

# The Durable Corporation

Strategies for Sustainable  
Development

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# Introduction: Why Sustainability Matters

## Introduction

Most corporations in the world are currently trying to distance themselves from the excesses and misbehaviours which have been manifest in recent years by those corporations which have been symbolised as *rogue* corporations.<sup>1</sup> Many would consider that these corporations have, however, behaved no differently to most others and have merely been found out in their misdeeds. Nevertheless, the distancing of the rogues from the rest has led to a tremendous resurgence of interest in behaviour which has been classified as corporate social responsibility (CSR). So, corporations have been busy repackaging their behaviour as CSR and redesignating their spinmasters as Directors of CSR, for many people would say that there is much evidence that little has changed in corporate behaviour except for this repackaging – the power of the semiotic being far more potent in the modern world than the power of actual action, and also obviating the need for such action. In this book we do not take this position, holding a view that all corporations are a mixture of good and bad practice just as much as all people are – so cataloguing the bad might be easy and entertaining but hardly constructive.

Crowther and Rayman-Bacchus (2004a) have argued that the corporate excesses, which are starting to become disclosed and which are affecting large numbers of people, have raised an awareness of the social behaviours of corporations. This is one reason why the issue of CSR has become a much more prominent feature of the corporate landscape. There are other factors which have helped raise this issue to prominence and Topal and Crowther

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<sup>1</sup> Enron is, of course, the best known of these but there are many more examples of corporations exhibiting bad behaviour, although probably not quite on the same enormous scale. There are many examples from many countries – too many to try to catalogue.

(2004) maintain that a concern with the effects of bioengineering and genetic modifications of nature is also an issue which is arousing general concern. At a different level of analysis, Crowther (2000a, 2002a, 2002b) has argued that the availability of the World Wide Web has facilitated the dissemination of information and has enabled more pressure to be brought upon corporations by their various stakeholders. But, Wheeler and Elkington (2001: 1) talk about the end of the corporate environmental report due to the fact that historically this report has not engaged stakeholders and it appears to be:

*'the development of truly interactive (cybernetic) corporate sustainability and communications delivered via the internet and other channels.'*

Another point of view, about the diffusion of information and its impact,<sup>2</sup> was presented by Unerman and Bennette (2004), who explain the difficulties in identifying all stakeholders that are affected by a corporation's activity. All these perspectives, therefore, raise the question as to what exactly is CSR and how can it manifest and to what exactly can be considered to be CSR. According to the EU (2001: 8):

*'... CSR is a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis.'*

From these various writings about CSR we can infer that the idea of the corporation as a social enterprise is not new and has resonance with earlier ideas such as those of Dahl (1972: 18), who stated:

*'... every large corporation should be thought of as a social enterprise; that is an entity whose existence and decisions can be justified insofar as they serve public or social purposes.'*

Shaw (2004: 196) explains that the principal characteristics of a social enterprise are:

- (i) the orientation, *'... directly involved in producing goods and providing services to the market, making an operating surplus ...'*

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<sup>2</sup> Unerman and Bennette (2004: 702) explain the interactive ways that the financial report could exist. For them:

*'... it is not possible to ascertain from the web forum (i.e., it is a mechanism to ensure movement towards inter subjective acceptance by all stakeholders of the corporate responsibilities recognised) the extent to which postings have actually affected corporate decisions.'*

- (ii) the aim, '*... explicit social aims (job creation, training or provision of local services), strong social values and mission (commitment to local capacity building), accountable to their members and wider community for their social, environmental and economic impact.*<sup>3</sup> *The profits are to their stakeholders or for benefit the community.*'
- (iii) and the ownership, '*... autonomous organizations with loose governance and participation of stakeholders in the ownership structure.*'

All definitions – and there are many – seem to have a commonality in that they are based upon a concern with more than just profitability and returns to shareholders. Indeed, involving other stakeholders and considering them in decision-making is a central platform of CSR. The broadest definition of CSR is concerned with what is – or should be – the relationship between the global corporation, governments of countries and individual citizens. For example, the Organization for Economic Cooperation and Development (OECD) has studied investment in weak governance zones.<sup>4</sup> More locally, the concept of CSR is concerned with the relationship between a corporation and the local community in which it resides or operates. One such case was Timberland, which recorded 44,000 community service hours during a three-year period and received US recognition<sup>5</sup> for its commitment to social responsibility (Austin et al. 2004). Another concept of CSR is concerned with the relationship between a corporation and its stakeholders. In this situation, activity could be focused on employees (see Parker 1977). The corporation develops its codes of conduct that could make some progress in improving labour rules and process, but the scope are limited and it is unclear if they can make a significant impact without the help of governments with law enforcement. These efforts are likely to benefit only a small segment of the target workforce.<sup>6</sup>

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3 An empirical study concerning the operational reporting of corporate natural assets (i.e., habitats, fauna and flora) can be seen in Jones (2003).

