The SIGMA Project

r&d report

Sustainability & innovation, learning and Cultural Change

Sustainability & Innovation, Learning and Cultural Change

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Executive Summary

Background

This report, as part of the SIGMA Project, looks at sustainability, innovation, learning and cultural change. The research described in this report sets out to develop a greater understanding of current organisation practice, based on research into the mechanisms used by organisations to promote innovation, learning and cultural change. The research also draws on published information that shows the limitations of environmental management systems, and highlights the issues that are considered to be central to innovation, learning and cultural change, applying them to the agenda of the SIGMA Project.

Methodology

A combination of desk-based research and interviews were used and drew on the organisational partners in the SIGMA Project. A cluster of organisations from outside the SIGMA group was also examined to provide a control group for comparison. Using published literature on sustainability, environment, business and management, the research also referred to other organisations and their learning methods.

Drivers and findings

There have been many moves to develop the integration of society, economy and environment into coherent management systems in recent decades, but the divisions are proving difficult to break down. A deeper integration will require cultural change at all levels of society - individual, institutional and organisational. Such change is a long-term process rather than a defined programme with a clear beginning and end. Change is a pre-requisite to sustainability.

Cultural change built on a vision of sustainability involves more than meeting specified standards. It is a profound learning and evolution process with embedded values and a pro-active commitment to pursue that vision. It is more than integrating Environmental Management Systems (EMS), and converting them to Sustainability Management Systems (SMS), useful though that may be as a means to an end.

An organisation can take an SMS as a baseline set of principles and use these as a platform for developing and innovating around them. However, it is unrealistic to expect a monolithic management system slotted into any organisation to unfailingly produce a desired outcome. Different companies will and should do things differently. Indeed, one of the key findings of this report is that the mechanism (and the mechanisation) of current management systems may not be the best way to build sustainability into organisations. This research reinforces the conclusion that sustainability management systems must themselves be innovative learning models aimed at the heart and soul of organisational behaviour in this post-industrial era.

Innovation, learning and cultural change are one of the SIGMA themes: 'exploring ways of promoting organisational innovation and culture change within a management framework'. This report set out to develop greater understanding of current organisational practice based on research into the mechanisms used by organisations to promote innovation, learning and cultural change, whilst drawing on the literature that shows the limitations of environmental management systems, which have preceded SMS's. The research highlights the issues that are considered to be central to innovation, learning and cultural change and applies them to the agenda of the SIGMA project.

Innovation, learning and cultural change are complex issues in organisations. It is not always possible to transfer best (or learning) practice between different sectors and different sized organisations and it is impossible to highlight a definitive model of innovation, learning and cultural change. Furthermore, it is clear that integrating such a potentially complex management system places many pressures on employees. The systems, structures and processes, required by such a management system are a burden that has to be carefully managed. The most important criterion is whether the organisation and its managers are sufficiently open to change. One way to achieve this is to develop the principles that underpin the concept of a learning organisation.

The research found that the key characteristics that reflect a 'learning company' are:

- A learning approach to informing organisational strategy – a concerted effort is needed to develop a strong company policy and strategy geared towards the development of a learning environment.
- Participative policy-making - although it is vital to have strong leadership to drive policies, it is also equally important to engage stakeholders in a pro-active partnership around policy formation and implementation.
- The spread of information - this involves empowering employees by making information widely available, disseminating information in order to promote understanding about the organisation's systems and processes.
- Formative accounting and control - ensuring that the systems of accounting, budgeting and reporting are structured to assist learning and innovation.
- Internal exchange - fostering working environments where individuals, groups, departments and divisions can engage in a regular dialogue with the aim of exchanging information on expectations and negotiating and providing feedback on issues.
- Enabling structures – specific context-bound remits reduce scope for sharing ideas and innovating. Therefore there is a need for roles to be fluid and loosely structured, in order to allow for growth and development thus creating both a pool of resources and of creativity and innovation.
- Inter-company learning - joint training, sharing in investment, research and development, and job exchanges can be excellent ways of pooling resources and learning from each other.
- A learning climate.
- Personal self-development opportunities - all stakeholders need to be encouraged to take responsibility for their own learning and development. However, it is the responsibility of management to provide guidance as well as the opportunity for self-development.

The research for this report indicates that a more in depth understanding of the links between sustainability and innovation, learning and cultural change are required if progress is to be made in the development of SMS which do not repeat or simply mimic EMS. A quantum leap, if not a paradigm shift, is required in the transition from environmental management to sustainability management.

The research found that if SMS are to produce the required results, organisations must:

- develop an in-depth understanding of the broader societal context of sustainable development;
- evolve a clear strategy that gives direction to the overall organisation and offers an inclusive and working vision;
- and make the commitment to sustainable development as part of their core business practice.

At the same time, this report contains some encouraging pointers. A few companies do not necessarily have to take up radical new ideas or create vast new systems. Effective change can come through harnessing existing strengths and re-shaping current strategies.

The next step is to pilot the main conclusions of this report in organisations, using methodologies that track change over time – and this period may be years rather than months.

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Introduction to Sustainability & Innovation, Learning and Cultural Change

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1.1

Background

At the incept of the SIGMA Project, the project team stated that sustainable organisations will be those that recognise the need for change and so innovate. In doing this, such organisations are continually renewing their processes and products, and adapting them where necessary. Hence sustainability is not a steady state process, but a dynamic state of affairs.

The SIGMA Project aims to improve the social, economic and environmental performance of organisations - irrespective of size or sector - to develop an integrated approach to managing sustainability.

According to Bernard Burnes , the last 200 years could well be labelled: The Age of the Organisation. He states that the organisation in its many forms – from giant industrial conglomerates to small one-person businesses – is one of the dominant features of modern societies. Burnes adds that organisations are not static or uniform entities, but the world and our expectations of it are changing in a rapid and unpredictable manner. Therefore organisations must respond to these changing circumstances or risk being left behind in an increasingly competitive environment. Therefore innovation, learning and cultural change underpin this process of change.

At the same time, there have been many moves to develop the integration of society, economy and environment into coherent management systems in recent decades, but it is proving difficult to break down the divisions. Deeper integration will require cultural change at all levels of society - individual, institutional and organisational. Such change is a long-term process rather than a defined programme with a clear beginning and end. Change is a pre-requisite to sustainability. SIGMA defines sustainability as the 'capacity for continuance into the long term future', which might otherwise be described as ‘survivability.’

Many leading thinkers have predicted that sustainability will become part of strategic thinking. For examples, Willums2 in The Sustainable Business Challenge (1998) has a twenty year or so time frame:

> *‘I believe that by the time today’s business students have gained a senior position in the business world, concepts such as eco-efficiency and ‘the social license to operate’ will be standard items on the board room agenda’.*

Paul Hawken3 has the same call for action in The Ecology of Commerce (1993):

> ‘’Our human destiny is inextricably linked to the actions of all living things. Respecting this principle is the fundamental challenge in changing the nature of business.’

This report, as part of the SIGMA project, looks at sustainability, innovation, learning and cultural change.

2.0

Research methods

2.0.1

2.1

Methodology

This research used a combination of desk-based research and drew on the organisational partners in the SIGMA Project, and a set of organisations outside the project group. The initial research was based on a desk survey of the most current literature surrounding issues of cultural change and innovation in organisations. We also looked at the company reports of the targeted sample to determine how standards influenced their reporting. The interviews with company representatives (conducted in the winter 2000-01) were based on a format of questioning that was both open and flexible, focussing on seven key areas:

- the types of standards used;
- the indicators they have used to monitor their own development;
- the linkages between the standards used;
- internal standards;
- how they promote learning;
- reporting of organisational performance;
- stakeholder consultation.

