

Sustainability, governance and organisational change

Pieter Winsemius had a dilemma. On taking the helm as the Secretary of the new Dutch Ministry of the Environment,¹ Winsemius found that his agency's environmental regulatory system was not getting the job done. The Dutch system has been organised in the 1960s around the belief that controlling pollution from a small number of point sources could protect the environment. Complex bureaucratic structures and procedures had evolved to support the command-and-control system.

By the time Minister Winsemius took office 20 years later, however, numerous point and non-point sources were generating pollution. Because Winsemius's agency had not adapted its mind-set or methods to the new conditions, the Netherlands had, by its own definition, become one of the most polluted nations on Earth. The new minister realised that major changes were needed to solve his nation's environmental problems and place it on a more sustainable path. Transforming an agency with deeply ingrained beliefs, values and behavioural patterns was a daunting proposition (de Jongh and Captain 1999).

The Dutch minister's challenges are not atypical. It is very difficult to transform compliance-based organisations which are usually dependent on a linear take-make-waste economic paradigm to sustainability-focused enterprises. Because it is so tough for organisations to change, it is imperative that a credible guiding framework be used. A sound theoretical basis and an effective change model are especially important because the use of flawed or incomplete strategies causes many change efforts to fail.

Total quality management (TQM), strategic planning, re-engineering and downsizing are four of the most popular approaches to organisational change. Research has found that as many as three-quarters of these programmes achieve no success (Cameron 1997). The consulting firm of Rath & Strong surveyed *Fortune* 500 firms and found that only 20% reported having achieved the objectives of the TQM efforts. More than 40% said their quality improvement programmes were total

1 The Ministry of Ministry of Housing, Land Use Planning and the Environment (VROM)

failures.² An evaluation of re-engineering programmes found that 85% of the firms that attempted to completely redesign their processes and procedures found little to no improvements resulting from their efforts. Many even experienced unintended negative effects that put the actual survival of the organisation at risk (*Economist* 1994).

Sustainability leaders must understand why these change efforts fail and institute transformation strategies that explicitly overcome these flaws.

Sustainability-change efforts must focus on cultural change

The primary reason why TQM, strategic planning, re-engineering and downsizing programmes fail to achieve their goals is that they fail to change the underlying thought patterns, outlooks and behaviour of employees. Failure to modify thinking and perspectives permits old decision-making and activity patterns to remain intact. Said differently, to succeed, re-engineering and other change programmes must be meshed with efforts to change the culture of the organisation.

As with re-engineering, sustainability-change initiatives that fail to alter unsustainable cultural traits will have little long-term success. Unsuccessful attempts to introduce sustainability measures often produce frustration and cynicism and reduce employee morale. Organisations may become worse off than they were before the change effort started.

To avoid the boomerang effects of failed change initiatives, sustainability initiatives must explicitly focus on altering the culture of the organisation. Indeed, when re-engineering and TQM efforts were embedded in a much larger cultural change scheme, they were much more successful (*Economist* 1994: 9).

Systems and organisations

How does a sustainability-change effort transform organisational culture? A first step is to understand the nature of organisations and their cultures. As far back as 1938, Chester Barnard, former head of AT&T, described an organisation as 'a *system* [emphasis added] of consciously coordinated activities or forces of two or more persons'. Dee Hock, founding CEO of Visa, added a different twist to this definition. Hock says organisations are 'merely embodiments of a very old, very basic idea—the idea of *community* [emphasis added]' (Waldrop 1996). These definitions underscore two of the key aspects of organisations: they are systems of community.

Because organisations are communities and communities involve people, they are extremely complex. External forces as well as internal cognitive and emotional drivers shape organisational behaviour. The employees of an organisation play a major role in shaping the way it operates. People are driven by personal aspirations

2 Rath & Strong survey.

such as the desire for money, status, power, praise, companionship and love. Every human being is shaped by his or her family history, genetic make-up, schooling and past and current physical surroundings. The behaviour of humans is also shaped by the information they receive, the communication they are exposed to, the support they receive for involvement, the power and authority they have to act, and the resources available to make things happen.

The way people and structures interact shape the performance of an organisation. This is because organisations are *social systems*. It is not hard for people to identify certain types of systems (for example, school systems). However, few define organisations in this way. Yet we must if we are to comprehend how organisations function, why they produce poor environmental and socioeconomic outcomes, and how those problems can be treated.

