A Network Approach to Understanding "Green Buying": A Literature Review

Susanna Xu, Helen Walker, Agnès Nairn, Thomas Johnsen

A Network Approach to Understanding "Green Buying": A Literature Review

Susanna Xin Xu,
Centre for Innovation & Structural Change (CISC),
J. E. Cairnes Graduate School of Business & Public Policy,
National University of Ireland Galway, Ireland
Tel: +353 91 492847 ; Fax : +353 91 495524
Email:
susannaxin.xu@nuigalway.ie

Helen Walker,
Centre for Research in Strategic Purchasing and Supply (CRiSPS),
University of Bath School of Management
Tel: +44 1225 383151; Fax: +44 1225 383223
Email:
H.L.Walker@bath.ac.uk

Agnes Nairn
Department of Markets and Innovation
EM-Lyon Business School
23 Avenue Guy de Collongues
69132 ECULLY
Tel: + 33 4 78 33 77 78
Email:Nairn@EM-Lyon.com

Thomas Johnsen
Centre for Research in Strategic Purchasing and Supply (CRiSPS),
University of Bath School of Management
Tel +44 1225 383361; Fax: +44 1225 383223
Email:
T.E.Johnsen@bath.ac.uk

A Network Approach to Understanding "Green Buying": A Literature Review

ABSTRACT
Consumers and organisations are increasingly considering longer term sustainability issues when they purchase or supply goods or services: "green buying" appears to be gaining momentum. However, progress is slow and the percentage of green purchases has remained static at 2% for the last two years. This paper suggests that a network approach to the drivers of green purchasing and supply may provide a fruitful way of gaining a deeper understanding of the issues and of moving towards a greener future for individuals and organisations alike. Currently two parallel bodies of literature exist: consumer behaviour research investigating the values and behavioural motivations of green (and non-green) individuals; and strategic business research analysing the differential responses of firms to a range of pressures to operate in a sustainable fashion. However, there has been little attempt so far to view consumers, businesses and other stakeholders as interdependent actors within a network. In this paper we analyse and synthesis both sets of literature and produce a network picture which shows the links and bond between actors. We suggest that governments and business may find this (literally) joined up view of the green debate particularly useful in understanding how to effect network change in such a way as to nurture more sustainable organisations and, ultimately, societies.

Keywords: green, marketing, supply, networks,
Type of paper: Competitive paper

INTRODUCTION

Increasingly both consumers and organisations are considering buying green. As society as a whole becomes more concerned with the natural environment, businesses have begun to modify their behaviour in an attempt to integrate environmental attributes into their marketing and purchasing strategies (Elkington, 1994; Mendleson & Polonsky, 1995; McDonald & Oates, 2006) and green supply is attracting particular interest among researchers and practitioners in operations and supply chain management (Srivastava, 2007). Consumers, for their part, now spend over £20bn on green goods and services (Co-operative Bank, 2002) ranging from transport and tourism to ethical investments and environmentally friendly electricity. However many organisations remain resistant to greening and only 2% of goods and services purchased in the UK are sustainable: a figure which has not changed for 2 years (Keynote, 2005). Clearly there are substantial barriers to green purchase and consumption which are not yet fully understood.

Currently two parallel bodies of literature exist: consumer behaviour research investigating the values and behavioural motivations of green (and non-green) individuals; and strategic business research analysing the differential responses of firms to a range of external and internal pressures to operate in a sustainable fashion. There has been little attempt so far to view consumers, businesses and other stakeholders as interdependent actors within a network.

Purpose and Structure of Paper

The purpose of this paper is to produce new insights by taking a network view of two interlinked questions. On the one hand, what are the drivers that make people buy green and the barriers which deter them? And on the other, what are the factors which help businesses deliver greener goods and services and what are the pressures which hinder them from doing so? The paper hopes to make three specific contributions. First, to provide a meta-analysis of current academic debate around buying green through a systematic literature review. Second to present a combined analysis of the consumer behaviour and strategy literatures: an approach that the authors have not identified in previous research on environmental issues. Third, to add a new element to understanding "buying green" by viewing the issues through a network-change lens.