4 Following the external inputs invitation of 28 February 2005, the concept has been developed as: '*... in some investment environments, public authorities are unwilling or unable to protect rights (including property rights) and to provide basic public services (e.g. social programmes, infrastructure development and prudential surveillance). These "government failures" lead to broader failures in political, economic and civic institutions that the project refers to as "weak governance".*' (OECD 2005).

5 Recognition included a corporate conscience award from the council on economic priorities and public accolades from Presidents Bush and Clinton (Austin et al. 2004).

6 See, for example, OECD (2000a, 2000b) and Scherrer and Greven (2001).

For the authors all of these definitions are pertinent and represent dimensions of the issues. At the same time a parallel debate is taking place in the arena of ethics as to whether corporations should be controlled through increased regulation or whether the ethical base of citizenship has been lost and needs replacing before socially responsible behaviour will ensue. For example, Fülöp et al. (2000) state that people in Hungary often comment that ethics in the Hungarian economic life is a delusion rather than a reality.<sup>7</sup> However this debate is represented it seems that it is concerned with some sort of social contract between corporations and society.

For corporations however, within the broad concept of CSR there are three real issues which focus their attention at the moment: sustainability, corporate governance and the harmonisation of accounting standards. All are issues which are global in their impact and must be considered in the context of globalisation. Probably the most important – and certainly what we will be focusing on in this book – is the issue of sustainability. This is something which is addressed by every corporation, and most governments and NGOs, all over the world. It is also the topic of this book and so we need to start by considering why it has become such an important issue.

## **Global Warming**

The changes to the weather systems around the world is apparent to most people and is being manifest in such extreme weather as excessive rain or snow, droughts, heatwaves and hurricanes which have been affecting many parts of the world. Indeed most of us remember, for example, Hurricane Katrina which devastated New Orleans. Global warming and climate change, its most noticeable effect, is a subject of discussion all over the world and it is generally, although by no means universally, accepted that global warming is taking place and therefore that climate change will continue to happen. Opinion is divided, however, as to whether the climate change which has taken place can be reversed or not. Some think that it cannot be reversed. Thus, according to Lovelock (2006) climate change is inevitable with its consequences upon the environment and therefore upon human life and economic activity. He remains, however, positive that it is possible to adapt and is thereby more positive than some other commentators.<sup>8</sup> In this book we take the position that it is an

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7 Similarly an Islamic perspective on CSR can be found in Rizk (2005) and on business ethics in Pomezanz (2004).

8 See, for example, Reay (2005).

established fact that climate change is taking place and consider what can be done about it in terms of corporate activity. Whether or not it is reversible is not the issue for us as we feel obliged to attempt to – at least – mitigate its effects through changes in corporate behaviour.

Although there are many factors which are contributing to the global warming which is taking place, it is clear that commercial and economic activity plays a significant part in this global warming. Indeed many people talk about ‘greenhouse gases’, with carbon dioxide being the main one, as a direct consequence of economic activity. Consequently many people see the reduction in the emission of such gases as being fundamental to any attempt to combat climate change. This of course requires a change in behaviour – of people and of organisations. Such a perceived need for change is one of the factors which has caused the current concern with sustainability.

## **Footprinting**

Another factor which is occupying the minds of people in general is that of their ecological footprint – the amount of physical area of the earth needed to provide for each person. Ecological footprint analysis compares human demand on nature with the biosphere’s ability to regenerate resources and provide services. It does this by assessing the biologically productive land and marine area required to produce the resources a population consumes and absorb the corresponding waste, using prevailing technology. This approach can also be applied to an activity such as the manufacturing of a product or driving of a car. A possibly more fashionable term at the moment however is that of carbon footprinting.

A carbon footprint can be considered to be the total amount of carbon dioxide (CO<sub>2</sub>) and other greenhouse gases emitted over the full life cycle of a product or service. Normally a carbon footprint is usually expressed as a CO<sub>2</sub> equivalent (usually in kilogrammes or tonnes), which accounts for the same global warming effects of different greenhouse gases (UK Parliamentary Office of Science and Technology POST 2006). There are a number of ways of calculating this footprint and a number of online resources to assist, at least as far as individuals are concerned. For a corporation it is more problematic as it

involves both life cycle analysis<sup>9</sup> and a detailed understanding of all stages in the supply chain.

For an individual the definition of carbon footprint is the total amount of carbon dioxide attributable to the actions of that individual (mainly through their energy use) over a period of one year. This definition underlies the personal carbon calculators that are widely used. The term owes its origins to the idea that a footprint is what has been left behind as a result of the individual's activities. Carbon footprints can either consider only direct emissions (typically from energy used in the home and in transport, including travel by cars, aeroplanes, rail and other transport), or can also include indirect emissions (including carbon dioxide emissions as a result of goods and services consumed). Bottom-up calculations sum attributable such emissions from individual actions; top-down calculations take total emissions from a country (or other high-level entity) and divide these emissions among the residents (or other participants in that entity). A number of studies have calculated the carbon footprint of organisations and nations. One such UK (2007) study examined age-related carbon emissions based on expenditure and consumption. The study found that on average people aged 50–65 years have a higher carbon footprint than any other age group. Individuals aged 50–65 years old have a carbon footprint of approximately 13.5 tonnes/capita per year compared to the UK average of 12 tonnes.