A system is 'a whole consisting of two or more parts' (Ackoff 1999: 4). All of the parts of a system are interrelated and interdependent in some way. The human body is the personification of a system. The heart is a system of numerous valves and vessels that work together to distribute blood throughout the body. The heart system is part of a much larger circulatory system that distributes oxygen and other key nutrients throughout the body. The entire circulatory system works with all of the organs, muscles, nerves and other components to produce a healthy body. Aircraft, washing machines and cars are examples of human-made systems. Each has numerous parts that must work together to produce a specific outcome.

The parts of a system can be material and tangible, such the parts of an aircraft or washing machine. The parts can also be non-substantive and hard to see or touch, such as the relationships, unspoken but accepted procedures, interpersonal interactions and internal frames of mind that exist within an organisation.

The manufacturing department of a business is a system of people, information, equipment and processes that interact together to achieve a specific purpose—generating products. The manufacturing system is embedded in a larger system. The processes and feedstocks used by the manufacturing system are delivered by the research and development (R&D) and purchasing units, which themselves are systems composed of people, information, processes and equipment. Similarly, the manufacturing system delivers its products to the marketing and sales systems, which are therefore dependent on the manufacturing system to achieve their goals. In short, all of the systems of a business must work together to achieve their unique purpose: the delivery of goods and services.

Smaller systems are usually connected to larger systems in explicit and sometimes implicit ways. For example, the business described above is interdependent with even larger systems such as the community, the economy and its supply chain. Thus, when a systems perspective is taken, it becomes apparent that everything is connected to everything else.

Systems can be defined by five key traits (adapted from Kim 1999; Anderson and Johnson 1997), listed below.

1. *Systems have specific purposes.* Every system has a central purpose that defines it as a discrete entity in relationship to the larger system in which it operates. For example, the purpose of a private company is to generate and distribute specific goods and services. The purpose of a government is also, in part, to provide goods (e.g. drinking and irrigation water, power) and services (e.g. education, public

safety) that the electorate have deemed important. The purpose of a system is defined by the system as a whole, not by any one of its parts. For example, the wings, engines, or any other part alone cannot accomplish the purpose of an aircraft.

2. *Systems must have all of their parts present to achieve their purposes.* If key pieces of a system can be removed without undermining its overall functioning, the pieces are part of a collection, not a system. For example, the wings, engines, electronics and fuel of an aircraft are all essential for flight. Leave out just one of these and the plane won't fly.

3. *The way the parts of a system are arranged determines its performance.* If the parts of something can be arranged in any arbitrary order, they are a collection, not a system. There is no real need for the silverware in the drawer to be stacked in a particular order (unless you prefer it that way). In contrast, the way the parts of a system are arranged determine if and how it can achieve its purpose. Unless the core parts of an aircraft are arranged in a specific order, it cannot fly. All of the systems (units) of an organisation must fulfil their roles effectively and efficiently for it to achieve optimal performance.

4. *Each of the core elements of a system is dependent on the other core elements.* It follows from the above that the core components of a system form an interlinked set. For example, the way the lungs perform depends on the way the heart, bloodstream, brain and other elements are performing. The effect of the marketing and sales departments in an organisation depends on the performance of the R&D, purchasing, production and transportation units. In essence, the interactions among the parts are controlled by *rules* that define how the system operates.

5. *Systems seek to maintain stability through feedback.* Left on its own, a system will seek to maintain equilibrium (the status quo) by retrieving and incorporating information from the external environment that allows it to make adjustments aimed at achieving its purpose. The human body, for example, has all sorts of feedback mechanisms. Jogging increases the heart rate and raises body temperatures beyond the normal 98.6°F. Overheating triggers the body's feedback system, causing the sweat glands to produce perspiration long enough to cool the system down to the normal temperature. Information on sales and market demand provides critical feedback to the production systems of an organisation about the quantity and type of products to produce. Without this feedback, the company may over- or under-produce, or manufacture poor-quality products, and thus lose customers, money, or both.

In sum, organisations are complex social systems. Just as every organ of the human body is inextricably connected to every other, the core processes, units, values, norms, behaviour and individuals of an organisation affect and are affected by every other. It is almost impossible in most organisations to change one core element without generating ripple effects throughout many, if not all, of the others. *The key point to note is that the performance of an organisation is the product of the interaction of its parts* (Ackoff 1999: 33).

The essence of culture

Because organisations are social systems, over time, as people respond to changes in their environment, feedback is received that establishes and continually reinforces a dominant set of thought patterns, perspectives, values, management styles, problem-solving approaches and behaviour that are unique to the group. These traits constitute the culture of an organisation. Every culture reflects widely held beliefs about the nature of reality. These shared world-views hold a culture together. Culture synchronises thought patterns, perspectives and behaviour within a social system.

