Research Themes
Executive Summaries

The five research themes

In mid-2000, the Sigma Project Steering Group commissioned research into five key themes to explore different elements of sustainable development. The key objectives were to determine the underlying mechanisms and tools necessary for sustainable development, and to determine where gaps existed in both knowledge and tools.

The five themes were environmental sustainability, supply chain management, economic sustainability, social and ethical sustainability, and innovation, learning and cultural change.

While covering diverse themes, there were a number of common factors among the research findings. For example:

- The shift from current management practices to sustainable development will require a paradigm shift in culture and organisational thinking.
- There are still many definitions and interpretations of sustainable development.
- There is not yet a means of measuring and monitoring sustainable development.
- If organisations are to develop and operate sustainably, then there must be effective policy development which reflects the essential elements of sustainable development.
- Sustainable development must be integrated within the business agenda and the ways in which organisations operate.
- There is a lack of awareness of the importance of each element of sustainable development, and how they fit together.
- Neglecting any one element of sustainability will result in the premature death of an organisation.
- While there are many standards, guides and approaches to the different facets of sustainability, and significant overlap between them, there is neither much linkage nor cross-referencing.

The following sections summarise the key findings of each research theme.

Economic sustainability

This research theme explored the mechanisms of economic sustainability. Although sustainability is now seen as a combination of environmental, social and economic performance, this research found that economic sustainability is the most elusive component of the “triple bottom line” approach.

Discovering how businesses remain viable is a different and altogether more difficult matter, while successful businesses are reluctant to share the techniques which serve as foundations for their success. Indeed, there are surprisingly few tried, tested, accepted, available and affordable management tools and systems for use by the evolving ‘economic sustainability manager’. Furthermore, there is evidence that this role is distributed between varied functions, such as finance teams, investor relations, strategy units, brand managers, corporate communications, risk assessors, the board, human resources and Information Technology.

Innovative concepts such as intellectual capital, as well as interesting techniques including brand valuation, are beginning to make some inroads into this confusing terrain. Managing ‘sustainability’ – whether the starting point is economic, social or environmental – can help many organisations escape from what they themselves consider as a highly constrained approach based on short-term aims, growth, sales and profits. The alternative is a more strategic environment that enables steady organic growth, a planned accumulation and distribution of increasingly intangible assets, and prudent management of risks and opportunities.

The key findings of the research were:

- Most existing ‘sustainability’ management tools and systems are mainly written by environmentalists and social scientists. Some do refer to economic sustainability but are so sketchy that they would be

inadequate for actually managing a real business.

- Fortunately, though, they are not really aimed at economic sustainability managers (ESMs), who instead have a relatively well-known (if limited and creaky) set of financial indicators to rely on. These are historical and focus mainly on turnover, profit, and for PLCs, market capitalisation and earnings per share.
- Unfortunately, in a harsh climate where corporate actions and investor expectations are at an all-time high, companies that manage financial performance using only these narrow indicators risk premature death.
- No amount of excellent social and environmental performance will prolong the life of a company that is economically unsustainable, nor are green and community values necessarily good gauges for longevity.
- A broader perspective on how to manage economic performance is emerging, based around brand, intangible assets, reputation, full cost accounting, ability to add value and manage knowledge.
- It is still early days for the developers and promoters of workable management techniques, with technical, commercial confidentiality and political obstacles to overcome.
- Most approaches are still considered to be dark art not hard science, and surprisingly few companies even value their brand.
- The strategic import of environmental and social sustainability activities are sometimes not well enough explained to economic decision-makers or the City.
- Nor is it always easy for sustainability managers to influence the full strategic commercial realities in which they are operating.
- Possibly as a result of this, there is a fair degree of enthusiasm for more guidelines on economic sustainability, almost as much as there is scepticism about whether that will be possible.