In addition to researching the sample group, we looked at the broader concepts. It is important to individually consider the issues of innovation, learning and cultural change. They have some overlap, but there is a lack of clear definition. Baumard has highlighted the fact that competitive organisations are those that are 'innovative, intelligent or flexible', but due to the lack of definition about what these words mean, organisations are often operating in a fog4.

2.2

Sample Group

We were keen to choose a diverse sample group and therefore based our empirical research on the experiences of four SIMGA organisational partners. These were:

- a bank;
- a car company;
- a water company; and
- an airline5.

We also used a cluster of organisations from outside the SIMGA group to provide a control group for comparison:

- another water company (referred to as 'the (control) water company'), and;
- another bank (referred to as 'the (control) bank')6.

Reference is also made to other organisations and their learning gathered from published literature on sustainability, environment, business and management.

3.0

Research findings and key issues

3.0.1

3.1

The Development of Sustainability Management Systems

The concept of environmental management has developed considerably over the last four decades. Much has been written about the evolution of attitudes since the 1960's and the publication of books such as Rachel Carson's Silent Spring7, E.F.Schumacher's Small Is Beautiful (1962) and the Club of Rome report Limits To Growth (1972) when environmental issues began to break into mainstream thinking and companies, and other organisations, were forced to react.

At that time, the most readily apparent, and often least expensive, way to deal with new environmental limits was to provide 'end-of-pipe' solutions, collecting or abating pollutants prior to their release. With time, the philosophy of pollution prevention, rather than reduction, began to permeate more widely; more systemic thinking was applied to the challenge of environmental protection. The development and subsequent adoption of environmental management systems standards BS 7750:19928 and ISO 14001:19969 are evidence that organisations are moving towards the systemic approach and beginning, in the case of the more enlightened companies, to build environmental thinking into their operations. The SIGMA Project is the first step in the parallel evolution for sustainability.

The concept of sustainability10 grew out of the United Nations Stockholm conference on the environment in 1972 and subsequent debates in the 1970s over limits to growth 11,12. The Brundtland report, Our Common Future13 (1987), made the connection between development and environmental limits which was subsequently endorsed by national governments at the Rio Earth Summit14. The Brundtland report also coined a definition of sustainability which has become the most widely used by all major institutions:

'development which meets the needs of the present without compromising the ability of future generations to meet their own needs' 15.
The IUCN publication Caring for the Earth16 provided an alternative definition of sustainable development that is also often quoted:
'to improve the quality of life while living within the carrying capacity of living ecosystems.'

Others in the 1960's and 1970's had pioneered work in this area and Barbara Ward was the first to use the term 'sustainability' in 'Spaceship Earth' (1965), while Herman Daly, an economist at the World Bank, had developed sophisticated economic models of 'steady state society'.

SIGMA uses the more recent Forum for the Future definition which places greater emphasis on people and their potential:

'Sustainable development is a dynamic process which enables all people to realise their potential and to improve their quality of life in ways which simultaneously protect and enhance the Earth's life support system.'

3.1

These definitions share a view that long-term economic and social change can only be sustainable and beneficial when safeguarding the natural resources upon which development depends. But this means that managing the trade-off between the three legs of sustainability, is the greatest challenge to capitalist organisational behaviour.

There cannot be a win-win-win situation for all of the three spheres of sustainability in the short term only in the long term within the sustainability framework. It is crucial that this area is addressed in the evolution of sustainability management systems - organisations must have a solid basis to build their systems on so that the best advantage can be made of learning and evolving beyond the implementation of EMS's as they are currently constructed.

3.2

Organisational learning & the 'living' company

The role of organisational learning

Organisational learning is central in enabling organisations to adapt to changing expectations and the forces of the global economy. The process of globalisation has, ironically, partly been responsible for the imposition of greater constraints on organisational development. Globalisation, which has been equated with market liberalisation, has also brought with it new pressures. Prange argues that the 'heightened volatility, hypercompetition, demographic changes and the explosion of knowledge' have resulted in an environment made up of discontinuity, in which organisations are under pressure to continuously adapt17. Many would argue that the climate in which business operates cannot be controlled, but there is scope for influencing the internal environment of organisations. This report is influenced by the voluntarism-determinist debate in highlighting that organisations do have the ability to make strategic choices and that there is a greater degree of voluntarism than may appear at first sight.

Organisational learning can achieve two outcomes:

- fostering an efficient and effective working environment, and;
- supporting and encouraging innovation and change.

Key aspects of learning include an integrated system of working practices, as well as clear and open channels for the development and dissemination of knowledge. However, there is still a mindset in many organisations that change should be treated with great caution. Learning is often resisted and difficult to achieve. De Geus argues that conventional forms of learning breed fear18 and there does seem to be an element of unease, on the part of companies, about how they can develop a management system that reflects the integration embodied in some standards. However, it is also clear that the influx of certification standards and codes of practice into organisations has often been overwhelming and disjointed. This report explores these issues and suggest ways in which the integration of standards can be seen as a natural and developmental part of organisational processes.

Characteristics of a company

Existing research suggests that a 'living' company has the following characteristics:

- it is sensitive to the environment, in that it can learn and adapt;
- it has cohesion and an identity which allow it to operate as a community;
- it is decentralised; and
- it has an integrated learning process that allows for deeper change19.

3.2

There are six key questions20in formulating guidance on learning, cultural change and innovation:

- What is meant by organisational learning?
- Who is learning?
- What is being learned in terms of content?
- When does learning take place and what are the motives and incentives, drivers and restrainers?
- What results does learning yield in terms of efficiency and effectiveness?
- How is learning and innovation fostered?

Management of learning

Von Krogh and Venzin suggest that there is a move towards 'the management of knowledge' but we would suggest that this approach is counterproductive and in some ways is in direct conflict with the environment that should be fostered21. The 'management of knowledge' suggest a process that is controlled, and, by its very nature, contrived. It requires a system and a framework that is often too rigid to accommodate the flexibility associated with learning, innovation and change.

An approach that tells organisations what to expect, where to look, what to ignore and what should be valued defeats the object of the exercise. The expectations and beliefs shape the learning landscape and set boundaries. In such circumstances, innovation and creativity will be unable to flourish. Knowledge is not something that is to be controlled, but is something that should be disseminated with the maximum coverage and scope. Knowledge, it has been said, is discovered, while inventions are created. Useful knowledge is discovered through the application of wisdom to information. There is therefore a progressive, cumulative hierarchy of: information, knowledge and wisdom. We are awash with information today, we scramble for knowledge to cling onto and sometimes when we take time to reflect we discover wisdom.

In a healthy learning environment, there should be time for reflection, communication and evaluation. There should be time and tolerance for mistakes. Unfortunately, pressures on time mean that these are often not areas that are considered to be an investment. Thatchenkery argues that 'In a world where action rather than reflection is valued, even the reflective learning organisation apparently has to race at a pace that leaves little room for deliberation'22. However, reflection, communication and evaluation must be at the heart of any strategy that strives towards learning, development and progression, which will ultimately lead to competitive advantage. An integrated and holistic approach that incorporates such elements is not a cheap option, as time is money. Nevertheless, in cases where organisations are willing to take a long-term approach and accept that budgets need to be attached to non-tangible aspects of the working day, the benefits can be considerable.

3.2

Standards and learning

Companies are encouraged to adopt certification standards, often in the form of a checklist. Such standards are relatively easy to adopt but require little, if any, cultural change. The checklist mechanism leaves little room for learning. Again, this is a reflection of the time constraints that companies face. It indicates the realisation by organisations that certification standards do carry weight, yet it is also a reflection of the devaluation of these very same standards.