Cultures can be understood by their values and norms. Values reflect beliefs about what is truly important. A dominant value today at Norm Thompson Outfitters and Interface is protection of the environment. Norms are the widely held and shared social expectations about appropriate attitudes and behaviour. Conformity with the norms of an organisation is viewed as proper while non-compliance is usually frowned upon. At Interface, a widely shared norm is innovation. Employees know the importance of generating new ideas to reduce environmental effects. Customer service is a dominant norm at Norm Thompson. Workers know that paying attention to the needs of customers is a priority. The prevailing norms and values are consistently reinforced by the feedback systems at play within an organisation.

Recall that each unit of an organisation is a discrete system embedded within larger systems. Because norms and values reflect common agreements about what is important and acceptable, they often vary across units and functions. Norms in the R&D unit may be markedly different from those in the manufacturing or EH&S divisions. Norms and values will also differ by location. Those held by Interface employees in northern Europe, for example, will be different from those of workers in southern USA.

Cultures are storehouses of organisational information and knowledge than can assist or thwart sustainability efforts. Values and norms provide the cognitive framework through which people interpret what they observe and experience; they shape the way people communicate and interact with each other (Wilkins and Ouchi 1983). To reiterate, the explicit and implicit feedback systems embedded in the organisation continually reinforce the prevailing values and norms.

Because culture is a product of and embedded in a social system, it is often invisible to the naked eye and hard to describe. Because culture is difficult to recognise, it can go unchallenged for years. Many times the only time people recognise the culture of their organisation is when they describe ‘the way things are around here’.

Because cultures are so hard to discern and are deeply rooted, change can be very difficult. Simply changing technologies or improving management systems is not likely to alter culture. Successful change toward sustainability requires the transformation of norms and values related to the environment and socioeconomic wellbeing. Change is achieved when managers and employees begin to value new things—such as care for the environment, workers and communities—and believe that thinking and behaviour that are inconsistent with those values are no longer appropriate.

True change, therefore, is not just a shift in intention, better recycling or pollution controls, or the creation of websites that display sustainability goals and programmes. Real change toward sustainability produces altered values and norms that lead to choices affecting every aspect of the organisation that are different from those generated by the status quo. These choices generate environmental, social and economic outcomes that are tangibly superior to those created by previous decisions (Beer and Nohria 2000).

Resistance to change

Resistance can be expected whenever the possibility of a change in culture appears. Resistance can be understood as a natural outcome of an organisation's feedback mechanisms that seek to maintain homeostasis—the status quo. A change in world-view threatens to produce profound alterations in the way people view and respond to the world around them. Resistance is therefore a natural reaction, a safety response, to this type of interruption to the status quo. Resistance need not be a problem—in fact, it can be very helpful to achieving sustainability—if it is properly understood and managed. When poorly directed, however, resistance can be deadly.

Cultural resistance to change can appear in many ways. When a proposed change first appears, resistance usually arises due to perceived threats to current beliefs and established behaviour. These values and norms are often embedded in the existing governance systems of the organisation. Peter Senge, one of the leaders of the systems thinking movement, succinctly describes these dynamics. Resistance, says Senge,

is neither capricious nor mysterious. It almost always arises from threats to traditional norms and ways of doing things. Often these norms are woven into the fabric of established power relationships. The norm is entrenched because the distribution of authority and control is entrenched (Senge 1990: 88).

In short, resistance appears when people fear that their power and authority, which is embedded in the organisation's existing patterns of governance, may be at risk.

The problems faced by the DuPont Corporation are illustrative of how the culture of an organisation can resist change. Dupont has been in business for 200 years. For the last century DuPont was able to grow via the strategy of developing new products and building new production facilities worldwide. The reverence for traditional growth strategies, however, has made it difficult for those in middle management to adjust to DuPont's new focus on reducing waste, emissions and reliance on depletable resources.

DuPont's traditional mind-set led one of its subsidiaries, Pioneer Hi-Bred, to license technology from Monsanto for products such as BT corn and Roundup Ready Soybeans. However, opposition erupted to genetically engineered foods by non-profit organisations, consumers and government agencies in Europe and the US. Because the culture of DuPont's subsidiary had locked it in to a certain path, the company made a major error—it failed to understand the strong opposition to

biotechnology. The negative public reaction to genetically modified foods caused significant economic and public relations problems.