The paper is structured as follows. First we explain why a network view of the buying green issue

may be fruitful. In the next section we describe our methodology. After presenting an analysis of our data we establish a network picture. We end by suggesting ways in which this network approach may help governments and businesses alike understand the dynamics and deterrents of green purchase and supply behaviour.

A NETWORK APPROACH

Whilst the forces which impel individuals to purchase green or businesses to supply green may be theoretically easy to understand (in the case of the former, personal concern for the future of our planet; and in the latter, response to regulatory pressure), the barriers to such behaviour are often both complex and hard to hurdle. One reason for this is that the stakeholders in the green movement are many and various: from the principle actors i.e. consumers, businesses and government to a range of other stakeholders including NGOs, shareholders, activists, competitors, suppliers and individual managers. We believe that understanding the barriers to green purchase and supply in terms of network change processes may prove fruitful for a number of reasons. Firstly, research on change processes in networks points out that networks are largely stable entities (Gadde and Håkansson, 1992; Axelsson and Easton, 1992) and that creating change within networks require all the network actors to respond or adapt to the changes in one way or another, whether seeking to preserve the status quo or actively seeking to mobilise change. Interconnectedness and interdependency amongst network actors implies that even a potentially disruptive change to the system, such as a shift towards buying green by individual consumers requires change across entire networks, including customers, distributors, suppliers, sub-suppliers, industrial bodies and regulators. Hertz (1998) suggests that changes in one relationship causes sequential and consecutive changes in other relationships. Accordingly, domino effects may occur, especially in situations of high degrees of integration and complexity. The concept of domino effects further supports the notion that network change is a gradual and evolutionary process. Håkansson and Waluszewski (2002) also note that friction plays a significant role in network change processes and suggest that path dependence may both restrict and facilitate the change process.

Path dependence implies that current events and actions bear the imprint of past events and actions through the operation of social and material structures that act as the 'carriers of history' (ibid). Path dependence further implies that changes follow a path or trajectory and that the ordering in which changes happen affects their sequence and temporal unfolding (Tilly, 1994). The path implies that future decisions and actions are constrained although they are not predetermined or fatal. Others have pointed out that path dependent processes combine general processes with elements of chance, making them inherently unpredictable (Araujo and Harrison, 2002).

Whilst actors may choose to alter a historical path by breaking with the path, jumping on another path, or shaping a new one, all actions are past dependent. A useful analogy may be that of a large ship on an ocean, which often needs several miles to change its path but can do so if it must. Path dependence affects whole technological systems (e.g. Lundgren, 1995; Håkansson and Lundgren, 1997). As Araujo and Harrison (2002) point out, historical sociologists and economic historians often focus on conjunctures arising from the temporal intersection of different trajectories. In fact, innovations that are discontinuous or disruptive (Linton, 2002) often involve companies shifting from one technological path or learning curve to a more attractive one (Dosi, 1982; Nelson and Winter, 1977). Firms may decide to jump on a trajectory created by bandwagon effects and pursue the 'technological corridor' (Georghiou et al, 1986) offered by the trajectory. Hence, historical paths and trajectories impact on the past, present and future.

Therefore, change in networks tends not to happen overnight, but rather finds its way into parts of the network in an evolutionary manner. The trend towards 'buying green' - a radical, and potentially disruptive, innovation - is likely to find its way into networks through pressures that stem from various parts of the networks. Some of these may be internal (endogenous), whilst others may be

external (exogenous). Given the many actors having to respond and adapt to these changes, the process is likely to meet many obstacles along its way as some actors inevitably will resist change as it disrupts their position in the network: not all actors will choose to pursue the new trajectory, although more may follow the early adopters and promoters of the trend, so over time more actors may jump on the bandwagon and a domino effect may take place.