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9 Life cycle analysis is concerned with all the effects of an activity over the whole life. It recognises that any activity involves expenditure in the acquisition of the basis of activity but also involves a commitment to future impact in its use. It is important to recognise this and to incorporate both acquisition and operating effects into the evaluation. Thus, for example, a product which has a high production cost but low operating costs may be more ecological than one which has a low acquisition cost but high operating costs. An evaluation solely on operating effects will not take this into account and the most effective decision may not be made. The costs incurred over the full life cycle of a product are the following:

- production or manufacturing costs – including research and development, resource consumption, energy consumption, etc;
- operating costs – for example, maintenance, energy, spares, training;
- ongoing capital costs – for example, equipment upgrades, modifications;
- disposal costs – for example, removal and disposal of noxious substances, salvage, storage, reclamation, etc.

The objective of life cycle analysis is to measure the full range of environmental effects assignable to products and services, so as to be able to choose the least burdensome one. The term life cycle refers to the notion that a fair, complete assessment requires the assessment of raw material, production, manufacture, distribution, use and disposal including all intervening transportation steps necessary or caused by the product's existence. The sum of all those steps – or phases – is the life cycle of the product. The concept also can be used to optimise the environmental performance of a single product or to optimise the environmental performance of a company. As indicated, however, in the preceding paragraph this measurement and comparison takes place in terms of cost.

It is claimed that the carbon footprint so calculated can be effectively reduced by some of the following steps:

- Life Cycle Assessment (LCA) to accurately determine the current carbon footprint.
- Identification of hot-spots in terms of energy consumption and associated carbon dioxide emissions.
- Optimisation of energy efficiency and, thus, reduction of CO<sub>2</sub> emissions and reduction of other GHG emissions contributed from production processes.
- Identification of solutions to neutralise the CO<sub>2</sub> emissions that cannot be eliminated by energy saving measures. This includes such things as carbon offsetting and investment in projects that aim at reducing carbon dioxide emissions, such as tree planting.

It is commonly understood that the carbon dioxide emissions (and the emissions of other greenhouse gases) are almost exclusively associated with the conversion of energy carriers such as wood burning, natural gas, coal and oil. The carbon content released during the energy conversion process reaches the atmosphere and is deemed to be responsible for global warming, and therefore climate change.<sup>10</sup> Nevertheless, general concern has been expressed worldwide and this has led to the Kyoto Protocol.<sup>11</sup> The Kyoto Protocol defines legally binding targets and timetables for cutting the greenhouse-gas emissions of industrialised countries that ratified the Protocol.<sup>12</sup> Accordingly, from an economic or market perspective, one has to distinguish between a *mandatory market* and a *voluntary market*. Typical for both markets is the trade in emission certificates.

In contrast to the strict rules set out for the mandatory market, the voluntary market provides companies with different options to acquire emissions

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10 This is, of course, overly simplistic, if not completely wrong. Thus people (and animals) produce carbon dioxide when breathing, cows (and other ruminants) produce methane and the process by which vegetation produces, captures and subsequently releases carbon dioxide is complex and not fully understood (see Lomborg 2001).

11 This was agreed in 1997 and came into effect in 2005.

12 In late 2007, Australia ratified the Protocol, leaving only one large developed country which has not done so. This country is however the USA, probably the largest producer of such greenhouse gases.

reductions. A solution, comparable with those developed for the mandatory market, has been developed for the voluntary market, the verified emission reductions (VER). This measure has the great advantage that the projects/activities are managed according to the quality standards set out for CDM/JI projects but the certificates provided are not registered by the governments of the host countries or the Executive Board of the UNO. As such, high quality VERs can be acquired at lower costs for the same project quality. However, at present VERs can not be used in the mandatory market.

The voluntary market in North America is divided between members of the Chicago Climate Exchange and the over the counter (OTC) market. The Chicago Climate Exchange is a voluntary yet legally binding cap-and-trade emission scheme whereby members commit to the capped emission reductions and must purchase allowances from other members or offset excess emissions. The OTC market does not involve a legally binding scheme and a wide array of buyers from the public and private spheres, as well as special events that want to go carbon neutral. There are project developers, wholesalers, brokers and retailers, as well as carbon funds, in the voluntary market. Some businesses and nonprofits in the voluntary market encompass more than just one of the activities listed above. A report by Ecosystem Marketplace shows that carbon offset prices increase as it moves along the supply chain – from project developer to retailer.