To its credit, DuPont responded to these concerns by establishing a biotechnology advisory panel composed of leading scientists. The panel has developed a set of principles and provided important feedback to company officials. Rick McConnell, President of Pioneer Hi-Bred said:

The panel members have openly shared their expertise and have discussed with passion the benefits and risks of products from genetic engineering. Because of their questions and insights, I have gained a renewed appreciation for having a dialog with stakeholders about biotechnology, especially with stakeholders in locales where biotech crops are grown and processed.³

Time will tell how the increased sensitivity to public concern will modify the culture and practices of DuPont and its subsidiaries. However, the panel appears to be a step in the right direction.

Another pertinent example of how culture can generate resistance is found in the State of Oregon's efforts to adopt sustainability measures. In 1999, a group of stakeholders asked former governor John Kitzhaber to sign an Executive Order to initiate a sustainability effort. The governor was personally very sympathetic to the proposal. However, the culture in the governor's office at that time emphasized the status quo and internal control. The governor's staff spoke well about the sustainability plan in public, but most major new initiatives were rebuffed and all new projects had to be initiated by staff, not outsiders. As often happens within democratic governments, eventually the news of the staff's opposition leaked out and a great deal of public pressure came to bear on the governor's office. The governor never wavered in his commitment despite the opposition from some of his staff, and issued the Executive Order in May 2000 (while his staff proclaimed they were always supportive).

The DuPont and State of Oregon examples demonstrate how a community of people who have developed a dominant set of values and norms will resist the introduction of a new set of ideas or values, much like the body can reject a transplanted organ.

Resistance occurs not only when new threats appear to the status quo. It can also emerge after a change has been launched if people become overpowered by feelings of ambiguity or loss of control. Most people do not respond well to situations they cannot control. When change moves too fast for people to assimilate, or when they fear they do not have the capacity to successfully adjust to or prosper in the new order, resistance will occur. These problems are also usually related to perceived threats to established power and authority relationships—patterns that are enmeshed in the existing governance system. For example, middle managers may drag their feet or openly block change if they think a change initiative may undermine their authority or future career opportunities.

Resistance can occur for other reasons as well. Decisions that are sprung willy-nilly on people, a lack of involvement of those who will be most affected, changes

3 DuPont Corporation, *Biotechnology Advisory Panel Report*: cover letter, August 2002.

that make people fear they will appear stupid for past decisions, a legacy of distrust and resentments due to a history of broken promises, and other factors, can all generate resistance.

Resistance can take many forms. Sometimes it is covert, hidden below the surface. Clandestine resistance can persist for quite a while, unseen by change leaders. When left to germinate over long periods, stealth resistance will usually sink a sustainability initiative. The unwillingness to share information, work in teams, meet deadlines, attend meetings or openly communicate may be signs of hidden resistance. These problems commonly result from lack of involvement and low trust levels. When people feel they have no say in what is to be accomplished or how the organisation will achieve its goals, they may feel disenfranchised and attempt to sabotage the effort.

Resistance can also be explicit. Overt complaining, expressed doubts about the seriousness of environmental or social welfare problems, blatant struggles over resources, and a manager's expressed unwillingness to commit time or quality personnel to a sustainability-change effort are examples of open resistance. Explicit resistance is usually much easier to address than covert types precisely because it can be seen and discussed. In fact, many of the organisations that are leading the way toward sustainability encourage overt unambiguous resistance in the form of extensive questioning and challenges. Not only does this prevent the insidious effects of covert resistance from occurring, it brings to the surface many new ideas that help improve their sustainability effort.

It should be noted that a different form of cultural resistance often occurs related to efforts to change technologies or production methods. This form of resistance can be called 'path dependency'. The term refers to the ways in which particular product or process designs and problem-solving approaches come to dominate an industry or society and end up constraining the development of more efficient and effective alternative approaches. As individual firms, sectors or whole economies lock into certain views about the nature of problems and ways to solve them (such as end-of-pipe pollution controls) and sink capital into those solutions, the risks, time and capital required to move to a new approach can become a significant deterrent to change. The result is a situation where organisations and economies become locked into just one of a number of possible paths they could follow. Path dependency often generates overwhelming resistance to change, even when the potential cost-savings and socioeconomic benefits of alternative approaches are huge. (For more information, see Goodstein 1999.)