To assist in the development of useful guidelines, the following recommendations were are made:

- enable ESMs to address the need for broader financial and economic measures beyond the P&L and balance sheet, and the interdependence of the organisation with its local, national and global economies;
- ensure that organisational design actively promotes cross-learning and joint-working among various sustainability teams;
- encourage ESMs to be the first to attempt, crudely if necessary, measuring intangible assets, full-cost accounting or even an economic sustainability index;
- discourage them from passively waiting to see what happens to the assets over time, but getting them to the attention of all decision-makers;
- identify ways to manage all significant factors affecting the performance of the management measure(s).

Environmental sustainability

This research theme explored how a wide diversity of organisations are moving from environmental management to sustainable development. While most organisations believe that sustainable development is important, only about two-thirds of these had embarked on programmes to implement the principles and practices of sustainability. However, very few companies had taken any substantial implementation steps.

This research focused on those organisations which have begun to tackle the issues of sustainable development, and the results of this research provide a clear picture of a reasonable route toward implementing sustainable development and practices. The organisations exemplified in this report are part of a growing number of corporate and other organisations

that are recognising the importance of the concept of sustainable development and realise the need and benefit of taking action now.

Senior management within organisations are developing an understanding of the principles and practices of sustainability. This includes:

- creating a vision;
- developing policies which address sustainable development;
- developing supporting strategies, approaches and systems to implement the aims of such policies;
- integrating sustainability within the decision-making for core business processes;
- approaching sustainable development in a systematic and planned manner;
- monitoring and reviewing sustainability progress through measurable objectives and targets;
- allowing more time for critical decisions;
- engaging stakeholders comprehensively;
- developing education and communication programmes;
- reporting sustainability performance.

Other key features typical of such organisations addressing sustainable development include:

- the tapping of external knowledge to question and challenge the organisation;
- building commitment and capacity for sustainable development throughout the organisation; exploiting the potential for varied, comprehensive, customised and targeted opportunities for learning and communication openings.

The following areas of sustainability management have also been identified as critical in progressing sustainability:

- Environmental Sustainability Definition – capable of adaptation to specific organisational characteristics.
- Policy development that reflects the essential elements of sustainable development and allows for the implementation of action based on sound scenario planning and strategic vision.
- Business Integration of the sustainability agenda into the core business decision-making process.
- System Integration that permits a more holistic approach to managing sustainable development.

Now, system integration is dominated by quality systems, Investors in People, and Health & Safety. Therefore if sustainable development is to become an integrated part of the business agenda, then organisations must embrace the following:

- Ensuring progress from continual improvement through eco-efficiency, to sustainability.
- Behavioural change created through learning opportunities extending over a period of time.

In summary, all organisations must realise that all business activities are underpinned by viable planetary support systems and resources. Therefore sustainable development depends on maintaining these systems and resources. For organisations, this means that sustainable development should become the overarching management goal.

Innovation and learning

This research theme examined how innovation, learning and cultural change affect sustainable development. Exploring the theme in four different organisational sectors within the SIGMA group, the research used a combination of desk-based research and interviews.

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.

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 SMS (SMS), useful though that may be as a means to an end.

The research found that 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.
- Participative policy-making.
- The spread of information.
- Formative accounting and control.
- Internal exchange.
- Enabling structures.
- Inter-company learning.
- Learning climate.
- Personal self-development opportunities.

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.

Social and ethical sustainability

This research theme considered the adequacy of the available tools, techniques, guides, principles and standards for the management of social sustainability. The results and analysis of this research serves to contribute to the development of guidelines for sustainability management.

The research selected for analysis fourteen standards, guidelines and other approaches. Telephone interviews were conducted with selected organisations drawn from the SIGMA partners. Two workshops were also arranged for both SIGMA and other project stakeholders to review the social sustainability research and its relationship to the SIGMA guidelines.