While some mandatory emission reduction schemes exclude forest projects, these projects flourish in the voluntary markets. A major criticism concerns the imprecise nature of greenhouse gas sequestration quantification methodologies for forestry projects. However, others note the community co-benefits that forestry projects foster. Project types in the voluntary market range from avoided deforestation, afforestation/reforestation, industrial gas sequestration, increased energy efficiency, fuel switching, methane capture from coal plants and livestock, and even renewable energy. Renewable energy certificates (RECs) sold on the voluntary market are quite controversial due to additional concerns. Industrial gas projects receive criticism because such projects only apply to large industrial plants that already have high fixed costs. Siphoning off industrial gas for sequestration is considered picking the low hanging fruit; which is why credits generated from industrial gas projects are the cheapest in the voluntary market. The size and activity of the voluntary carbon market is difficult to measure. The most comprehensive report on the voluntary carbon markets to date was released by Ecosystem Marketplace and New Carbon Finance in July of 2007.

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There has been a considerable volume of criticism of the concept of a carbon footprint. All is based on disagreement with one or more of the assumptions underlying the calculation of a carbon footprint:

- that carbon emissions are a significant cause of global warming;
- that human activity is a significant cause of these emissions;
- that it is possible to attribute all or most emissions to particular individuals;
- that individual initiative is necessary because market forces or legislation will not be powerful and timely enough;
- that each individual should therefore calculate and attempt to reduce his share of carbon emissions;
- sometimes, that each person should be given as a target an equal share of emissions, or some other share.

Criticisms derived from the rejection of these assumptions therefore include:

- that other gases, such as methane, are more significant than carbon dioxide;<sup>13</sup>
- that human activity is not as significant a cause as natural processes such as volcanic activity;
- that many emissions cannot reasonably be attributed to any individual. Thus is it reasonable to decide that the emissions from commuting, for example, are attributable to commuters or should they be attributed to the consumers of the final produce which they produce or service that they consume?
- that human activity will be changed, given sufficient time, by market forces or by political interventions;
- that population growth invalidates the calculations;

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13 This is one of the arguments made in Europe by the low cost flight air transport industry.

- that one cannot limit everyone to equal emissions: for example those in urbanised societies may be unable to avoid some emissions, while less-developed countries may not have the technology to mitigate others.

Although scientific opinion has more or less reached a consensus that global warming is taking place and therefore that climate change is happening, there are still a considerable number of sceptics and people who deny that it is happening.<sup>14</sup> There are others who argue that the human contribution to global warming is negligible: they argue, therefore, that it is useless or even harmful to concentrate on individual contributions.

## Resource Depletion

Obviously the resources of the planet are finite and this is a limiting factor to growth and development which we will consider to a considerable extent in this book. The depletion of the resources of the planet, however, is one of the actors which has helped create the current interest in sustainability. Of particular concern is the extractive industries and such things as aluminium are becoming in short supply. In the UK, the mineral resources such as tin and lead have been fully extracted long ago and the thriving industries based around them are long gone. As other resources – such as coal – are extracted in total then the companies based upon them disappear, as do the jobs in those industries. This is an obvious source of concern for people.

Of particular concern is the extinguishing of supplies of oil, because much economic activity is fuelled by the energy created by the use of oil. Indeed many would argue that the wars in the Middle East,<sup>15</sup> particularly the problems in Iraq and Iran, are caused by oil shortages, actual or impending, and the problems thereby caused, rather than by any concern for political issues. Most people have now heard of Hubert's Peak<sup>16</sup> and engaged with the debate as to whether or not it has been reached. Certainly it has in parts of the world

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14 The European consensus is by no means worldwide in this respect.

15 And most probably any other parts of the world also – it would be instructive to correlate the presence of oil with conflicts.

16 In 1956 Dr King Hubert, a geologist working for Shell Oil developed his theory about the depletion of finite resources like fossil fuels. Now commonly known as Hubert's Peak, his theory explains that production rates of oil and gas will increase to a peak and then rapidly taper off as reserves are depleted. He developed his theory to explain the coming reduction in production of oil in the USA and it is generally accepted that his theory was correct about this.

such as the USA and the North Sea but it is less certain if it has been reached for the world as a whole. Nevertheless the whole crux of sustainability – and sustainable development – is based upon the need for energy and there are insufficient alternative sources of energy to compensate for the elimination of oil as a source of fuel. Consequently, resource depletion, real or imagined, and particularly energy resources, is one of the most significant causes of the current interest in sustainability.

## Competition

As resources become more obviously finite then the competition for the use of them necessarily increases. Globalisation, of course, necessarily increases the scale of the competition which has become worldwide rather than local. The drive for growth, of course, exacerbates this as each company thereby requires more of the finite resources, and competition therefore increases. The advent of China into the global economy with its double digit growth rate has highlighted this issue about the increased competition for finite resources. These are all issues which we will return to at various times in this book because they are very significant for any analysis of sustainability. They are also all things with which most people are familiar and therefore are some of the factors which have caused the current interest in sustainability and the possibilities or limitations for sustainable development.