The culture of governmental institutions will scheme to resist change for reasons similar to those found in the private sector. The public sector has the added influence of the constraints of the political process, which limit an agency's ability to establish its own mission and goals and define the way they will be achieved. The compromises inherent in the legislative process, the presence of interest groups within and outside of the organisation that closely monitor its operations, and other issues, also shape the way a public agency responds to changing circumstances. One or more of these factors can lead to significant inertia or outright opposition to change within government institutions (Osborne 1998).

Culture change and governance

To overcome resistance and transform organisational culture, sustainability-change leaders must find the key leverage points. These are points in a system where a small shift in one thing will eventually generate big changes in everything else. Think of a spaceship hurtling toward the moon a million miles from Earth. If the ship's direction is off-kilter by even the slightest margin, it may miss its destination by thousands of miles. A slight change in direction of one degree or less, however, may shift the direction of the ship and guide it to safe harbour. That slight change is the leverage point.

Finding the key change levers is not always easy. Complex systems such as human organisations make it difficult to identify them. Often, the leverage points are counter-intuitive. Because they are difficult to find, managers often focus on the wrong things and push on the wrong levers. For example, all too often executives believe that better responses to compliance issues will lead to major change. Bigger pollution control devices are installed on smokestacks to reduce emissions. Better sorting of hazardous waste is introduced to reduce contamination. While these actions can be important as transition steps, they are reactive and consequently not effective levers of change. They do not trigger fundamental change to intrinsically flawed linear production systems or mechanical organisational designs. Thus, they cannot activate a transformation to sustainability.

My research suggests that changes in governance provide the greatest overall leverage for transformation toward sustainability. What is a governance system? One respected international academic journal on organisational governance says that 'Governance . . . includes the modes of allocating decisions, control, and rewarding rights within and between economic organizations.'⁴ In other words, governance systems are three-legged stools that shape the way information is gathered and shared, decisions are made and enforced, and resources and wealth are distributed. These factors shape the way people perceive the world around them, the way they are motivated, and their power and authority. These are the drive shaft and steering mechanisms of an organisation.

Because organisations are social systems, each of the three factors of governance influences the others. For example, the information an individual or group has access to shapes their ability to make informed decisions. The roles and responsibilities people have in decision-making influences the type of information they desire and the way resources may be allocated. The way that resources and wealth are distributed often determines the levels of commitment people have to the organisation and affects the type of information they want and role they are willing to play in decision-making. In short, each factor influences how power and authority are distributed within an organisation.

The three key pillars of governance do not play out randomly. Patterns of governance are determined by the core purpose of the social system in which they operate. The goals and guiding principles of an organisation mould its system of governance. For this reason, the introduction of sustainability-based goals and

4 'Aims and Scope', *Journal of Management and Governance*, Kluwer Academic Publishers, 2001.

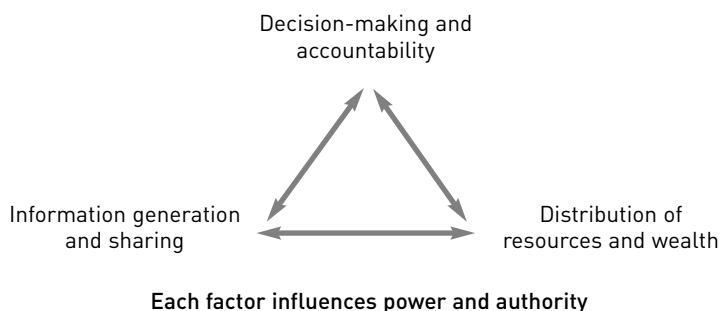


Figure 5.1 Governance systems: a three-part interactive process

principles may initiate a chain of events that leads to the break-up of old patterns of governance and the introduction of new ones.

Governance involves more than formal authority

When people typically think about governance, they associate it with the decision-making role played by top executives, boards of directors, legislative bodies and other formal authorities. This view is too narrow. Issues of power and authority are more often than not the most dominant influence on organisational effectiveness, and power in any organisation is a function of much more than formal authority. Power is generated by the information one has access to, the resources at one's disposal (financial, human, technical), the level of support one receives from others within and external to the organisation, the nature of the informal networks and coalitions people belong to and influence, *and* by official position (Kanter *et al.* 1992).

Organisations are not single-focused monoliths. They consist of individuals and groups with constantly changing interests, needs and allegiances. CEOs, boards of directors, governors and other 'official' leaders must continually jostle for power with the various internal sources of formal and informal power as well as power brokers external to the organisation (such as regulators, unions, stockholders, non-governmental organisations, customers, suppliers and communities). These entities hold different but often equally influential forms of clout.