The findings of the research fall into two categories; those relating to characteristics of the standards themselves, and a second group which are needs for guidance arising out of

how the different approaches are put to use. In the first category, the main findings were:

- In all standards and approaches - except AA1000 - the quality of stakeholder dialogue was peripheral.
- The more focused standards and approaches were likely to include specifications for a management system.
- Those approaches with a broad scope tend to include less detail on operational management, which are essential to implement the requirements of the approach.
- Although many of the standards and approaches overlap with each other for coverage, there is little cross-referencing between them.
- Staff, as a stakeholder group, receive the most extensive coverage.
- There were two gaps identified in the coverage of most standards and approaches; the economic aspects of sustainability, and the performance of organisations towards their suppliers.
- The profusion of standards and approaches inhibits, rather than encourages organisations to adopt new standards.

The second group of findings illustrates a need for guidance on the following:

- stakeholder dialogue;
- understanding the extent to which adherence to existing standards and approaches is necessary for achieving sustainability;
- the integration of existing work with standards and other approaches;
- a business case for working with all aspects of sustainability;
- defining the boundary of responsibility of an organisation.

The conclusions and recommendations for the SIGMA project include the following:

- Inclusion of detailed specifications within the SIGMA Guidelines for stakeholder dialogue and accountability.
- Covering the gaps among the existing set of standards and approaches for stakeholder and issue coverage.
- Ensuring that the existing footprint of existing standards and approaches is clear concerning the requirements of sustainability.

The report concludes by describing some ideas for potential tools suggested during the research, which could become part of the SIGMA Toolkit, and additional areas of research which could benefit the SIGMA project.

Supply chain management and sustainability

This research investigated the environmental impacts in supply chain management (SCM), and how different organisations are addressing the issues of sustainable development in a diverse range of organisational sectors. These sectors included the public sector, chemicals, petrochemicals, tourism and leisure, transportation, automotive manufacturing, Information Technology, consumer electronics, utilities and retailing.

The main findings of the research were:

- There is a lack of clarity in the definitions and scope of the terminology used in SCM and sustainable SCM .
- Definitions of ‘supply chain’, ‘demand chain’ and ‘value chain’ are sometimes used interchangeably, although there are differences. Similarly, ‘logistics’ is often substituted for ‘SCM ’.
- The term ‘sustainable supply chain management’ (SSCM) is not in common usage and there is considerable lack of clarity due to misunderstandings on the meaning and scope of the term ‘sustainable’.
- Most organisations have concentrated their SCM efforts on environmental issues e.g. ‘environmental SCM ’, ‘supply chain

environmental management' or 'green procurement'. These definitions depend on the scope of the organisation's understanding of the term 'supply chain'.

- The most common tools for SSCM have been environmentally based, especially where the environmental drivers have been linked to business risk.
- Social and ethical management strategies have appeared most commonly in the retail sector, where customers consist of the general public and social and ethical issues are more salient due to the physical association of the product with the supply source.
- Key factors that have influenced successful SSCM have been the power of companies over the supply chain and the role of business risk drivers in forcing companies to manage risk more effectively into their supply chains.
- However, the key measure of the success of SSCM tools appear to be the amount of buy-in from senior management.
- Further research is needed to determine a more thorough understanding of successful and unsuccessful SSCM strategies and tools.

Some of the key management approaches to SCM today include outsourcing of procurement processes, collaborative planning and partnerships between customers and suppliers, and Integrated Supply Chain (ISC) design, involving all areas of the organisation. These approaches are closely linked to the latest advances in manufacturing technology including agile manufacturing and postponement technology. Dell, Nokia and Tesco are some of leaders in SCM strategies and tools.

Organisations with long and complex supply chains, whether they are at the beginning (such as chemicals), in the middle (such as logistics companies), or at the end (retail businesses) of the supply chain, increasingly need to understand the sustainability aspects of their supply chains. Supply chain sustainability issues can range from child labour and exploitation of workers on the one hand to ozone depletion, deforestation and global warming on the other. These issues can be broken down according to environmental, social, and ethical aspects. Some of the tools used in sustainable supply chain management (SSCM) include written policies and communications materials, pre-qualification of suppliers (using environmental and/or social/ethical criteria), purchasing guidelines and supplier partnerships.