## The Gaia Hypothesis

Named after the Greek earth goddess, the Gaia hypothesis was created by James Lovelock (Lovelock 1979). In this hypothesis he posited a different model of the planet Earth; in his model the whole of the ecosphere, and all living matter therein, was co-dependent upon its various facets and formed a complete system. According to this hypothesis, this complete system, and all components of the system, was interdependent and equally necessary for maintaining the Earth as a planet capable of sustaining life. This Gaia hypothesis was a radical departure from classical liberal theory,<sup>17</sup> which maintained that each entity was independent and could therefore concentrate upon seeking satisfaction for its own wants, without regard to other entities. This classical liberal view of the world forms the basis of economic organisation, provides a justification for the existence of firms as organs of economic activity and provides the rationale

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<sup>17</sup> See the discussion of Utilitarianism later in this chapter for details of classical liberal theory.

behind the model of accounting adopted by society. The Gaia hypothesis, however, implied that interdependence, and a consequent recognition of the effect of one's actions upon others, was a facet of life. This consequently necessitates a different interpretation of accountability in terms of individual and organisational behaviour, activity and reporting.

Given the current constitution of the economic activity of the world into profit seeking firms, each acting in isolation and concerned solely with profit maximisation, justified according to classical liberalism, it is inevitable that accounting developed as organisation-centric,<sup>18</sup> seeking merely to measure and report upon the activities of the firm insofar as they affected the firm itself. Any actions of the firm which had consequences external to the firm – as almost all do in one way or another – were held not to be the concern of the firm. Indeed enshrined within classical liberalism, alongside the sanctity of the individual to pursue his own course of action, was the notion that the operation of the free market mechanism would mediate between these individuals to allow for an equilibrium based upon the interaction of these freely acting individuals and that this equilibrium was an inevitable consequence of this interaction.<sup>19</sup> As a consequence, any concern by the firm with the effect of its actions upon externalities was considered to be irrelevant and not therefore a proper concern for its accounting.

The Gaia hypothesis stated that all organisms were interdependent<sup>20</sup> and that it was necessary to recognise that the actions of one organism affected other organisms and hence inevitably affected itself in ways which were not necessarily directly related to its actions – in other words all actions may well have unintended consequences.<sup>21</sup> Thus, the actions of an organism upon its

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18 We will return to this issue later in the book, as it is very relevant to an understanding of sustainability.

19 This assumption of course ignores the imbalances in power between the various parties seeking to enact transaction through the market.

20 In actual fact Lovelock claimed in his hypothesis that the earth and all its constituent parts were interdependent. It is merely an extension of this hypothesis to claim the interrelationship of human activity whether enacted through organisations or not.

21 This can be considered to be related to the ideas of chaos theory. Gleick (1988) contends that Western science is founded on the idea that very small influences can be ignored, approximately accurate inputs will result in approximately accurate outputs. This is because these small influences remain small and do not escalate into much larger effects. However, since the 1960s, this foundation has been questioned as there has been a realisation that in certain circumstances this is not the case. This leads to one of the cornerstones of chaos theory which considers systems which demonstrate a sensitive dependence upon initial conditions. Also it has become apparent that in certain instances this dependence is of such importance that the causal relationships are lost. A definition of chaos theory, which is appropriate for the confines of this paper, was provided by Kellert (1993) as 'the qualitative study of unstable

environment and upon externalities was a matter of consequence for every organism, as everything is interdependent. This is true for humans as much as for any other living matter upon the planet. It is possible to extend this analogy to a consideration of the organisation of economic activity taking place in modern society and to consider the implications both for the organisation of that activity and the accounting for that activity. As far as profit seeking organisations are concerned therefore the logical conclusion from this is that the effect of the organisation's activities upon externalities is a matter of

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aperiodic behaviour in deterministic non-linear dynamical systems.' (1993: 27). Therefore, the systems which will show this chaotic behaviour are those which encompass non-linear feedback loops.

Parker and Stacey (1995) identify non-linear feedback systems in nature as those which exist at the boundary of stability and instability. As a result these systems produce a continuously creative and innovative behaviour. They argue that as 'human systems, including business organisations and economies, are non-linear feedback systems, the lessons from chaos theory are profound.' (1995: 101). Phelan (1995) suggests that organisations operating in a competitive environment are actually in a complex adaptive system, while Vriend (1994) described a complex system as one where there are many agents which are interacting with each other and that it is adaptive if the agents' actions alter as a result of these interactions. Complex systems appear to evolve into a state of complexity at the edge of chaos (Phelan 1995), a situation which incorporates stability whilst still permitting change, which is consistent with the position of organisations as identified by Parker and Stacey (1995). Chaos theory and complexity theory are often considered to be synonymous (Hayles 1991) and have both been used to describe the environment within which modern organisations operate. Both are essentially concerned with the elimination of uncertainty from the environment and the representation of the future as certain, based upon the predictive ability of the theory. In this respect these theories can be likened to accounting theory in that they are concerned with the elimination of uncertainty in the prediction of the future, albeit each starts from a different base and works with a different set of assumptions.