Standards that are profound in their aims (such as the adoption of sustainability principles) yet also realistic about current pressures (the need to stay in business) will need to integrate managerial theory and practice into a coherent and workable strategic entity. Organisations strive to be efficient in their processes and effective in their decision making in order to gain competitive advantage. Most management theories would not only claim to have a predictive capacity in their ability to link cause and effect, but often generate stringent test procedures that define the precise conditions to balance cause and effect. Theoretically, the results are reproducible when using the same formula. However, in practice, there are an infinite number of determinants that will effect the outcome of any decision being made. Therefore it is almost impossible to apply one, single, all-encompassing, prescriptive formula to a diversity of organisations and sectors. Changeable external market conditions are only a small element of that equation. A great deal of the influence will derive from the internal ethics and values of the organisation, and the individuals involved, and from the priorities of resource allocation.

The combination of such determinants is unique and more importantly context-bound. Organisations operate in environments that necessitate re-evaluation, adaptability and sometimes radical change. Therefore it is neither realistic nor desirable to expect the creation of a monolithic management system that can be slotted into any organisation with a prescribed outcome. In the sample of organisations studied for this report, a variety of styles of management have emerged, each with individual nuances that can be difficult to pinpoint in a short study. In order to gain greater insight and understanding of the nuances, there is a need for a study that also scopes the evolution of the individual organisation's values and ethics.

3.3

Organisational learning & cultural change

Definitions

Organisational culture has been described as 'the common set of shared meanings or understandings about the group/organisation and its problems, goals and practices'23and 'the taken for granted and shared meanings that people assign to their social surroundings'24.

Organisational learning on the scale envisaged by sustainability criteria involves changing the culture of the organisation, not only so that it becomes orientated towards the precepts embedded in sustainability of social justice, equity and revaluing environmental resources, but also in order that the organisation can un-learn and relearn its mission, vision and values.

There are numerous interpretations of what learning entails within organisational boundaries, yet the evolutionary process is, in fact, not so much a sign of fragmentation, but an indication of the cross-fertilisation that has taken place between the disciplines. Learning is a topic that can be approached from disciplines as diverse as psychology, cultural studies, strategic management and organisational behaviour.

According to Moingeon and Edmondson:

> *'Definitions of organizational learning found in the literature include: encoding and modifying routines, acquiring knowledge useful to the organization, increasing the organizational capacity to take productive action, interpretation and sense-making, developing knowledge about action-outcome relationships, and detection and correction of error…Some are the basis of intervention models, while others are components of descriptive theory.'25*

Learning can take place at different levels and in varying forms. C. Wright Mills highlights the interplay between different levels of analysis. According to his model, the individual is placed in the center, and is affected by, as well as affects, the family, the workplace and even the industry. A multi-directional ripple effect can take place within this model, where the learning that occurs at the individual level will have learning consequences at the family level, in the workplace and finally in the industry. Similarly, from a top-down perspective, the learning that takes place at the industry level will have an impact in the workplace and then, in turn, will affect the individual and their families. Such a model highlights learning as a mechanism of information dissemination that feeds on interpretative processes and interpersonal communication.

3.3

Individuals are not the only subject of the learning process, and it is here that many organisation fail in their understanding of the extent and breadth of the issue. Innovation, learning and change do not occur as a result of spoon-feeding information to individuals throughout the chain, in a manual or handbook format. Cyert and March argue that learning needs to be based on the encoding of specific routines in an organisation26. The bank in our sample has attempted to encode an ethical and dynamic practice within its organisation and made it part of its unique selling point. When the sector was suffering, there was a need to establish a new 'edge' to its business. Therefore, it was necessary to embed the ethical stance in all areas of its business. The (control) water company in our sample also pointed out that their Environmental Policy was largely driven by a need to differentiate. Although there was a certain amount of stakeholder pressure, one of the key drivers came from the desire to increase the share price (two weeks after launching the Environment Policy, the share price moved up significantly).

In an era of mergers and acquisitions, it is increasingly difficult to maintain standardisation across all areas of operations. The car company in our sample, which has been part of an acquisition, highlighted the difficulties they have faced. They found that there was a cultural difference as well as the differences in the terminology between the company and its parent. The company itself uses the term 'sustainability' whereas the parent company refers to 'corporate citizenship'. Furthermore, the company's perception of corporate citizenship is very different to that of its parent. For this reason, encoding specific routines in an organisation can be highly problematic and impossible in the short term.

The encoding of certain practices can also at times be uneven, and again will be determined by the dispersed or concentrated nature of power within the organisation. The car company is an example of a heavy top-down model where the Board has been proactive in driving sustainability. There has been a Sustainability Strategy Committee in place since 1995, comprising 10 Board members and the Managing Director. It is a highly structured committee that meets five times a year as well as meeting on a monthly basis with the environmental representatives of each section. The Board drives down the issues through the environmental representatives who feed the information to their teams of 20. This reflects a 'training kit' approach where innovation and learning is passed down through to all employees. In 1999, there was a substantial change at Board level, which due to the top-down nature of the model could have had an adverse effect on the sustainability drive. Fortunately, the new members of the Board did, in fact, continue the drive, and the past year and a half have turned out to be more dynamic and signalled a real change in attitude.

Learning, innovation and cultural change, by their very nature, embody conflict, making mistakes, and, making compromises. All the organisations studied understand the value of sustainability initiatives, but that does not mean that the current approach is perfect. The (control) water company have regarded the issue as important since their sector is energy-intensive and therefore contributes towards global warming. There is also the growing public perception of the unreliability of water resources. Sustainability was a subject high on their agenda by the mid-1990's when there was a drought and increased public discussion about global warming. The increased focus on these two issues in the space of a five-year period of time put great pressure on the sector. However, the extremes in climate have made it difficult to plan water resources and there is a need to build more storage facilities and increase capital investment, which has effectively driven up costs significantly. This has been compounded in the UK by strengthening regulatory pressures on water quality. Ironically, they have had to become more energy intensive, therefore increasing their impact on the environment. There is a discrepancy, in other words, between the short-term and long-term pressures imposed by the regulatory bodies.

3.4

Strategies for learning and innovation

Commonality and comparability

Clearly, organisations are at different stages of maturity and learning on sustainability and it is difficult to draw comparisons between them. The size, sector, location, and age of the organisation are all determining factors and will affect the level of exposure to new ideas and methods of working. Wyer, Mason and Theodorakopoulos looked at the case for the development of small business. They argue that:

'whilst organisational learning may be a key and effective small business management approach to underpin sustainable development, the learning organisation, as currently conceived in the mainstream literature, fails to recognise and address the idiosyncrasies, problems and constraints relating to sustainable small business development'27.

Therefore, caution must be exercised when attempting to examine learning, innovation and cultural change across all types of organisation.

It is however possible to describe in a little more depth the characteristics that reflect a ‘learning company’28.

A learning approach to informing organisational strategy

It requires a concerted effort to develop a strong company policy and strategy geared towards the development of a learning environment. Implementation, evaluation and improvement need to be built into the strategy to ensure that the mechanisms for learning are being monitored and regularly re-assessed.

The (control) water company, for example, rapidly achieved a great deal by developing an intranet which housed an electronic directory of the environmental operational procedures. The company discovered that its intranet was an efficient, effective and accessible form of information, and provided a means of cross-linking. The result is that the intranet is now a normal, integrated part of day-to-day practices, and allows employees to develop a broader understanding of the environmental drive. An environmental policy that is electronically accessible makes it easier to understand the relevance of specific standards, the implications of those standards and what is expected of the organisation. The annual report is available to all members of the organisation, but there is also a summary version on the intranet that makes information easily accessible. Unfortunately, due to a lack of resources, the company have been unable to quantify the use of the intranet, so although there have made great attempts to disseminate information, the company cannot yet measure the access or impact.