Power may be temporarily concentrated in one individual or one network of people. However, unless many other power brokers agree with the direction set by these players, overt or covert power struggles may erupt. The jockeying for control often leads to dramatic reallocations of resources or changes in organisational direction as one entity temporarily exerts control only to be overthrown by another. For this reason, the true governance system of an organisation should be thought of as the formal and informal, acknowledged and unspoken mechanisms that determine how power and authorities are exercised.

Because so many fundamental changes are needed, and because the transformation requires many years, it is nearly impossible to set an organisation on a path toward sustainability without long-term buy-in and support from a majority of the power brokers that influence an organisation.

Sustainability requires new forms of governance

The need to create allies among the various internal and external sources of power that influence the direction of an organisation is one of the primary reasons why governance systems must often be adjusted when striving for sustainability. A second reason why governance systems must often change is the need to construct feedback mechanisms that allow information about the organisation's environmental and socioeconomic effects to reach the often-insulated top-level executives. Providing employees and stakeholders with credible information will expand understanding and better equip them to resolve problems. Meaningfully involving them in decision-making will generate ownership and personal responsibility. Equitably distributing resources and wealth will increase motivation and commitment. These are the keys to overcoming resistance and unleashing the potential of people to work toward sustainability. The failure to change the way organisations govern their affairs is a primary reason why re-engineering and other quality improvement programmes have failed to transform culture and thus failed to achieve their goals (see *Economist* 1994; Caldwell 1994; Gross *et al.* 1993; Kotter and Heskett 1992; Hall *et al.* 1993; Beer *et al.* 1990; Spector and Beer 1994).

Finally, governance systems must often be altered when shifting toward sustainability because information, decision-making and resource and wealth allocation mechanisms in sustainability-focused organisations must be fundamentally different from those employed in the old industrial model. The traditional linear cradle-to-grave production scheme makes it more or less irrelevant for every unit and function of an organisation to be completely knowledgeable about how every other unit operates. Even with dramatic efficiency improvements, the take-make-waste production model is essentially a 'batch and flow' system where each unit does its job and then passes its output down the line to the next unit or function in the process. This is as true in the public sector as it is in private businesses. Because each unit operates for all intents and purposes independently from every other unit (in fact, in cradle-to-grave organisations, units often compete against each other to demonstrate superiority or gain advantage), senior executives are the only ones with the broad perspective that allows them to see how the whole operates. Thus, patriarchal governance patterns emerge which are focused primarily on *vertical* relationships. The emphasis is on who has authority over whom and who reports to whom.

Circular cradle-to-cradle-oriented organisations, on the other hand, by their very nature, require an emphasis on *horizontal* relationships. In order to design and construct processes, products and services that can be continually recirculated while causing no environmental or socioeconomic harm, those at the beginning of the economic value chain must have intimate knowledge and understanding of the operational procedures and needs of those in the middle and end of the value chain. In short, organisations structured around a borrow-use-return economic model require the seamless integration of all units and functions in planning and

decision-making. Patriarchal, vertically focused organisations have a very difficult time producing this type of close assimilation. Only whole-systems-based governance schemes can emphasise the horizontal as much or more than the vertical.

Structure and governance

The structure of an organisation profoundly affects information flows, decision-making and resource distribution. In many ways, structure drives behaviour (an old axiom of systems thinking). For this reason, I consider structure a key element of governance.

Despite years of talk about flattening structures and integrating functions, the majority of public and private organisations today remain essentially hierarchical. Most managers believe that power is exercised through a sequence of authority levels, each of which has more clout than, and can therefore overrule, those below it. This assumption concentrates power at the top and shapes information flows and resource distribution patterns to benefit those at the pinnacle of the hierarchy. The Enron, WorldCom and other corporate financial scandals of 2002 in the US dramatically show how a rigid hierarchical structure can concentrate power and wealth at the top while leaving those at the bottom powerless and in ruins.

The belief that power is connected to position can also lead to internally focused governance. In reality, few organisations permit, let alone encourage, external forces such as stakeholders to have much influence on their operations. Allowing external forces to shape decisions would undermine the power and authority of those at the top. Although private firms must follow the law and satisfy shareholders when they exist, and although public agencies implement policies enacted by legislative bodies, most of the basic policies that drive organisations are crafted internally, typically by those at or near the upper echelons. Supervision remains the job of successive layers of management.