As organisations exist within a system which is complex and adaptive, the role of accounting in prediction needs to be reconsidered. First, within all financial models there are likely to be errors within the data which is input. Also we should remember Lorenz, one of the instigators of chaos theory, who led us to what is known as the butterfly effect, which as Gleick (1988) explains is the notion that a 'butterfly stirring the air today in Peking can transform storm systems next month in New York.' (1988: 35). Therefore, even factors which appear irrelevant can have crucial implications for future predictions. An accountant preparing a plan or budget for an organisation can never be sure that all relevant factors have been included; indeed it is unlikely that this will be the case. Added to this is the admission in the accounting literature that external factors with quite obvious implications for the organisation are ignored, or considered to be stable and predictable, and therefore irrelevant to the analysis. On this basis, therefore, the validity of the financial plans of an organisation prepared under these assumptions would appear questionable. However, the omission of small influences may not be as important in the shorter term, as it takes a period of time for these small influences to be amplified. It is therefore argued that accounting theory can benefit from the use of the assumptions which underpin chaos theory and a combination of the two can enhance the predictive capability of the combined theory in predicting the future as far as individual organisations working in uncertain environments are concerned. Accounting can therefore be advanced through a consideration of chaos theory and an acknowledgement that in order to predict the future either only short time periods should be considered or for longer term purposes a more detailed specification of the initial conditions would be required.

concern to the organisation, and hence a proper subject for accounting in terms of organisational activity.

While it is not realistic to claim that the development of the Gaia theory had a significant impact upon organisational behaviour, it seems certain that there is some relationship, albeit indirect, as it seems that a social concern among business managers developed at the same time that this theory was being propounded. It is perhaps that both are symptomatic of other factors which caused a re-examination of the structures and organisation of society. Nevertheless, organisational theory has, from the 1970s, become more concerned with all the stakeholders of an organisation, whether or not such stakeholders have any legal status with respect to that organisation. At the same time within the discourse and practice of accounting there has been a growth in concern with accounting for externalities and for the effects of the actions of the firm upon those externalities. One externality of particular concern is that of the environment; in this context the environment has been defined to include the complete ecosphere, rather than merely the human part of that ecosphere. These concepts form part of the foundations of a concern with sustainability.

## **Population**

According to the pronouncements of the United States Census Bureau, the world population had increased to 6.5 billion on 25 January 2006. This was only a few years after 12 October 1999, which had been designated by the United Nations Population Fund as the approximate day on which world population reached 6 billion. This in turn was only about 12 years after the world population had reached 5 billion, in 1987. It must be noted, however, that the population of some countries, such as Nigeria or Brazil, is not even known to the nearest million, and so it can be seen that there is a considerable margin of error in such estimates. Nevertheless, it is certain that the population of the world is continuing to grow, and at as quick a rate as at present. Thus, the United Nations Population Division has recently projected that the world population will be likely to exceed 9 billion by 2050. There are a number of reasons why there has been such a rapid increase in population in the last century. One factor of course is that of the medical advances which have been made, in preventing child death and in extending the life of old people. Another factor is rising prosperity, coupled with a substantial increase in agricultural productivity, particularly in the period 1960 to 1995, which has enabled people to live healthier and more productively.

An increasing population of course increases the requirements for goods to consume – raising a question about sustainability. This is particularly pertinent as far as the need for agricultural production to supply food in increasing quantities. When coupled with climate change and the consequent expected disruption to agriculture this has been a cause for concern for many people, particularly in the context of sustainability. This in turn has caused Malthus and his theories to be re-examined for current relevance. Malthus, of course, was an eighteenth-century economist who developed his views primarily as a reaction to the optimistic opinions of his father and of his father's associates, notably Rousseau.<sup>22</sup> In his famous 'An Essay on the Principle of Populations', first published in 1798, he made his well-known prediction that food shortages would occur because population would increase at a faster rate than food supply could be increased – leading to mass starvation. He stated:

*'The power of population is so superior to the power of the earth to produce subsistence for man, that premature death must in some shape or other visit the human race. The vices of mankind are active and able ministers of depopulation. They are the precursors in the great army of destruction, and often finish the dreadful work themselves. But should they fail in this war of extermination, sickly seasons, epidemics, pestilence, and plague advance in terrific array, and sweep off their thousands and tens of thousands. Should success be still incomplete, gigantic inevitable famine stalks in the rear, and with one mighty blow levels the population with the food of the world.'*

His argument is based on his Principle of Population. This states that population, if unchecked by such things as war or plague, increases at a geometric rate while the production of food will only grow at an arithmetic rate. In the optimistic years of the mid-twentieth century this argument was viewed as quaint and outdated. In recent years it has come back into vogue somewhat and people are wondering if his ideas have current relevance.

At the same time, many people are wondering about population control. This is presently happening in China with their one child per family regulation, which has met with limited success and considerable evasion. Population control was attempted in India and was such a disaster that it is not possible politically to attempt it again. In most countries population control is not politically possible and in quite a number the ethos is to increase population

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<sup>22</sup> Malthus's essay also constituted a response to the views of the Marquis de Condorcet (1743–1794).

rather than limit or reduce it. Indeed many religions<sup>23</sup> advocate actions which make population growth inevitable. Population, therefore, is another reason for the current concern with sustainability.