In summary, learning, innovation and cultural change are not easily quantified and cannot be approached scientifically. A strategy needs to be developed that allows time for reflection and promotes an environment that is conducive to reassessment and change.

3.4

Participative policy-making

All members of an organisation should be able to contribute to the processes of developing policies and forming strategies. Although it is vital to have strong leadership to drive the policy, it is also equally important to engage stakeholders. There is a movement away from the idea of stakeholder consultation as it is often treated as a token gesture where stakeholders are merely asked their opinion, without their views being incorporated into strategy or any thought being given to the long tern implications of such 'conversations'. In contrast, stakeholder engagement requires a proactive partnership approach on the part of the organisation.

Many organisations, including the car company, recognise the importance and value of stakeholder engagement, but recognise that this is still one of their weaker areas. In their case, the engagement so far has taken place in an unstructured form. Therefore a successful learning environment must allow for all members of the organisation to contribute to and shape policy decisions. By opening up discussions, there is inevitably going to be resistance to and tension on many issues. However, by debating the issues widely and thoroughly, it is possible for the majority of stakeholders to reach a workable business decision. The result is that all members can claim 'ownership' and feel greater commitment.

Furthermore, it is important to note that there are certain requirements in terms of the attitude and responsibilities of management:

- there needs to be a realisation and understanding at higher levels of the organisation that all members of the organisation have the right to be engaged in the policy-making process;
- if the members of the organisation are fully engaged as stakeholders, it is inevitable that there will, at times, be a degree of conflict and tension that arises during the course of the policy-building process. However, the diversity of opinions is a valuable resource and can be channelled in a manner that leads to creativity, fresh ideas and innovative solutions. Therefore, managers need to be able to develop skills that enable them to manage the process and convert conflict into creativity;
- the fostering of an inclusive environment must be viewed as an investment. The water company has developed the Eureka Scheme, which encourages employees to put forward ideas that they believe would benefit the company; if the suggestion has a successful outcome, then the employee is rewarded. The (control) bank operates a similar scheme called the Brainwave Initiative.

3.4

The spread of information

Pedler, Burgoyne and Boydell argue that information technology needs to be used to inform and empower people rather than to disempower them. Again it involves a shift in attitude at a management level. This involves making information widely available, disseminating information in order to promote understanding about the organisation's systems and processes. Therefore, appropriate information systems need to be in place to support such initiatives.

The water company find that it is not difficult to raise awareness about sustainability issues at the operational level, and the monthly team meetings are interactive rather than one-way team briefs. On the other hand, the company reported that it can be difficult to encourage all employees to use the intranet (which contains information about environmental and social issues) as sometimes they are simply not interested. Therefore a confidential helpline has been set up to allow employees to raise issues directly with the Chief Executive's PA.

This helpline has been in operation for one year and the company reports initially that it is becoming increasing popular as a means for employees to have an input into decision-making processes. However, there have been some concerns raised about the degree of confidentiality, and therefore the team meetings are being used to alleviate some of the suspicions.

Employees of the (control) water company have specialisms but will all be aware of the environmental dimension of their work. Every second month there is a team briefing which highlights the environmental issues that affect the organisation, but also focuses on ways in which the employees can improve their environmental standards within the office. There is a newsletter and the intranet is considered to be a source that will provide answers for up to 90% of employees' questions.

The (control) bank also has a strong commitment to disseminating information and regards communication as being central to its business practice. It has well-established internal magazines and an intranet, with regular articles on the environment and society.

Formative accounting and control

Formative accounting needs to ensure that the systems of accounting, budgeting and reporting are structured to assist learning and innovation. This is important in terms of internal stakeholders' morale and sense of value. Accounting and budgeting are important areas that concern the shareholders, but if tied in with learning and innovation, can have dual benefits.

3.4

Internal exchange

Organisations need to foster working environments where individuals, groups, departments and divisions can engage in a regular dialogue with the aim of exchanging information on expectations, negotiating and providing feedback on issues. In large organisations, departments may be in competition with each other, which may promote hoarding rather than sharing of information. This calls for the development of ways to engender a more holistic approach to develop collaboration.

The water company found that being a relatively small company, of 1500 employees, the scope for communication and constructive dialogue is greater. They have also found, since moving to new premises which were built on sustainability principles, that sustainability has, to some extent, become a part of daily conversations. The award-winning premises have been built with sustainability to the fore. The features of the building include solar panels, natural ventilation, and facilities to recycle rainwater and grey water. Recycled and local materials have been used wherever possible, and there is a community room for use by schools and community groups.

Enabling structures

Roles need to be fluid and loosely structured, in order to allow for growth and development. This is important, both for the well-being of the individual and for the organisation as a whole. The overlap of skills between individuals provides a pool of resources, but also a pool of creativity and innovation that is generated through critical mass. Where individuals are operating to specific context-bound remits, there is reduced scope for sharing ideas, which, in turn, stifles innovation and creativity.

The bank has shown itself to be proactive in this area and has embodied the change in work culture through its Project Leo. A survey of staff highlighted two key issues - they were keen to have wider roles and they wanted more responsibility. In response both to the surveys and market pressures, job descriptions have been loosened to the extent that 300 job descriptions have been reduced to 26 role statements. Moreover, the whole sample group of companies argued for an integrated approach that gives priority to innovation, learning and cultural change. They stressed that the drive needs to be a ‘part of the business success model, in order for it to be institutionalised’. In the case of the bank, ethical practice has been incorporated within professionalism and is given the same attention at Board level as other issues.

The (control) water company has a firm commitment from the Managing Director who appointed an Environmental Director to the Board. The appointment signalled a broadening agenda and redistribution of priorities. The environmental policy was later adopted group-wide and had to be made compatible with all subsidiaries. There are similarities to the bank, in that a decision was taken that, rather than having strict job descriptions, which constrain learning potential, there should be a move towards roles that are more generic and based on tasks and targets. Currently, the company are trying to review the method of monitoring targets, as it has caused some problems. The bank has not moved too far away from the job descriptions approach, but find that the descriptions are framed more broadly in terms of key responsibilities and personal skills. This highlights the move away from rigid competencies. The employees also tend to work in teams, which allows for dialogue and sharing of information.

3.4

The airline is also a strong proponent of the value of teams, and more broadly the idea of decentralisation in the sense that each department is encouraged to develop a mission statement with objectives to define and steer their contribution. The organisation conducts an Employee Opinion Survey in which every member of staff completes a questionnaire covering issues relating to workplace, morale, role, objectives and managers. The survey is then followed up by an action plan, which is constructed by the department itself. The survey is one of the mechanisms used to monitor change over time.

Intra-company learning

Joint training, sharing in investment, research and development, and job exchanges can be excellent ways of pooling resources and learning from each other. Rather than fostering a 'hyper-competitive' environment that is based on a win-lose situation, a collaborative approach based on benchmarking can save on resources in the long-term - especially in larger organisations where there are a number of different companies.

The car company found it useful to undertake a SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis across all 32 companies within the organisation in order to compare results. Internal benchmarking has been a useful tool given that they have been subject to acquisition in recent years. They have been able to learn from their parent company, though there have been differences in the terms used reflecting different entry points, a difference in culture and variations in language and connotation: for example, as mentioned earlier, the research company uses 'sustainability' to describe its current drive, whereas the parent company refers to it as 'corporate citizenship'.