With this view of a network of green stakeholders in mind we report below the methodology we adopted for our study.

METHODOLOGY

The methodology for investigation was a literature review, entailing identifying and evaluating secondary data from academic journals, reports, policy documents and websites. Previous studies pertinent to buying green from both marketing and supply perspectives were sought. Relevant articles were accessed through databases (e.g. Web of Science, Business Source Premier) with key word searches on sustainability, environment, green, network, supply, purchasing, marketing and consumer. Having identified 110 articles, the collected data were evaluated to assess robustness of evidence and emergence of themes. Robustness and quality of data were established by focusing primarily on double-blind refereed journal articles, particularly those journals listed in the Classification of Academic Journals in the Field of Business and Management studies (Harvey & Morris, 2005). This classification uses several ratings of academic journals (e.g. Citation Impact Factor, RAE items in 2001, Peer Esteem ranking studies conducted by Warwick, Imperial, London Business School etc) to give an indication of how highly ranked journals are. For this research, articles were sought from journals listed in the classification, ranging from national (rated 1) to top international journals (rated 4). Other types of literature were assessed in terms of recency, author credentials and relevance to our objective of understanding the green supply and purchase process.

Of the 110 documents identified in the original search, 86 were deemed to meet our criteria of robustness and relevance. The literature for review thus consisted of:

- 56 articles from journals listed in the Classification of academic journals in the field of business and management studies (Harvey & Morris, 2005).
- 14 book chapters
- 8 conference papers
- 8 reports

Following this, a qualitative thematic analysis was undertaken independently by each researcher. Meetings were held to compare emerging themes and to agree on a final structuring of the data. Having identified the themes we then completed a second round of analysis which consisted of building a network picture.

ANALYSIS

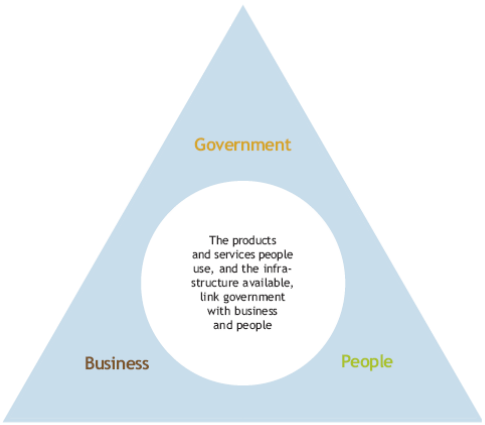
The Key Network Actors: Businesses, Consumers and Government

Throughout the literature reviewed the triad of businesses, consumers and governments emerged as the key actors in the network. For example, Walton et al (1998, p.2) note that increasing governmental regulation and stronger public mandates for environmental accountability have brought green issues firmly into the executive suite and onto strategic planning agendas. The most recent and comprehensive explication of the interdependent relationship between the three actors can be found in The Sustainable Consumption Roundtable's (2006) report entitled, "I will if you will". The title encapsulates the friction both within and between the three groups. Consumers will make sustainable purchases as long as businesses provide products and services which offer value for

money and governments create tax incentives. Businesses will operate in a sustainable manner but only if doing so puts them at a competitive advantage and only if the governments are not punitive in regulation. Consumers and businesses will be green, but only if the government also demonstrates environmentally friendly practices in how ministers behave and how nationally owned offices are operated. In this comprehensive analysis of sustainable consumption, it is suggested that people, business and government each occupy a corner in a triangle of change (see Figure 1):

'A critical mass of citizens and businesses is ready and waiting to act on the challenge of sustainable consumption. But to act, they need the confidence that they will not be acting alone, against the grain and to no purpose. . . . the simple idea of 'I will if you will'. It is government, at all levels, that is best placed to co-ordinate a collective approach to change, through an enabling policy framework. People, business and government each occupy a corner in a triangle of change. No one, or even two groups, can lead on sustainable consumption alone. Different corners lead at different times by doing what they can do best. Until now this has often been accidental. The change might be profound if it were co-ordinated.' (p. 6)

