (2) adhering to ecological beliefs, (3) gathering ecological information, and (4) being physically located in the ecosystem. This current consumer ecological embeddedness has created a demand for corporations to consider not only material and labor costs, but also social, environmental, and renewable resource costs, while being mindful of their impact on the region in which they operate.

The consumer now realizes that the systems of production affect more than just their finances. Their role is now that of a stakeholder, and their perspective has played an important part in persuading corporations to assume a broader role and accept the notion of corporate social responsibility by setting business objectives that address environmental and social issues consistent with stakeholder concerns (Freeman, 1984; Clarkson, 1995). Stakeholders can use various strategies to influence firms contingent on the extent and type of resource dependence (Frooman, 1999). Even when stakeholder groups (e.g., environmental and social NGOs) have no resource interdependency with firms, they can use indirect methods through other stakeholders to affect corporate policies. Sharma and Henriques (2005) found that sustainability practices in the Canadian forest products industry were influenced by stakeholder groups through both confrontational and collaborative strategies. The study emphasized the need for firms to proactively engage stakeholders in a collaborative manner. Similarly, Kassinis and Vafeas (2006) found that community stakeholder pressure was linked to higher levels of environmental performance.

Today, the stakeholder perspective and corporate social responsibility frameworks have evolved into the concept of global business citizenship. A global business citizen is defined as “a business enterprise (including its managers) that responsibly exercises its rights and implements its duties to individuals, stakeholders, and societies within and across national and cultural borders” (Wood *et al.*, 2006: 35). The parallel and complementary theoretical strands of the greening of organizations, the resource-based view, the stakeholder perspective, and global business citizenship have established a foundation for the vital and strategic role of sustainability. Management of sustainable organizations will now require a fundamental shift to a knowledge-based, systems-thinking, living-systems paradigm of organizational management. Furthermore, building and maintaining sustainable organizations will require an essential rethinking of the purpose of organizations and the principles by which they must operate. The basic question confronting American and global society today is whether we humans have a “social responsibility” to our fellow human beings, including those of future generations. If so, then we must be willing to create and support organizations that pursue some purpose other than economic productivity,

in particular, the broader societal purpose of sustainability.

Future

A need for a future sustainable organization model

Well-managed industrial organizations have been undeniably both efficient and effective in fulfilling their fundamental purpose. Few people would choose to return to the preindustrial era, when so many were deprived of the basic physical essentials of human life. Industrial organizations were designed for productivity rather than permanence because the expansion of individual, material well-being was a far higher priority for humanity at the time of the Industrial Revolution. Furthermore, nature seemed to have unlimited resources, the environment appeared to be a bottomless sink for human wastes, and the workforce was grossly under-employed in subsistence activities at the time. Concerns about the quality of relationships among people and between people and the Earth paled in comparison with the need for greater individual, material well-being.

However, the times have changed. Natural resources are being rapidly depleted, the natural environment is overburdened with human wastes, human resources are overworked and under-valued, and families, communities, and cultures are being destroyed in the name of economic development. The relentless pursuit of economic wealth is in the best interest of neither the individual nor humanity.

Purpose of future sustainable organizations

Productivity and sustainability represent different fundamental purposes for creating and managing organizations. Productivity depends on efficiency, which is reflected in principles of profits and growth. Sustainability depends on both efficiency and capacity, in particular, the capacity to sustain productivity indefinitely. No matter the mission of the organization, the elemental purpose of the sustainable organization is permanence, the ability to meet the needs of the present without compromising the future.

The appropriate metaphor for the sustainable organization is that of a living organism because living organisms have the innate capacity for sustainable productivity. Living plants, for example, can use solar energy just as humans have the intellectual capacity to develop technologies for



capturing solar energy by using photovoltaic cells, windmills, and water-driven turbines. All living individuals eventually die, but they have the capacity as well as the natural tendency to reproduce and regenerate their communities and their species. This is not an abstract theory but instead a consequence of some of the most fundamental laws of science, the laws of thermodynamics. The first law of thermodynamics states that energy can be used and reused but can never be created or destroyed, even though it inevitably changes in form each time it is used. However, according to the second law of thermodynamics, the law of entropy, each time energy is used and reused, some of its usefulness is lost, as is some of its economic value. Today's managers of industrial organizations are accelerating the tendency toward entropy. This conclusion is a result of the most fundamental principles of economics and the most elemental laws of science. All material things of economic value – houses, clothes, food, and automobiles – require energy to make, demand energy to use, and are made of energy. All economically valuable human activities such as working, thinking, and managing also require physical energy. Equally important, the economic value of human energy is a product of society. Humans are born not as productive adults but as infants who have to be nurtured, socialized, and educated by society before they are capable of producing anything of economic value.