Learning climate

Learning involves making mistakes, unlearning and relearning and this is a view that needs to be made clear throughout the organisation. Mistakes can take many forms, but Pedler, Burgoyne and Boydell argue that 'there's no such thing as a failed experiment - as long as we learn from it'29. Learning, innovation, change and creativity are to some extent based on trial and error. There are certain processes that can create a more conducive environment, but to tailor the learning to a specific company there needs to be a degree of experimentation.

Personal self-development opportunities

All stakeholders need to be encouraged to take responsibility for their own learning and development. However, it is the responsibility of management to provide guidance as well as the opportunity for self-development.

The bank showed that it has made great progress in this direction and actively encourages employees to take ownership for their self-development. Pay rewards are also offered for external learning, which is considered to increase the capability of the individual as well as the organisation.

The (control) bank maintained that learning is a valued part of its organisation and has even created a Corporate University, which supports e-learning and e-training, in addition to more formal methods. For example, in the year 2000, the bank invested £70 million in training across the entire organisation, equivalent to £890 per person (the sector average is £700). It stressed that all funded training must be specific to the employee's job. Professional exams are particularly encouraged.

4.0

Analysis and commentary

4.1

Some Lessons of Change

There is a wealth of literature and research on organisational change and it is worth reflecting on some of the conclusions either before embarking on the process of embedding sustainability in organisations or to allay some of the frustrations of those already seeking to do so. Wilson30 suggests the following strategies for significant organisational change. Given the results of this and other research on sustainability in organisations it is clear that we may not be thinking strategically enough. The key points to emerge from the investigation are that organisations should:

- Expect a 3-5 year time frame;
- stress the importance of choice and symbolism for senior decision-makers, and therefore ownership at all levels;
- design outcome oriented working groups;
- vision to produce real-time strategic change;
- organisation development activities;
- coaching and mentoring;
- encourage and recognise ‘Champions’;
- set in place reward structures and systems;
- provide training & development;
- allocate budgets for innovation and adequate resource allocation;
- make identifiable links to core business;
- accept the grand strategy, but, remember ‘local’ flexibility.

4.1

Wilson, citing Lewin, also highlights the driving and restraining forces of organisational change, some of which are prosaic and others more global. These are shown in Table 1.

TABLE 1: DRIVING AND RESTRAINING FORCES OF ORGANISATIONAL CHANGE.

Drivers	Restrainers from individuals:
∑ New personnel	∑ Fear of failure
∑ Changing markets	∑ Loss of status
∑ Shorter product life cycles	∑ Inertia (habit)
∑ Changing work attitudes	∑ Fear of unknown
∑ Internationalisation	∑ Loss of friends from organisations:
∑ Global markets	∑ Strength of culture
∑ Social transformations	∑ Rigidity of structure
∑ Increased competition	∑ Sunk costs
∑ New technology	∑ Lack of resources
	∑ Contractual agreements
	∑ Strongly held beliefs and established
	∑ Recipes for evaluating corporate performance31

4.2

The language of sustainability

The multitude of acronyms and codes relating to sustainability often places a barrier between management and the wider organisation maintaining the exclusive nature of debate. An increase in the flow of accessible knowledge will require a move away from the jargon that corporate social responsibility has been associated with. The subject is not, in fact, as inaccessible and unapproachable as it first seems, then the issues themselves may not be as complex as they appear.

At the same time, the discourse of sustainability conceals more than it reveals. Day and Arnold argue that 'sustainable development' is ill-defined from the perspective of the individual corporation. No individual company can be 'sustainable' within an unsustainable economic system - so how are business people to interpret the far-reaching ideals of definitions of sustainable development such as that of the Brundtland Commission?'32. Yet the terms are attributed boundaries, though these are as blurred as the terms themselves. However, this does not mean that such words do not carry specific meanings.

The use of language can be a means by which the subject area can be protected and therefore the larger organisations that have units dedicated to the issues are able to stay ahead. The fact that there is little public debate about the definition of these words means that individual companies may attribute their own unique interpretation.

The (control) bank does not use the term ‘sustainable development’, but instead talks about ‘environment and the society’. It has internalised many of the issues and does not actively seek certification to many of the recognised standards. It has decided that its preference is to deal with the environment and the society from its own resources, and it produces an environmental report part verified by the accountants Price Waterhouse Coopers. It also has internally set targets. Qualitative change is more of a priority than quantitative measurement-focused strategies. Rather than focusing on standards, many of which are checklist in form, it puts greater emphasis on engaging employees in making cultural changes.

Although the airline has taken on board a number of certification standards, there are also a number of international initiatives employed by the organisation that promote innovation.

Discourse analysis highlights the fact that there is always the potential for diversity of meaning even in the case of the simplest word. David Howarth makes this point by taking the example of a stone. He argues:

‘Depending on the particular social context within which this object is located, it might conceivably be a brick for the building of a house, a projectile for use in warfare, an object of considerable wealth, or a ‘find’ of great archaeological significance’33.

Similarly, sustainability can be, and often is, symbolic of a policy that is either perceived as an added obstacle in the path of business or as a means of contributing to positive change. To the newcomer, or the non-expert, the ambiguity surrounding sustainability means that the term is loaded with meanings.

4.3

Home versus work values

Embedded values and empowerment

For any individual there may not be a constant set of values that feed into different areas of their lives. That is to say their approach to social and environmental responsibility is often embedded in a subconscious way in their activities at home, but they do not necessarily transfer these values into the workplace. The answer sometimes lies in the lack of empowerment in the workplace, or in the fact that values may not be explicit. If sustainability requires significant cultural change in organisations then organisations themselves have to focus on mechanisms to empower employees. These in turn may not have always felt that they have had a substantial stake in the organisation, its decision-making processes and the development of strategy. Therefore in order to embed values that are compatible with sustainability, it is necessary to make employees feel that they have an element of ownership.

The (control) bank has been very keen to develop and promote shared ownership of its sustainability values. It considers small teams are pivotal in the building of partnerships within the organisation, so employees work in teams that are made up of clusters of three. The partnerships are not only seen to promote ownership, but also provide a manageable number to embed cultural change.

In addition to empowering employees, it is also necessary to consider the development of a process that makes sustainability values automatic rather than burden. It is useful to look to the socio-cognitive model of organisational culture advanced by Silvester, Anderson and Patterson34who argue that culture and cultural change takes the form of a process whereby people understand events in terms of cause and effect relationships. It is believed that this is because they are motivated to understand why such events occur, predict when they might occur again and thus render their environment more controllable35. Unless there is an element of control on the part of the employee, thought processes that determine reaction to circumstances will take a conscious form. When addressing the links between sustainability and innovation, learning and cultural change in organisations it is necessary to reinforce the codification. Silvester, Anderson and Patterson argue that:

‘A 'controlled' process of attributional search is generally triggered when individuals encounter novel, surprising, unexpected or potentially threatening events. This leads to the production of causal attributions which are subsequently stored as causal schema in long-term memory as a cognitive framework which aids mastery of similar situations in the future. Consequently, when individuals encounter familiar, routine or well-placed situations, controlled processing can be replaced by the automatic accessing of relevant causal schema already present in long-term memory. Such a cognitive heuristic permits essentially 'mindless' interactions with the environment and leaves the individual's attention free for other tasks.36

4.3

Communication and cultural change

Communication does, however, form one of the most critical dynamics in the process of cultural change. Both Philipsen37and Duck38 have put forward their view of the centrality of communication in their research. Philipsen regards culture as being a conversation and this is reinforced by Duck's view that culture is developed through the generation of shared meanings which comes about through communication between individuals. For this reason, the internal communication systems of organisations are crucial to the development of a culture based on sustainability.