This view of a joint responsibility between consumers, government and businesses is similar to ideas of co-production, and state-community-individual partnerships in delivering successful policy outcomes (Halpern & Bates, 2004). It is clear that a move to more sustainable consumption requires not only a radical re-think of many of industry's practices and but also the fundamental changes in the culture of industrial societies and the attitudes of consumers (O'Brien, 1999). O'Brien (1999) also argues that governments have a responsibility to do all they can to bring about a change in consumer behaviours to create the pull on industry of sustainable products.



The triangle of change

Source: National Consumer Council & Sustainable Development Commission Roundtable (2006) I will if you will: Towards sustainable consumption.

Figure 1: The triangle of change (Source: Sustainable Consumption Roundtable (2006) I will if you will: Towards sustainable consumption. National Consumer Council & Sustainable Development Commission)

Our analysis proceeds by considering, in turn, the literature on government buying, business strategy and consumer behaviour before bringing together the themes from each set of literature into a parsimonious model which expands the triangle shown above.

Green government buying

Government has a key role in leading the shift to green behaviour amongst businesses and consumers. It can do this by firstly leading by example, and encouraging the public sector to buy green products and services. For a long time, public sector buyers have not really been concerned with environmental policy making when buying goods, services or works, as environmental considerations may lead to more expensive products or services. However, the global economic and political background has changed, with the emergence of the concept of sustainable development and the need to take environmental and social policy considerations into account in all other policies. Internationally, there is evidence of policies emerging that encourage governments to buy green. Green Public Procurement is specifically mentioned in the Plan of Implementation of the World Summit on Sustainable Development**,** encouraging "*relevant authorities at all levels to take sustainable development considerations into account in decision-making* " and calling to "*Promote public procurement policies that encourage development and diffusion of environmentally sound goods and services*". In the framework of the Organisation for Economic Co-operation and Development (OECD), OECD Member Countries agreed on a Council Recommendation "*to improve the environmental performance of public procurement*" (23 January 2002 - C(2002)3)**.**

In the UK, a Sustainable Procurement Task Force was established in May 2005 and charged with drawing up an action plan by April 2006 to bring about a step change in sustainable procurement so that the UK is among the leaders in the EU by 2009. Government has recently responded to this action plan, and prioritised buying greener energy, reducing water consumption and buying sustainable timber. Products and services that are priorities for more sustainable buying are also identified, including construction, health and social care, food, paper and office consumables.

As the single biggest customer in the UK spending 14% GDP (OECD, 2006), government has recognised its role in stimulating higher standards and bringing innovations to commercial scale. Public procurement has the potential to shift markets. Green procurement is thought to be a good thing not just because of the size of the procurement market (O'Brien,1999), such that the direction of procurement expenditure to environmentally preferable products might make an appreciable contribution to environmental protection but also because it may be a way of pulling environmental technologies into the market place, making them available to a broader range of purchasers. Consumers will benefit from the availability of greener products and services, and government can further encourage buying green by providing subsidies, such as grants for installing energy efficient boilers or solar panels.

As well as leading by example and buying green, governments can also provide regulatory frameworks that encourage businesses to supply green, addressed in the next section.

Green Business Strategy

A key finding of the literature review is that a far greater proportion of green research is focussed on organisations rather than on consumers. For whilst consumers have a relatively free choice as to whether or not they engage in environmentally friendly behaviour, this is not so for many organisations. For example the oil, chemical and energy industries have faced acute mandatory regulatory pressures for many years. Strategic response has been a matter of survival rather than choice and for over a decade the differential strategies of businesses within these industry networks have been the subject of insightful research.