For example, the only source of renewable physical energy available to offset the effect of entropy is the daily inflow of solar energy. The fundamental problem is that industrial organizations have strong economic incentives to use and reuse energy but have no incentives to collect and store solar energy to offset the loss of usefulness of energy and the economic value lost to entropy. Even the solar energy captured through agriculture and forestry is put in the marketplace for consumption rather than used to regenerate and renew energy resources for the future. The simple autonomy of any organization managing its own energy affairs is a monumental step toward sustainability, especially an organization that requires massive amounts of energy for production. The basic problem is that current economic value is inherently individualistic in nature; it accrues to the wealth production of the individual and thus must be expected to accrue during an individual's lifetime. If industrial organizations continue to extract from nature and to exploit society for short-run,

individual benefit, they eventually will deplete their only sources of economic value.

A future sustainable organization will work in a cooperative structure to restore the productivity and health of natural ecosystems and will enhance the quality of personal relationships within families, communities, and society while meeting the basic economic needs of individuals. Humans are inherently multidimensional; they are physical, mental, and ethical beings. Ecological, social, and economic integrity are necessary not only for the sustainability of humanity but also for a desirable quality of life for enlightened, self-interested individuals.

Current frameworks for future sustainable organizations

Moving toward sustainable societies requires large-scale and systemic transformation involving long-term, ongoing change at many levels. Over the last 20 years, a number of useful frameworks have emerged that provide guidelines for managing sustainability. These include sets of principles and tools for making decisions and tracking progress that executives can utilize to implement sustainable management practices.

The Natural Step (2005) originated in Sweden and is based on four basic principles or system conditions that state, in a sustainable society, nature is not subject to systematically increasing (1) concentrations of substances extracted from the Earth's crust, (2) concentrations of substances produced by society and (3) degradation by physical means, and that (4) people are not subject to conditions that systematically undermine their capacity to meet their needs. Large global companies such as IKEA and Electrolux have partnered with the Natural Step to begin transforming their thinking and business practices into a realization of the Earth's systems (Bradbury and Clair, 1999).

The International Organization for Standardization (2004) devised the ISO 14000 standards and frameworks as tools for managers to adopt a holistic and strategic approach to environmental policies, plans, and actions. These standards provide ways to achieve objectives of control and communication with internal stakeholders (e.g. employees) as well as external stakeholders (e.g. customers, community, and regulators). Similarly, the SA8000 (<http://www.sa-intl.org>) standard provides guidelines for ensuring the ethical management of global supply chains. The Global Reporting Initiative (2007) was formed to create globally applicable guidelines for



sustainability reporting. In a study of Swedish companies that utilize the Global Reporting Initiative sustainability reporting guidelines, Hedberg and von Malmborg (2003) found that most firms engaged in such reporting for their primary stakeholders, and some companies also identified the general public as a key audience and saw the reports as a way of enhancing the company's legitimacy. Some firms also reported benefiting through better stakeholder interaction and communication and improving data collection systems and routines.

The Natural Step, ISO 14000, and the Global Reporting Initiative all provide conceptual frameworks and practical guidance to varying degrees of specificity. There are obvious similarities among them, but they offer a choice of approaches to organizations, which they may select on the basis of their purpose, size, industry, and initial scope of sustainability goals.

Principles of future sustainable organizations

The sustainability of any business organization is inevitably linked to the natural ecosystems from which all productive resources are extracted and within which all material wastes must be disposed. Even those businesses that produce no tangible products, such as financial, legal, and other information-based organizations, are ultimately dependent on the tangible processes they support or facilitate, such as manufacturing, mining, and food production. All economic value is ultimately dependent on the energy that enters, cycles, and recycles through the Earth's natural ecosystems.

The first principle of ecology is "everything is interconnected," from which are derived the ecological principles of *holism*, *diversity*, and *interdependence*. The natural environment is not simply a collection of physical and biological elements, it is an interconnected whole within which humans and human organizations are integral parts. Anything business organizations take from the environment or dump into the environment affects the environment as a whole and thus ultimately affects the long-run viability of the organization.