The airline has a department with over 50 employees dealing with internal and external communications. The department operates a 'multi-level and multi-media' approach. Although sustainability appears at times to be a new and innovative concept, it is perhaps not radically different from the dilemmas faced by organisations in the past and therefore it is often the case that sustainability needs to be framed within different types of discourse. It may appear threatening because of the manner in which it is presented.

The water company have found that they are having to make a conscious change in the discourse according to the audience, and that the language used for those at a senior management level will be radically different to that used at the operational level. Sustainability has effectively to be normalised in order to become a day-today issue.

4.4

From rhetoric to a realisation of the business value of sustainable development

Arthur D. Little, the accountants, surveyed 481 environmental, health and safety, and other business executives in North America and Europe. In an attempt to gauge the views companies have of sustainable development, they sought to examine how widespread the concept actually was, and also the extent to which it was recognised as a 'route to creating business value'. Ninety-five per cent of respondents agreed that sustainable development was important to their companies and 80% believed that their companies could derive real business value by implementing a strategy which was underpinned by sustainable development. However, there appeared to be an element of contradiction between the commitment of companies to sustainability and their commitment to make available resources for these processes. So there is a rhetoric of sustainability that is not always linked with the allocation time and money to the issue.

The same survey showed very different perceptions of what business values were to be gained from being 'sustainable'. In an open-ended question, over half of the respondents pinpointed eco-efficiency as the greatest benefit, and smaller numbers quoted improved external relations and competitive advantage. Since it is difficult for companies to agree on what is to be gained from such an approach, it becomes problematic to develop a strategy for its promotion. Sustainability issues can most commonly be found under the banner of 'environmental concerns' and one of the greatest challenges is how to push it up the hierarchy to make it an integrated part of corporate strategy.

4.4

It is often the case that companies are willing to consider an approach to sustainable development, but search for immediate benefits that are both visible and provide financial gain. Yet the true benefit of sustainable development may not be seen in the lifetime of the majority of managers. Thus, one can begin to understand why it is difficult to promote such issues to senior management, who may feel direct pressure from shareholders to account for every aspect of an organisation's operation. Evidence of profound foresight is still found amongst a relatively small minority and Arthur D. Little's research indicated that only 17% of companies considered themselves to be 'well down the road to integrating sustainable development into their business strategy or operations39. The vast majority considered themselves to be at the stage of making some progress, but since the question was subjective it calls into question the validity of the interpretation. The question read:

'Which statement best describes how you feel?

- Important, well down the road;
- Important, making some progress;
- Important, just beginning to explore;
- Important, don't know where to start;
- A philosophy, too difficult to implement;
- Unrealistic, waste of time;
- Passing fad.

Therefore it is no real surprise to find that the majority of companies responding felt that sustainable development was important, but this was as much based on the framing of the question as the issue itself. It has become politically incorrect to say that one is not in favour of sustainable development.

4.4

However, even the companies who considered themselves to be at the forefront of the sustainability movement sometimes confined their activities to the more traditional areas of action, such as pollution prevention, environmental auditing and energy efficiency. In contrast, full-cost accounting, industrial ecology and closed-loop systems received little exposure. Certainly, it is a great deal easier to manage a programme of pollution prevention, but the gains are limited. Dedicated strategies to foster organisational learning are not so easy to manage and quantify. If 'the crunch' may be 50 years off, companies ask themselves, why make space on today's already crowded agenda?. Therefore, there needs to be a paradigm shift and reassessment of business priorities. This may require an element of visioning, in order to anticipate future scenarios - there needs to be some degree of long-term goal setting or projection that the entire organisation can be part of. Seventy five per cent of those questioned felt that their company's overall vision and strategy was in need of improvement. The actual question asked:

'In your opinion, where will a company have to make the most changes in order to implement a sustainable development approach throughout its organisation?'

If 75% of respondents pinpointed the company vision, then this response highlights the fact that a great deal of progress can be made with very little cost. Only 17% responded that their company should 'get out of a certain business'. The company vision serves a number of purposes, including being a driving force and a unifier. However, in organisations where sustainable development is driven by an individual, or a small group of members of the Board, there tends to be a gap between those with the vision and those who are working at the operational level or even within the middle management decision-making strata. The extent of the gap reveals the lack of integration of the concept of sustainability within organisations.

4.5

Strategies for incorporating sustainable Development into business practice

There are four strategies for sustainable development that organisations can integrate into their existing business strategy. These are covered in the next four sub-sections.

Understanding the context of sustainable development

It is necessary to develop an in-depth understanding of the broader context of sustainable development that goes beyond merely the organisation's impact on the local environment to a realisation of the impact of the industry at large and communities around the world. This can entail the organisation taking a disinterested view of itself, and reassessing what sustainable development means for the individual company.

The role of strategy

There needs to be a clear strategy that gives direction to the overall organisation and offers an inclusive and working vision, rather than a vague mission statement. This will not involve the imposition of radical new ideas, which are in fact a rarity, but existing strengths and strategies need to be harnessed and merely re-shaped. There is no definitive system that can provide a single solution for organisations in their quest towards a more sustainable business practice, as the system needs to be tailored around internal strengths and weaknesses. Management consultants Arthur D. Little argued that, 'The path forward to sustainable development is likely to be different for different industries. Even industries such as chemicals and energy, which appear to share similar issues and experiences, treat the sustainable development challenge in quite different ways40.

4.5

Table 2 shows how the different organisational facets relate to sustainable development. Furthermore, it is crucial to stress the fact that the internal dynamics of an organisation are always paramount, and that for cultural change to have longevity, one must work with the organisational personality. Change is best achieved when employees can relate to the processes at hand, while maintaining elements of familiarity is an important part of changing the culture.

TABLE 2: STRATEGIES AND STRENGTHS DEFINE SUSTAINABLE DEVELOPMENT FACETS

	Introverts	**Extroverts**	**Bottom-Liners**	**Top-Liners**	**Transformers**
Thrust	Stay with the pack	Take the high road	Cost-leadership	Differentiation	Growth
Questions	Should I do anything?	How can I better align with stakeholders?	How can I get cost advantage?	How can I capitalise on sustainable development?	How can I leverage sustainable development to transform the organisation?
Actions	Wait and see: Track the issues	Strengthen communities and environmental protection	Improve eco-efficiency of processes	Create products and services with unique characteristics	Leverage sustainable development to better learn, innovate and manage for the future

Integrating sustainable development into core business activities

Sustainable development should be made part of the core business practice that builds on an organisation's strengths and reinforces the commitment of the movers and shakers. The process of learning, innovating and changing culture needs to be fairly fluid, since the strengths and values can change over time. Therefore it is imperative that flexibility is maintained and the vision is constantly reassessed. All employees, from the Board to operational level, should be fully aware of how the business value of sustainable development relates to their own concerns, responsibilities and sphere of influence. Hedstrom, Shopley and LeDuc argue that:

'We have repeatedly found that when the vision of the company aligns with the personal visions of its staff, the organisation makes impressive gains in effectiveness and innovation42.

4.6

One of the members of the control group and one of the SIGMA group (not in the same sector) make a concerted effort to focus on the tailoring of language to suit the audience. In the case of the control member, the management has made a conscious effort to avoid the sustainability discourse since they believe that it would alienate more than it would motivate. The issues of sustainable development are high on the agenda, but are couched in familiar terms.

Triggering action

Sustainable development must ultimately be about taking action rather than falling back on rhetoric. Action needs to be discussed through a process of stakeholder engagement and there needs to be mechanisms in place to monitor those actions.