There is a significant body of research which indicates that government regulation is the major driver for companies' environment efforts (Green et al, 1996; Handfield et al, 1997; Walton et al, 1998; Holt & Kockelbergh, 2003). Legitimation refers to the desire of an organisation to improve the appropriateness of its actions within an established set of regulations, norms, values, or beliefs Suchman, 1995). It is directed toward complying with institutional norms and regulations.

Organisations motivated by legitimating are focused on the stakeholders most influential in prescribing or articulating legitimacy concerns (Bansal & Roth, 2000). Min and Galle (2001) found that buying organisations' involvement in green purchasing is positively related to their perceived importance of environmental compliance.

Whereas some studies show that regulation can act as a barrier to achieving environmental friendliness (Dean & Brown, 1995; Wycherley, 1999), a greater number of studies have revealed that proactive efforts toward environmental regulation drive successful green supply (Bowen et al, 2001a; Carter & Dresner, 2001; Hampson & Johnson, 1996). A highly influential paper by Porter and Van Der Linde (1995) argues that environmental regulations should be viewed as a motivator to innovate and reduce costs rather than a cause for complaint and litigation. They suggest that the view that environmental regulation erodes competitiveness is outdated and propose that properly designed environmental standards can trigger innovations that lower the total cost of a product or improve its value. "The Porter Hypothesis" (as it has come to be known) has been expanded on by a number of studies since. Handfield et al (1997, p. 306) note that 'compliance-driven' companies in a reactive mode "did not appear to have integrated environmental concerns into their value chain processes as thoroughly as companies which were initially motivated to do so". Carter et al. (1998) note moreover that firms which are developing and implementing "green" strategies can succeed in preserving the environment while enhancing the firm's efficiency and effectiveness. Measures to achieve this include developing green products and packages, conserving energy, reducing waste, recycling, and creating an environmentally sensitive corporate culture. Opaluch (2003) has shown that regulations have some innovation-inducing effects in the oil and gas exploration industry.

In one of the most recent pieces of evidence supporting the "Porter Hypothesis" Orsato (2006) identifies 4 separate competitive strategies for achieving competitive advantage through embracing environmental regulation. He differentiates between strategies which focus on products and processes respectively, as shown in Figure 2 below. The distinction between organisational processes and products/services is possible only because the four strategies can work independently. In strategies 1 and 2 firms may reduce waste or differentiate itself from competitors by being the first to certify its environmental management system without products or services presenting any environmental features. Conversely, in strategies 3 and 4, a firm may offer a reduced-packaging, reduced-price product or create an eco-brand offering emotional resonance with consumers without exploring the green features of its organisational processes.

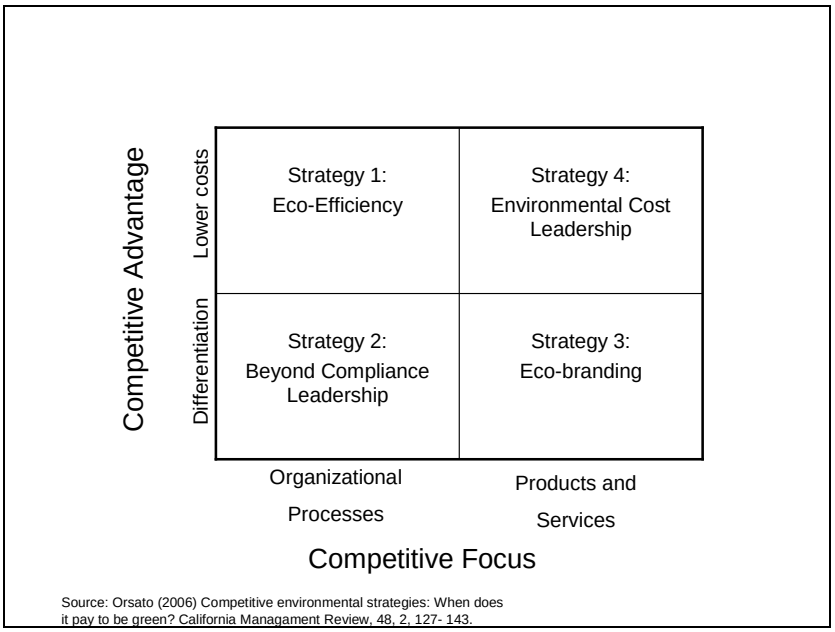


Figure 2: Generic Competitive Environmental Strategies (Source: Orsato (2006) Competitive environmental strategies: When does it pay to be green? California Managament Review, 48, 2, 127-143.)