When an organisation is too internally focused, it screens out or ignores information provided by its feedback mechanisms that could prove important to its health and to the welfare of its stakeholders. The organisation becomes insulated and does not realise that it has blocked or ignored important feedback from external sources. Insufficient or flawed information leads to poor decisions that usually generate unexpected problems and perpetuate a crisis-response atmosphere.

Some type of hierarchy makes sense in most situations. Excessively rigid and bureaucratic hierarchies, however, can lead to numerous problems. High-performance organisations continually modify their governance structures to make sure they are congruent with the information retrieved by their feedback systems about changes occurring in their external environment (Burton and Obel 1995; Lawrence 1993). Too often organisations that developed hierarchical governance structures when they were first established fail to adjust those structures as conditions change. Numerous researchers have documented the necessity of transforming structures so that organisational visions, strategies, production processes, service delivery systems and administrative structures work together seamlessly (Miles and Snow 1978; Doty and Glick 1994). This often requires significant updating and modernisation.

Success results from a coherent theory of change

How can the governance system of an organisation be transformed to generate cultural change in support of sustainability? My research found that the organisations that are leading the way in the field employ a carefully constructed theory detailing how success will be achieved. Although they don't necessarily start their sustainability initiatives with a detailed change strategy in mind, the leaders learn by doing and spend considerable time thinking through how they will transform their social systems. The cream of the crop of sustainability efforts tend to view all of the people, units and processes within their organisations, as well as its many stakeholders, as interconnected elements in their system of success. They take great care to understand how each step in the change process will interact with the others to form a natural reinforcing loop that leads to long-term transformation.

Derek Smith from Norm Thompson Outfitters succinctly describes how the leaders approach change:

From the beginning we understood this as a change-management process, not just environmental management. We have always pursued this methodologically with an eye on cultural change. We definitely base our efforts on a comprehensive theory of how we can achieve cultural change.⁵

In contrast, the less successful organisations do not seem to have a theory of success, or if one exists it is based on fundamental misperceptions about the nature of their social systems and the types of changes required to become more sustainable. Mirroring the fragmented management style inherent in the linear take-make-waste production model, those struggling to improve their environmental and socioeconomic performance tend to view the key factors of success in isolation rather than seeing them as parts of a whole.

For example, when I asked the director of environmental management at B&G Power Tools (the fictitious name given to the company described in Chapter 1) to share his theory of success, he responded with a litany of actions that had been taken to improve the firm's environmental programmes. When I then asked how all of the actions would add up to long-term success, he suddenly went silent, looked at the floor, then eventually said: 'That is a good question and I don't really have an answer for you right now.' I also found this to be a common problem within the US Forest Services Large-Scale Watershed Program described in Part II of this book. Few of the project leaders could describe how their many activities and projects would eventually add up to success.

Without a coherent theory of success, organisations usually end up pursuing a scattered array of activities and projects that lead to marginal improvements, dead ends or outright failure. An effective theory of change, however, provides the means to regularly examine proposed immediate and longer-term actions to determine if they will have a positive or negative effect and cumulatively lead to the desired outcomes. A sound theory of change is particularly helpful in identifying and preventing steps that may inadvertently undermine the entire change effort.

5 Personal communication, 21 October 2002.

Through my research I found that the leading organisations use uniquely tailored versions of a theory of change that is based on the belief that a sequence of interventions provide the greatest leverage for change in a social system. When researching what the leaders do, I found many similarities between their actions and the key leverage points for change once described by late Donella Meadows, one of the early pioneers of the systems thinking movement. However, Meadows's framework was aimed more at large-scale political change than at organisational change. I found that the sequence and emphasis of her interventions did not quite fit for the organisations I reviewed. For this reason, the framework I offer is a modification of the sequence proposed by Meadows (1997).

Although the leading organisations may not describe it quite this way, their activities demonstrate an implicit or explicit understanding of these key leverage points.

Leverage points for organisational transformation toward sustainability

The greatest leverage point for transforming a social system so that it embraces sustainability is to change the dominant *controlling mind-set* or *mental paradigm* out of which the current system arose. The biggest bang for the buck comes from changing the organisation's (or unit's) overall frame of reference. The stated and unstated ideas held by the majority of people of an enterprise about the way the world works and their places in it shape everything they do. If you can alter the dominant mental paradigm of the organisation, you can change the entire way it is governed and operates. How do you change the controlling mind-set? By continually pointing out the failures of the old mental paradigm while simultaneously loudly and repeatedly describing a new one that is better for everyone. This leverage point was extremely well described by Donella Meadows (e.g. Meadows 1997) and is also a key tenet of John Kotter's work on leadership and change (e.g. Kotter 1996).