## The Global Compact

The Global Compact is an initiative developed by the United Nations with the objective of encouraging businesses worldwide to adopt policies regarding sustainable and socially responsible behaviour and to use a common framework to report on them. The Global Compact was first announced by United Nations Secretary-General Kofi Annan in his speech to the World Economic Forum on 31 January 1999. It was officially launched at the UN headquarters in New York on 26 July 2000. The Global Compact is not a regulatory instrument, but rather a forum for discussion and a network for communication including governments, companies and labour, whose actions it seeks to influence; and NGOs and civil society organisations, representing its stakeholders.

The Compact itself says that once companies are part of the Compact, 'This does not mean that the Global Compact recognizes or certifies that these companies have fulfilled the Compact's principles.' The Compact's goals are intentionally flexible and vague, but it distinguishes the following channels through which it provides facilitation and encourages dialogue: *policy dialogues*, *learning*, *local networks* and *projects*. The compact is based on 10 principles.

### THE 10 PRINCIPLES<sup>24</sup>

The Global Compact's 10 principles in the areas of human rights, labour, the environment and anti-corruption enjoy universal consensus and are derived from:

The Universal Declaration of Human Rights.

The International Labour Organisation's Declaration on Fundamental Principles and Rights at Work.

The Rio Declaration on Environment and Development.

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<sup>23</sup> For example the Roman Catholic version of Christianity prohibits birth control and advocates procreation regardless of circumstances and ability to raise children.

<sup>24</sup> [www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/index.html](http://www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/index.html).

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## The United Nations Convention Against Corruption.

The Global Compact asks companies to embrace, support and enact, within their sphere of influence, a set of core values in the areas of human rights, labour standards, the environment, and anti-corruption:

### Human Rights

Principle 1: businesses should support and respect the protection of internationally proclaimed human rights; and

Principle 2: make sure that they are not complicit in human rights abuses.

### Labour Standards

Principle 3: businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour; and

Principle 6: the elimination of discrimination in respect of employment and occupation.

### Environment

Principle 7: businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility; and

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

### Anti-Corruption

Principle 10: businesses should work against corruption in all its forms, including extortion and bribery.

The Global Compact sets a standard for socially responsible behaviour for business on a worldwide basis and this is important to aid comparability as well as to set the agenda for what can be considered to be social responsibility. What is less certain, however, is whether the Compact has raised public awareness of the social responsibility agenda and helped to create any concern, or whether the Compact is merely a reflection of already existing public concern. Certainly many people were concerned with these issues before the announcement of the Compact by Kofi Annan so its issue has not created public awareness although it has probably heightened it.

## **The Advent of Utilitarianism**

Often neglected from a concern with such things as sustainability is the role played by political philosophy. In this book we want to concentrate upon the philosophy of Utilitarianism, as propounded by such people as John Stuart Mill and Jeremy Bentham. Utilitarianism must be considered to be the foundation stone of the capitalist system but it is trite to regard the definition of it *as the greatest good of the greatest number*. Rather the argument is for maximising societal utility through a summative process. Inevitably, therefore, it is possible to arrive at a situation whereby a large increase in utility for a small number of people offsets the small reduction in utility for a very large number of people to show a net increase in utility for society, although all the benefit is accrued to the few. Indeed the power imbalances prevalent in society – but ignored in any Utilitarian analysis – make this inevitable and represent one of the major flaws with the capitalist system.

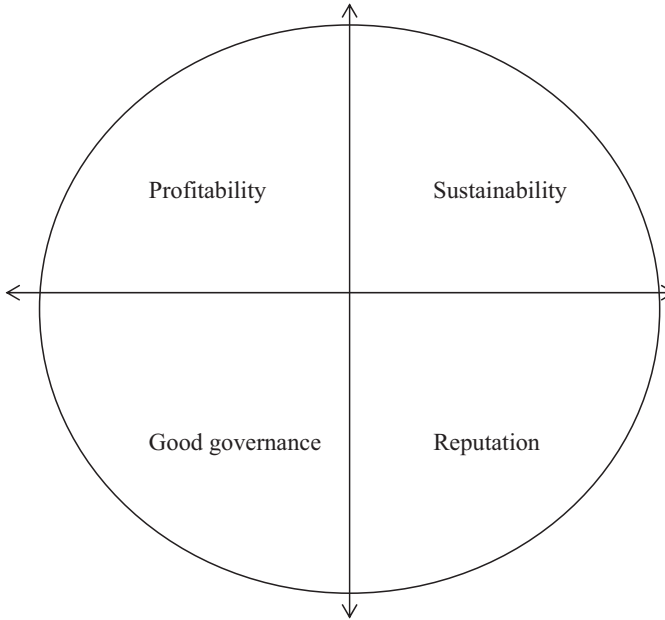
It is impossible to consider Utilitarianism without a recognition of the place of Bentham in its development (Crowther 2001). He can be considered to be the first systematic Utilitarian thinker, and 'Introduction to the Principles of Morals and Legislation' (1789) his most significant book. In it he argues that human beings desire pleasure above all and that what is good for the individual is that which produces pleasure or happiness. He describes the concept of utility and argues that the pursuit of utility, as an individually defined concept, is the fundamental motivation of each person, and that there is no basis for moral belief other than from this motivation of individuals. Mill extended the Benthamite concept of Utilitarianism through his recognition that the net benefit to society cannot be achieved through a simple summation of individual utilities. Indeed he argues that the power of forgoing happiness is a necessary social virtue. Thus society is more than an aggregate of individuals and Utilitarianism is thereby expanded into a moral system of ethics in which he places liberty at the