The majority of research has considered organisations' process rather than product strategies. One recurrent theme is that costs very often represent a major barrier to the integration of environmental considerations into standard supply practices (Bowen et al, 2001a; Min & Galle 1997, 2001; Wycherley, 1999). Orsato (2006) observes that organisations may lower costs by being more efficient and reducing waste. Waste represents an inefficient use of resources (Porter and van de Linde, 1995). Orsato suggests that eco-efficient strategies have greater potential to generate competitive advantage in firms that supply industrial markets, face relatively high levels of processing costs, and generate wastes and / or by-products. In the environmental cost leadership strategy, radical innovations are needed in product design to reduce both economic costs and environmental impacts. Such innovations have the potential not only to become a source of competitive advantage but also to revolutionise industries, as has been the case in the packaging industry.

Innovative approaches to sustainable product design include shifting from the sale of goods (for example, light bulbs) to the provision of services (illumination). This view is consistent with proponents of 'Natural Capitalism' (Hawken et al, 1999), who argue for increasing resource productivity through the more environmentally aware design of function and provision of services rather than selling products.

Business to business pressures

Business-to-business pressures can affect the greening of products / services, with business customers, suppliers and competitors having an influence in the network. Carter and Dresner (2001) argue that customer demands which take a long-term supply chain perspective are more likely to succeed in environmental management. Handfield et al's (1997) study reveals that furniture manufacturers have encouraged suppliers to improve their environmental performance. Hall (2001) found that some small companies are under pressure from their customers while, large and high-profile companies are often under considerable pressure from a range of stakeholder groups. Bowen (2000) argues that environmental visibility of firms can explain much of the diversity in green organisational response. Similarly, Green et al. (1996) highlight the pressures exerted by customers. Customers can hamper the success of environmental projects. Carter and Dresner (2001) explain that

customer demands that involve unreasonable timeframes are associated with unsuccessful projects. Carter et al. (1998) suggest particularly that integrating supply chain processes can lower costs and better serve customers. These two trends are not independent; a consensual view from our reviewed literature is that companies must involve suppliers and purchasers to meet and even exceed the environmental expectations of their customers and their governments.

Holt and Kockelbergh (2003) found that competitors are perceived as an important force for pushing environmental issues in organisations. Bansal and Roth (2000) argue that organisations motivated by competitiveness actively innovate ecologically benign processes and products to enhance their market positions. Similarly, Henriques and Sadorsky (1999) note that competitors who are potential environmental technology leaders may be able to set industry norms and/or legal mandates and thus have the ability to drive environmental innovation. Sharma and Vrendenburg (1998) highlight that a proactive environmental strategy can help to gain competitive advantage through the development of supply management capabilities.

Internal business pressures

Internal organisation-related green supply drivers include the personal commitment of individuals (including founder and owner) to ethical and/or sustainable ends. Carter et al (1998) found that middle management's (not top management's) support is positively related to environmental purchasing. Bansal and Roth (2000) also found that organisations motivated by ecological responsibility often pointed to a single individual who had championed their ecological responses. O'Brien (1999) argues that environmental considerations must be integrated into the corporate culture and business planning at all levels. Thus, the shift from current management practices to sustainable development will require a paradigm shift in culture and organisational thinking. The lack of people's commitment within firms can also be an obstacle. In fact, Lamming and Hampson (1996) note that 'environmental illiteracy' or lack of management commitment (Carter & Ellram, 1998; Drumwright, 1994; Min & Galle, 2001) is a key obstacle in the implementation of environmental initiatives. Fineman (1996, p. 182) found that most managers still have a "fairly sober, relatively unimpassioned view of their citizenship in an environmentally degraded world."