The second-greatest leverage for change toward sustainability in a social system is to *rearrange its parts*. Recall that the way the parts of a system are arranged determines how it functions. If you can reconstitute the core elements of an organisation you can change how it operates. How do you rearrange the parts? By engaging new people with different perspectives and skills and reshaping the way these people interact to accomplish their work. When the core components of the system are reshuffled, many new ways of operating and governing appear.⁶

The third-greatest leverage for change in a social system in support of sustainability is to *alter its goals* (Meadows 1997). The goals of an organisation focus the attention and energy of its members. Goals that ignore or give minimal attention

6 Meadows stated that the second-greatest leverage point for change is to change the goals of a system. I find, however, that it is not possible to make a permanent and meaningful shift in goals unless new people with fresh ideas and all of the key power brokers are involved in the decision-making process. For this reason, I believe that the second-greatest lever for change is to involve the right people—i.e. to rearrange the parts of the system.

to the environment, employee or community welfare will lead to decisions that generate harmful outcomes, while those aimed at achieving sustainability will lead to responsible choices and governance patterns. How do you change the goals? By establishing the unambiguous purpose of attaining sustainability at a specific time in the future, as well as first-order principles to guide decision-making toward that end.

The fourth-greatest leverage point for altering a social system to support sustainability is to *restructure the rules of engagement*.⁷ Power over how the work gets done is real power. Change the rules that determine how the various units of an organisation interact to achieve their purpose and how information is produced, decisions made and resources are distributed to support the new workflow, and very different types of outcomes will result. How do you change the rules of engagement? By developing new operational and governance strategies.

The fifth-greatest lever of change toward sustainability in a social system is to *shift the information flows*. (Information in this context focuses on communication and should not be confused with the information generated through improved feedback systems.) The information that is available to people shapes their understanding and their ability to make good decisions. The more that sustainability-focused information becomes dominant throughout an organisation, the more likely are people to grasp its meaning and commit to change. How do you change the information flows? By tirelessly communicating the need, purpose, strategies and benefits of sustainability internally with employees and externally among stakeholders.

The sixth-greatest leverage for modifying a social system toward sustainability comes by *correcting its feedback mechanisms*.⁸ Feedback allows people to understand the effects of their choices and actions and to make appropriate adjustments. The lack of consistent and credible feedback leads to poor understanding and thus to flawed decisions. How do you change feedback mechanisms? By fostering and rewarding learning and innovation to continually increase individual, team and organisational understanding, knowledge and wisdom.

Finally, the seventh-greatest leverage for change toward sustainability in a social system is to *adjust the parameters*.⁹ In the organisational context, changing the

- 7 Meadows stated that the fourth greatest leverage point for change is to change the rules of the system. By this, she meant the incentives, punishments, constraints, etc. However, because the issue is so new, a good deal of time and experience is needed before an organisation can identify thinking and behaviour that are consistent with good sustainability practices. Therefore, I find that it is not possible to change policies and procedures at this stage. Instead, at this stage the rules that govern how the parts of an organisation interact to achieve their goals must be changed.
- 8 Meadows said positive and negative feedback loops are key levers of change. In the organisational context, I find that improving feedback systems can generate both types of feedback.
- 9 Meadows talks about changing the numbers (by which she means subsidies, taxes, standards) as the last of the greatest leverage points for change. In the organisational context related to sustainability, changing the parameters and changing the rules are very similar and usually occur only after each of the other interventions have been implemented.

parameters means aligning the organisational chart, employee performance criteria, incentive and reward systems, internal measurement systems and other systems, structures, policies and procedures that influence the behaviour of employees and stakeholders with sustainability. By itself, this is the least effective intervention because if the core elements of the old governance system remain intact, such as the controlling mental model, teams, goals, information flows and the like, changing the parameters will have very little effect on decision-making or behaviour. However, when linked with interventions at the six other key leverage points, adjusting the parameters can help embed sustainability in the organisation's standard operating procedures and culture.

- 1 Change the dominant mind-set out of which the current system arose
- 2 Rearrange the parts of the system
- 3 Alter the goals of the system
- 4 Restructure the rules of engagement of the system
- 5 Shift the flows of information and communication of the system
- 6 Correct the feedback loops of the system
- 7 Adjust the parameters of the system

Box 5.1 Greatest leverage points for change toward sustainability in a social system

The following section of the book outlines the sequence of actions taken by the leading sustainability organisations to intervene at these key leverage points.