Interdependent relationships are needed to transform the potentials of holism and diversity into positive ecological reality. Dependence is exploitive, independence is restrictive, but interdependence is mutually supportive. The Institute for Global Ethics, for example, has conducted surveys, interviews, and focus groups with diverse groups of people around the world, asking, "What do you think are the core moral and ethical values held in

the highest regard in your community?" (Kidder, 2005: 43). Responses varied widely, as would be expected, but five values consistently ranked high in virtually every inquiry: honesty, fairness, responsibility, compassion, and respect. People trust individuals whom they believe to be honest and truthful, fair and impartial, and responsible and dependable. Conversely, when relationships between organizations and their suppliers, customers, and neighbors become more conscientious, they ultimately become more costly and less beneficial to the organization as well as to society. If people are to care about their organization, and be committed to its long-term well-being, they must know that they are an important and equal part of an organization that cares for them. Those who manage sustainable organizations must find the moral courage to reject the deception, inequity, irresponsibility, ruthlessness, and disrespect that characterize many business relationships today not only for their own sake, but also for the sake of their organizations (Kidder, 2005).

Ecological, social, and economic integrity

A sustainable organization must have ecological, social, and economic integrity. *Organizational integrity* depends on the extent to which the principles of sustainability permeate all aspects of the organization. The basic principles of economic sustainability are *value*, *efficiency*, and *sovereignty*. Economic value is produced by processes that recombine potentially productive resources, the most basic of which are land, labor, capital, and management. Efficiency is a consequence of choices among alternative resources and the processes by which they are used to produce value. The more effective the allocation of resources among processes, the more efficient the overall production process. The principle of economic sovereignty is frequently sacrificed in the name of economic efficiency or expediency, but it is no less important than are value and efficiency. Without sovereignty and the freedom for consumers to choose, neither a market economy nor individual business organizations can function effectively. The people within a sustainable organization, as well as their suppliers and customers, must be free to make rational economic choices, rather than a collection of individuals treated as cogs in a machine.

The organization's human resources must also be allocated efficiently, but the sovereignty of its members must be respected, not only to create economic value but also to nurture an

organizational culture of trust and caring. Success in creating and maintaining sustainable organizations depends on fundamental change in the paradigm by which business organizations are actually managed. One must abandon the primacy of the principles of profits and growth to achieve ecological, social, and economic integrity. This requires a fundamental change in managers' perceptions of what their customers want and are willing to pay for, what their employees need and are willing to work for, and what their investors want their investments to achieve and are willing to accept in return. Fortunately, there is a large, growing, and increasingly profitable market for sustainably produced goods and services, a swelling force of highly competent workers who show a strong preference for employment in sustainable organizations, and a growing number of investors who are giving priority to social responsibility in their investment decisions.

The transition is underway, as sustainability issues have continued to become increasingly salient for management researchers and practitioners. A rising number of companies are accepting the notion of Corporate Citizenship and Sustainability (CC&S). A Conference Board survey of companies in 2006 showed that 75% were measuring CC&S results and 57% were aligning business objectives with CC&S (Barger, 2007). However, 58% of companies also reported having limited financial and staffing resources.

Eventually, changes in government policies will be required to restore true competitiveness to the marketplace and to protect natural resources from extraction and human resources from exploitation. Such policies will make the challenges facing sustainable organizations in the future less formidable. However, a public consensus for such changes must be created by customers, workers, and investors who have the courage to pursue a more enlightened concept of self-interest by living, working, and investing sustainably in a less hospitable policy environment. A number of courageous business owners and managers are already helping to build such a consensus by creating and maintaining sustainable organizations.

Looking ahead: promise and peril

The sustainability imperative for business organizations is evident. Numerous business and non-governmental organizations have begun building a path to a sustainable future. Some of the main

milestones along the path toward achieving true sustainability are:

- (1) *Awareness and self-assessment*: Acknowledgment of the sustainability impacts of business operations should be followed by a rigorous self-assessment and benchmarking process. The Global Reporting Initiative offers frameworks and guidelines that are broad, and can be used by any business organization, and offers an excellent starting point.
- (2) *Stakeholder engagement*: Using such frameworks typically results in a careful mapping of all stakeholders, assessing attitudes towards these stakeholders, determining the current level of engagement, and establishing the desired level of stakeholder engagement and building the networks of relationships. In 2004, Nike turned an adversarial and reactive posture into an open and proactive stakeholder engagement process by disclosing the details of over 700 global contract factories and inviting discussion about ongoing problems and concerns pertaining to environmental and social issues (<http://nikeresponsibility.com>).
- (3) *Strategy*: Integrate sustainability issues into the strategic analysis and decision making of the organization. Typically this will result in new product-market opportunities. GE's Ecomagination initiatives on clean technologies have yielded a dual dividend – a reduction in carbon emissions and fast-growing multi-billion dollar wind energy business. Further, radical strategic reconceptualizations can lead to entirely new business models. Toyota and Volkswagen are exploring dematerialization of their core product by moving from being manufacturers of vehicles to providing quick and convenient access to transportation services as needed by consumers. Citizenre (<http://www.citizenre.com>) is seeking to redefine the relationship between customers and electric utilities by making each customer a source of power.
- (4) *Sustainability reporting*: Consistent with a strategic focus on sustainability and ongoing stakeholder engagement, it is critical that business objectives and outcomes are aligned, measured, tracked, and reported on a regular basis. The Global Reporting Initiative offers general and industry-specific metrics. Henkel (<http://www.henkel.com>) has been recently recognized for comprehensive reporting, using multiple

frameworks, in a way that encourages stakeholder dialog.

- (5) *System-wide integration*: While it is important to ensure that sustainability is an integral part of an organization's strategy, operations, and processes, it is vital that the leadership and culture have internalized the vision of becoming a truly sustainable enterprise. Johnson & Johnson has a longstanding credo that makes the firm's social responsibilities explicit and prioritizes customers, employees, and the community above stockholders. This credo is credited with the prompt and clear actions taken during the 1982 Tylenol crisis and continuing attention to social and environmental objectives. DuPont (<http://www.dupont.com>) has evolved through various stages and now sees itself in the third phase of sustainable growth with a holistic approach and sustainability integrated into the business model. However, the transition of its products to becoming sustainable is an ongoing process and the definition of sustainable will likely evolve further.

Numerous exemplary companies lead the way by explicitly addressing environmental and social issues, along with traditional economic goals, using the triple bottom line (Savitz, 2006). However, this is a journey that has only just begun and there is a long way to go before we have truly sustainable organizations that are capable of replenishing the natural and social resources they consume.

From a large systems perspective, economies are embedded in societal systems that in turn exist within environmental and ecological systems. There is a clear sense that progress has been made with respect to public discourse, governmental agendas, and rising NGO influence on sustainability issues. However, it is also clear that human activities continue on a course that is increasingly unsustainable. It is often implicitly assumed that the positive changes in awareness and attitude and numerous potential new technologies will enable us to undo the damage we are inflicting upon environmental systems. We can therefore accelerate the development of economies and societies, particularly those that need to catch up, and then address the environmental and social issues later as resources and technologies become available. Such an approach has significant risks as we have little evidence that we know how to repair, or bring controlled change to, large systems. The depletion of natural capital, including bio-diversity, may be irreversible in any realistic time frame. Hence, how

we understand and prioritize these large systems and their interactions must be revisited and redefined now. A major goal of sustainability-driven changes must be human well-being, rather than per capita income or consumption, in the context of intra-generational and inter-generational equity (World Conservation Union, 2006).

Conclusion

The theoretical foundations for sustainability have been established and will continue to evolve in the direction of greater integration of the various aspects and levels of sustainability. Managers will need to address numerous challenges with respect to defining sustainability at the enterprise level, aligning business objectives with a sustainability agenda, determining meaningful measurement in the context of stakeholder engagement, and managing resource constraints.

The rapidly changing environment and stakeholder expectations also offer significant opportunities for firms that develop and extend capabilities and thereby gain a sustained competitive advantage. In preparing for the future, firms need to adopt a sustainable value framework by moving beyond pollution prevention and product stewardship toward a sustainability vision strategy and clean technological competencies (Hart and Milstein, 2003). The ongoing globalization as well as ecological and social disruption will require greater transparency and extensive stakeholder engagement to ensure legitimacy and sustain these processes (Caggiano, 2003).

A number of frameworks and tools have emerged in the last 20 years that offer managers a starting point. These frameworks can assist managers in framing, operationalizing, and tracking sustainability goals in the environmental, social, and business strategy domains. It is particularly important that the various elements are integrated as part of a holistic sustainability vision.

Numerous firms have demonstrated that it is possible and worthwhile to pursue the overarching goal of becoming a completely sustainable enterprise. However, significant technical, social, political, and ecological challenges lie ahead, and time is of the essence. With concerted effort these challenges can be met and the future may yield a sustainable economic and social ecology in which all organizations only exist in mutually beneficial and interdependent relationships, while respecting systems boundaries, and engaged in a process of purposeful and intelligent adaptation to natural systems.



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