Some firms are increasingly keen to demonstrate Corporate Social Responsibility (CSR), a relatively new and emergent business responsibility (Knox & Maklan, 2004); it provides an understanding of the change in the meaning of sustainability, from environment with some add-ons, to the premise that the goal will not be achieved unless corporate bodies have responsibility to society in general, as well as to their shareholders (Kalisch, 2002). CSR is defined as actions that appear to further some social good, beyond the interests of the firm and that which is required by law. It means going beyond obeying the law (McWilliams & Siegel, 2001, p. 117). A firm may show concern for its social obligations and values including the redevelopment of previously used land to green areas, the provision of a less profitable green product line, donations to environmental interest groups and other local community groups, the use of recycled paper, the replacement of retail items or office products with ones more ecologically benign, and the recycling of office wastes (Bansal & Roth, 2000). Consumers are increasingly showing a preference for companies that demonstrate CSR, as discussed in the next section.

In addition, the desire for cost reduction, waste elimination and quality improvement represent major internal driving forces for environmental supply (Carter & Dresner, 2001; Green et al, 1996; Lamming et al, 1999a; Handfield et al, 1997). Hart (1997) suggests a useful diagnostic sustainability portfolio tool which allows organisations to determine whether their strategy is consistent with sustainability. Gonzalez-Torre et al (2004) note that firms are now creating specific environmental policies in part due to the fact that many regulated industries have an incentive to seek the least costly way to meet imposed environmental quality standards. Zsidisin and Siferd (2001) suggest that an examination of the life cycle of the quality movement could provide guidance as to the potential rate

of integration of environmental concerns into business policies and practices. In the longer term, this would involve investments in research and innovation to meet environmental quality goals.

A further pressure that spans the boundary of the organisation comes from shareholders and investors. Some studies point to an increased pressure from investors to develop environmental policies (Green et al.. 1996; Trowbridge, 2001); whereas the organisations surveyed by Holt and Kockelbergh (2003) stated only a moderate pressure from investors and shareholders.

The next section moves to consider consumers, the other influential actors in networks that are focused on in this paper.

Green Consumer Behaviour

Green issues have become inextricably linked in the mind of the consumer with other issues relating to business and society such as CSR, Fair Trade, Anti Globalisation and ethical consumption more generally. The next section describes how such varied issues provide a broad macro-context for consumers, who increasingly seem to prefer green and responsible businesses. Individual consumer behaviour is considered next, identifying 'true blue' green consumers as making up only 20% of the population. The challenge of how to increase this percentage of consumers is addressed next, reflecting on factors that both encourage and deter green consumption, and considering the 'value-action' gap between what consumers say and what they do. Consumers' decision-making processes are presented and how choosing ethical or green products demonstrates a desire to be a certain type of person.

Consumers prefer green and responsible businesses

Consumers can influence businesses by demonstrating a preference for green firms. The public's perception of the environmental image of a company is a major driving force for environmental policy developments. Public pressure can be embodied by green pressure groups and Non Government Organisations (NGOs) (Hall, 2001; Trowbridge, 2001). These groups cannot be ignored as they have the influence to seriously embarrass organisations (Gabriel et al., 2000). According to Holt and Kockelbergh (2003), a strong motivation for companies to green their supply chains is the desire to maintain and/or present an environmentally and socially responsible image.