centre. In doing so he places the rights of the individual in a dominant position and argues that these give each person a claim upon society, thereby creating a role for society, as well as for individuals, within Utilitarian theory.

Sidgwick rejects the argument of Mill regarding quality in welfare and argues that the Utilitarian goal is the maximisation of total welfare in quantitative terms. Thus he argues that it is better for a society to give average happiness to a large number rather than maximum happiness to a small number, with total happiness being summative. He holds that some intuition is necessary to support Utilitarianism and that we should only praise conduct which needs to be stimulated. He also argues for the keeping secret of some aspects of Utilitarianism, particularly applied in the context of communication between the rulers of society and the ruled. Similarly Rawls argues that equality of opportunity should be available to all and that inequality can only be defended if it is of advantage to the worst off. In doing so he is critical of Utilitarianism and argues that the maximising of total utility should not be pursued when it imposes unfair disadvantages upon the less skilled or less powerful within society. He therefore rejects the summative aspect of Utilitarianism. His aim is to develop a just society based upon rights and hence based upon inputs rather than the outcomes of Utilitarianism.

## **Sustainability**

As we can see there are a lot of factors which have contributed to the current interest in, and concern for, sustainability. Discussions of sustainability occur regularly and a variety of issues are discussed and a variety of meanings are attached to the term. We will be discussing these meanings and their consequences, of course, throughout this book. Here we will start by stating that sustainability is of course merely the latest concept to be adopted by corporate managers in their reporting/publicity – the two are often indistinguishable (see Crowther 2002c). Prior to this then the term corporate responsibility – or corporate social responsibility) had been in vogue and before this terms such as the triple bottom line, business process re-engineering can be used to trace the concepts back through the idea of the balanced scorecard to the early days of TQM. The question that arises, therefore, is concerning whether these are truly new techniques or refinements of existing management techniques. In this book we will argue that business excellence (as described by Peters and Waterman 1982) has four facets: profitability; sustainability; corporate reputation and good governance. These can be combined and described in terms of the model below (Figure 1.1), all aspects of which are equally necessary to arrive at any kind of sustainable competitive advantage.

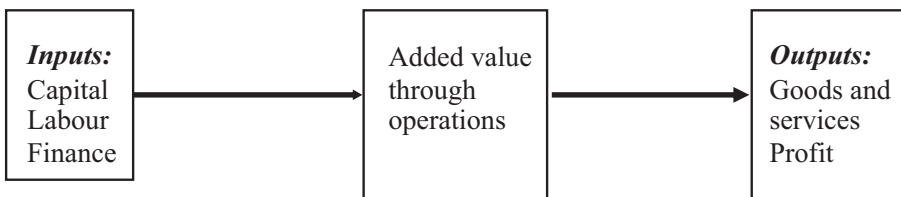


**Figure 1.1** The components of sustainable excellence

We will consider each of these, and their combination in this book.

## Profitability

Profit is, of course, essential to business survival and maintaining economic activity must be the central *raison d'être* of corporate activity and the principal reason for organising corporate activity. Equally it is possible to define profitability in terms of an adequate return for the level of risk undertaken. Or it can be considered to be a reward for entrepreneurship and an outcome of the transformations process depicted in Figure 1.2. This concept is very significant for our analysis and we will return to it, and develop it, several times during the course of the book.



**Figure 1.2** The transformational process

Often profitability is omitted from any analysis when considering the sustainability of business activity and certainly the other aspects of excellence with which we are concerned in this analysis. There is an assumption that profit is 'not quite nice', possibly as a reaction to the maximising shareholder value focus of a decade ago. In actual fact, of course, profitability is absolutely essential and must be one focus of any analysis. Indeed our concern in this book is about making profitability sustainable and a central part of ensuring sustainable business activity.

## **Conclusions**

As we can see, therefore, there are a number of factors which in combination have caused the current interest in sustainability. For many people sustainability is about environmental issues; these are, of course, very important but sustainability is about much more than this. Equally, many businesses seem to regard sustainability as just continuing to exist: equally sustainability is about much more than this. In actual fact it is a complex issue with a variety of factors involved and a variety of actions being necessary to ensure sustainability. A consideration of sustainable development – a term which is often considered to be synonymous with sustainability – makes this even more complex. We will outline the factors involved but a starting point must be to outline what is meant by the term sustainability, and this will be the subject of the next chapter.