4.6

Innovation as the key to sustainable development

Sustainability and innovation

Sustainable development will not happen without innovation. Furthermore, organisations can make a great deal of progress with minimal cost. New technologies and product design can certainly be an important part of striving towards sustainability, but these are only part of the solution. Rather, the alignment and motivation of staff towards a common goal can be achieved through less tangible means that address employees' attitude to their work, understanding of its impact and contribution to sustainability. This again reinforces the importance of employees having a sense of ownership of ideas. So if employees are given an opportunity to mould the sustainable development process, rather than having it forced on them, there is a greater possibility of being able to move the organisation as a more unified entity towards creating positive change in society an the environment.

The research conducted by Arthur D. Little suggest the following:

- Sustainable development provides an opportunity, and focus, to resuscitate or even re-think vision and strategy (including which business to engage in) with a view to greater prosperity for all;
- Sustainable development also provides a driver for innovation – in processes, technologies and products – to enhance competitiveness and business growth;
- Communication of sustainable development goals and activities is a powerful way to strengthen relationships with customers and suppliers.'

Jonash and Sommerlatte43 put forward a definition of innovation as being 'the process of harnessing creativity to create new value in new ways through new products, new services, and new business. Clearly, innovation is not just about new products, but needs to be considered as a central part of business strategy and processes. Edwards highlights the fact that it is now more common to think of innovation as a 'dynamic, on-going process44. Innovation and creativity can have a dramatic effect on the dynamics of an organisation and transform patterns of growth, income and competitive advantage. Jonash and Sommerlatte have referred to this as the 'innovation premium' and argue that it allows for growth in revenues and earnings, which investors will ultimately reward. In addition to the working environment being conducive to innovation, there needs to be genuine commitment at all levels of the organisation.

4.6

Arthur D. Little conducted research that ranked companies by innovation, for the past 15 years. The data revealed that45:

- ∑ companies in the top 20% of those ranked, enjoyed double the shareholder returns of other companies in their industry;
- ∑ companies in the bottom 20% reported shareholder returns of less than a third of other companies in their industry;
- ∑ Ninety five per cent of Wall Street analysts reported that the more innovative companies enjoy a share-price premium over their less innovative counter-parts;
- ∑ more than 90% of the analysts report that the importance of innovation has increased significantly over the last 10 years; and
- ∑ more than 70% say that innovation is a key driver of the market's valuation of companies.

Markets, innovation and adaptation

Jonash and Sommerlatte argue that it is no longer sufficient to try and simply be the first in any given market46. There has to be greater attention paid to how that market can be redefined in closer alignment with the customers' long-term as well as short-term needs. For example, the internet-based bookseller Amazon.com effectively redefined the book-selling market and Starbucks to some extent redefined the coffee market. Markets are changing constantly, so it is crucial that organisations remain responsive to fluctuations and adapt accordingly. Therefore, if we are to continue with the use of the sustainability discourse, we should be looking at sustainable innovation as well as sustainable development. Innovation as a dynamic has to be considered in terms of communication, since it is the free flow of ideas and knowledge that provide for innovation. Additionally, technology needs to be used as a platform to support innovation.

Key areas for management efforts

There are five areas in which management efforts need to be directed. These are strategy, process, resources, organisation and learning.

(a) Strategy

The drivers of business strategy have changed rapidly over recent years and now innovation is being recognised for its ability to shape and influence direction. Many companies even use innovation as their unique selling point.

(b) Process

The second area, process, challenges the conventional view that product development begins with methodical research and development. Instead, organisations are now taking on board the view that innovation needs to start at the point of origin.

4.7

Innovative companies have a broader concept of resources; this includes employees as well as the supply chain, facilities and capabilities. Jonash and Sommerlatte provide the example of car manufacturers in the United States, arguing that suppliers were often treated like second-class citizens, with short-term contracts and a great deal of distance between suppliers and assemblers47. When Chrysler were facing potential bankruptcy in the 1980s, it was necessary for the company to rethink its research and development processes and the influence of innovation. The result is that they recast their relationship with suppliers and worked with them as part of a larger team, almost in partnership. This allowed for the sharing of knowledge, technology and expertise, which had a radical effect on the supply chain. As a result, 85% of all automotive suppliers considered Chrysler to be their preferred customer.

In highly collaborative organisations where there is scope for communication between different departments or parts of the organisation, there is a greater opportunity for intra-company learning. Jonash and Sommerlatte suggest that, 'By connecting workers at every level and in every corner of the organisation and beyond, managers encourage the personal interactions and cross-fertilisation that foster innovation48. They argue that the most innovative companies are those who are 'dynamic knowledge-based learning machines'. But it is also true that effort needs to be focused on dialogue and reflection and sharing of information, and this may not fit a mechanistic model.

4.7

Some aspects of overcoming the potential pitfalls of introducing environmental management to organisations

The research showed that there is a large degree of commonality in the results of implementation of an environmental management system (EMS). However, there is a good potential for organisations to overcome the barriers and gain from their implementation. The most commonly studied EMSs are, logically, the most commonly adopted ones i.e. ISO 14001 and EMAS (the EU's Eco-Management and Audit Scheme). However, there are a number of alternative systems or approaches to environmental management.

Epstein and Roy state:

'Leading organisations have learned over time, that only by systematising and integrating environmental protection into overall management practices can they achieve affordable, consistent compliance with internal and external requirements.'49

Some organisations may not wish to do this. Steger provides an empirical study of management systems implementation50. He compares organisations with and without a formal EMS developed in line with a standard. Many of the companies which implemented a formal EMS had been setting environmental goals within their organisation previously. Management systems can assist an organisation in reaching its environmental goals more effectively, but the goals themselves are likely to be independent of the implementation of the EMS.

Steger draws a politically sensitive conclusion that 'there is no visible or measurable difference in the environmental performance between EMAS, ISO 14001 or company-specific systems.'51 He finds that the goals were very similar and were primarily dependent upon a company's specific situation, the expected legislation or corporate history rather than on the actual EMS standard or model chosen. The caveat to the study is that the companies studied are primarily from a small core of big league investors in management systems who put a high emphasis on environmental performance; there are very few studies looking at companies with no EMS and, consequently, no reliable information on their goal setting and achievements.

The main improvement claimed by companies which did implement a formal EMS was their improved legal compliance. Although it is difficult to check such claims, Steger finds a certain plausibility in those companies studied52. He also concludes that the positive environmental impact of EMS mainly derives from the fact that a systematic and comprehensive approach to environmental management leads to the uncovering and exploitation of new 'win-win' potential, but not more ambitious or new goals. Rondinelli and Vastag, on the other hand, find some evidence that the previously good environmental management system and performance were further improved through implementation of a formal EMS at several companies.53

4.7

Therefore, assuming that an organisation's management decides to go down the route of implementing a formal EMS, there are some important lessons from the experiences of those implementing EMS. Steger54 finds that the most common approach to EMS implementation is a top-down basis over a timescale of 6-12 months. Often the main group responsible for implementation is of senior and middle management, led by the Environmental Manager, and does not involve the operator-level workforce until the latter stages of system implementation. Then the tendency can be for the information to be very specific to the particular tasks undertaken; this is crucial, obviously, but should not be to the detriment of furthering understanding of the wider environmental impacts of the site or company.

No major barriers to implementation were reported in Steger's study but there was a variable element of interpretation, learning and discussion with certifiers/verifiers required. Previous exposure to other management systems is always an advantage55. The use of inventive thinking to maximise the opportunities of avoiding duplication and bureaucracy is invaluable. However, an effective EMS relies on strong support from top management and this is supported by the findings of Epstein and Roy56, for example.

There are advantages to an organisation implementing an EMS beyond the actual environmental achievements. Epstein and Roy57 state that:

'proper learning mechanisms must be implemented to promote knowledge sharing and enhance capabilities for improved environmental performance. Managers need to focus on … four elements …[including] learning mechanisms.'

ISO14001 and similar standards have the potential to bring improvements to corporate management beyond the corporate environmental impacts. An EMS can provide an opportunity to build capabilities extending to much more diverse functions and facilities.

For learning to have an impact on more than one individual there must be an efficient, speedy and readily shared spread of information throughout an organisation. Too often there is a lack of institutional memory so that the transfer of new techniques and technologies is lost58. One of the main challenges to large, decentralised organisations, in particular, is the lack of a common information system to collect compliance data and to ease the transfer of information and technology development across company and geographic boundaries.

5.0

It is relatively common for discrete parts of a company to achieve significant environmental improvements in areas such as waste minimisation but not so common for there to be effective communication to other parts of the organisation to maximise the benefits. Epstein and Roy conclude from their study of multi-national corporations that it is the communication and transfer of technology which are critical to reducing the environmental impacts of company activities on both the community and the company itself59. They cite the example of GE Plastics Europe who are one of many companies to adopt champions appointed for two years and reporting directly to the plant manager. Employees receive special training and form a cross-company network and provide an in-house consultancy service.

The benefit of environmental awareness is considered the single most beneficial aspect of introducing a system, in Rondinelli and Vastag's study60 of an aluminium smelter in the USA. Managers there observed that everyone was more aware of environmental issues, not only related to their jobs but also extending beyond the workplace into home and community life. One of the key findings, and one which is important to achieve in any organisation (although all the more in larger organisations) is the understanding that environmental protection is not solely the responsibility of the environmental department.

5.0

Concluding remarks

Innovation, learning and cultural change is one of the SIGMA themes: 'exploring ways of promoting organisational innovation and culture change within a management framework'. This report set out to develop greater understanding of current organisational practice based on research into the mechanisms used by organisations to promote innovation, learning and cultural change, whilst drawing on the literature that shows the limitations of environmental management systems. The research highlights the issues that are considered to be central to innovation, learning and cultural change and applies them to the agenda of the SIGMA project.

There have been many moves to develop the integration of society, economy and environment into coherent management systems in recent decades, but the divisions are proving difficult to break down. Deeper integration will require cultural change at all levels of society - individual, institutional and organisational. Such change is a long-term process rather than a defined programme with a clear beginning and end. Change is a pre-requisite to sustainability. SIGMA defines sustainability as the 'capacity for continuance into the long term future', which might otherwise be described as ‘survivability.’

Cultural change built on a vision of sustainability involves more than meeting specified standards. It is a profound learning and evolution process with embedded values and a pro-active commitment to pursue that vision. It is more than integrating EMS, and converting them to SMS, useful though that may be as a means to an end - the end being that the organisation can take SMS as a baseline set of principles and use these as a platform for developing and innovating around them.

The authors believe that it is unrealistic to expect a monolithic management system slotted into any organisation to unfailingly produce a desired outcome. Different companies will and should do things differently. Indeed, one of the key findings of this report is that the mechanism (and the mechanisation) of current management systems may not be the best way to build sustainability into organisations. This research reinforces the conclusion that sustainability management systems must themselves be innovative learning models aimed at the heart and soul of organisational behaviour in this post-industrial era.

Innovation, learning and cultural change are an extremely complex issues in organisations. It has become clear that it is not always possible to transfer best (or learning) practice between different sectors and different sized organisations and it is impossible to highlight a definitive model of innovation, learning and cultural change. Furthermore, it is clear that integrating such a potentially complex management system places many pressures on the employees. The systems, structures and processes, required by such a management system are a burden that has to be carefully managed. The most important criterion is whether the organisation and its managers are sufficiently open to change. One way to achieve this is to develop the principles that underpin the concept of a learning organisation.

5.0

The characteristics that reflect a 'learning company' are:

- ∑ a learning approach to informing organisational strategy;
- ∑ participative policy-making;
- ∑ the spread of information;
- ∑ formative accounting and control;
- ∑ internal exchange;
- ∑ enabling structures;
- ∑ inter-company learning;
- ∑ learning climate;
- ∑ opportunities for personal self-development.

In one sense, this report reinforces what we already know: even those companies that have embraced sustainability in their rhetoric or policy commitments are finding it difficult to take sustainability issues forward in practice. Even those companies who consider themselves to be at the forefront of the sustainability movement sometimes confined their activities to pollution prevention, environmental auditing or energy efficiency. Furthermore, there are many companies for whom sustainability is a matter of rhetoric rather than action.

The evidence from this research suggests that if SMS are to produce the required results, companies will have to:

- ∑ develop an in-depth understanding of the broader societal context of sustainable development;
- ∑ evolve a clear strategy that gives direction to the overall organisation and offers an inclusive and working vision;
- ∑ and make the commitment to sustainable development as part of their core business practice.

At the same time, there are encouraging pointers; for example, some of the SIGMA partner companies do contain 'champions' who are attempting to embed sustainability in their organisations. There is a perception that many of these 'champions' are lonely; that they need external networks to support their internal work. This is partly because change takes longer and requires more resources than they have been allocated and partly because our organisations reflect the totality of society, and society quite obviously has a long way to go before it embraces sustainability.

On the other hand, there is evidence that a few companies do not necessarily have to take up radical new ideas or create vast new systems. This is because change can come through harnessing existing strengths and re-shaping current strategies.

The authors recommend that as a next step, the SIGMA project team could consider a pilot study making use of the many examples of best practice discovered during this research. The implementation of such best practiced should be monitored and measured to track progress and effectiveness, although this period may

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be years rather than months.

Such a pilot programme should look for evidence of the three points above and take note of the following findings:

- ∑ sustainability principles have to be built into business-success models;
- ∑ do not limit learning;
- ∑ stakeholder engagement, not just consultation;
- ∑ report developments internally and externally;
- ∑ complete the operation;
- ∑ use of IT should empower, not disempower;
- ∑ introducing change to low morale organisations gets nowhere;
- ∑ ensure management attitudes have shifted, and that they feel responsible for changes;
- ∑ reward mistakes as well as successes;
- ∑ intra and inter-company learning;
- ∑ be wary of heavy top-down management;
- ∑ manage conflict sensitively;
- ∑ budget for non-tangibles (provide time for reflective learning);
- ∑ move away from 'knowledge management' to learning awareness.

On a more theoretical level the piloting of SIGMA and further research should investigate the process and implementation of change, as a means of answering the following questions:

- ∑ has the change been planned?
- ∑ Is it incremental or are there antecedent conditions that make successful change more likely?
- ∑ What is the politics of change in the organisations examined?
- ∑ Is there resistance to change (which may have nothing to do with sustainability and more to with inertia)?
- ∑ What are the political processes that may make sustainability a real company strategy, rather than a life boat activity?

This research will take time and build on these findings.

Finally one conclusion from this specific research encapsulates our feelings having talked to champions of change in a variety of organisations. If we are to see the societal and organisational change necessary to move us towards a more sustainable society where we are happy to discuss issues of social justice, equity and environmental resource allocation then the questions posed at social occasions will change. Instead of 'what do you do?' and 'what does your company do?' we will also ask each other 'what does your organisation stand for?'.

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Appendix A

Details of the authors

Corporate Citizenship Unit

The Corporate Citizenship Unit (CCU) aims to become a globally recognised centre of excellence in the area of research and teaching in corporate citizenship. We will reach this aim by bringing together diverse people from business, government, and civil society organisations to examine changes in the relationship between corporations, states and communities.

We recognise that the role, scope and purpose of business is changing rapidly as the global economy develops. Management priorities and business responsibilities are under scrutiny as never before.

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