The anti-globalisation movement is also having an impact in consumers' overall perception of companies and brands. As industry becomes increasingly global, globalisation provides businesses with unprecedented access to markets and ever-lower production costs (Day & Montgomery, 1999). Non-Governmental Organisations (NGOs) have become more and more powerful in recent years, calling business to account for policies in the areas of fair trade, human rights, workers' rights, environmental impact, financial probity and corporate governance (Knox & Maklan, 2004). In certain circumstances powerful multinational companies can impose trading conditions on the less powerful, such as non-unionised workers, commodity producers in developing countries and Third World labourers (Klein, 1999).

Consumer preferences will increasingly favour products and services from socially responsible, transparent and trustworthy firms (Willmoot, 2001; Mitchell, 2001). Knox and Maklan (2004) found that CSR programmes favourably enhance corporate reputation and to some extent could influence employee behaviour. A growing body of research on CSR has shown that CSR plays an important role in consumers' brand and product evaluations and has a spillover or 'halo effect' on otherwise unrelated consumer judgements (Klein & Dawar, 2004). Euromonitor International's 2005 report, 'Sustainability: Its impact on global consumption' claims that consumers are increasingly favouring products and services that are perceived to be socially and environmentally responsible, or more sustainable (Euromoniter International, 2005).

Individual Consumer Behaviour

The green consumer can be defined in psychographic terms – namely values, attitudes and lifestyles (e.g. Nicholls and Opal, 2005; Thogersen and Olander, 2002). A broad consensus notes that green consumers – whether described as "global watchdogs" or "true blue greens" constitute a maximum of 20% of the population. Charter et al's (2002) research from the Cooperative Bank has indicated there are distinct segments of greener ethical consumers emerging who are becoming progressively more discerning abut the products, brands and components, but that this segment remains small.

The challenge, of course, is to encourage green behaviour by a greater proportion of the population. The consumer research conducted by Key Note (2005) suggests that cost is the biggest barrier for potential green consumers. Factors which encourage those outside the core green segments to buy green are:

- eco-literacy (e.g. Alba & Hutchinson, 1987; Murry & Schlacter, 1990; Chan, 1999)
- perception of value (e.g. Triandis, 1993; McCarty & Shrum, 1994; Gallastegui & Spain, 2002)
- availability (e.g. Wagner, 2003; Jain & Kaur, 2004)
- convenience (e.g. Laroche et al., 2001; Cottrell, 2003)
- trust (e.g. Crane, 2000; Rawwas, 2001; Zhu & Geng, 2005)

It is not possible to define green consumers wholly in terms of their purchase patterns as there exists a well documented "value-action gap". Much research concurs that there is a significant gap between consumers' claimed attitudes to green consumption and their actual behaviour. Part of the value-action gap is to do with a lack of information. National Consumer Council's research (Holdsworth, 2003) found that consumers have a positive, but passive, view of sustainable consumption. They are unsure what sustainable consumption entails in practice. Whilst individuals' concern about the environment is clearly being translated into a demand for greener products the precise extent to which consumers are willing and able to differentiate between products and brands on the basis of social and environmental performance is a contentious issue.

The value-action gap also has to do with income. Low-income consumers have a much more local outlook than higher-income consumers. They also suffer most from local environmental degradation and feel powerless to improve their circumstances. Disadvantaged consumers are often shut out from making sustainable consumption choices. They have less access to facilities and lack the income to invest in more sustainable products. Holdsworth (2003) suggests that to encourage these consumers, policy measures should look to improve quality of life as well as the environment.

Consumer research by Keynote (2005) evidences the growing success of Fairtrade, demonstrating the potentially huge demand for ethically-sourced food and other produce. Whilst research consistently shows demand for ethical choices in the global marketplace, very little has been published about the decision-making processes of these "ethical" consumers and the implications for marketing (Shaw & Shiu, 2003). Results of Shaw and Shiu's (2003) study reveal the improved ability of ethical consumer decision-making in the explanation of intention to purchase fair trade grocery products. Moisander and Pesonen (2002) explore new ways of studying green consumerism. They study the moral dimensions of green consumerism as an "aesthetic of existence", or as "arts of existence" (Darier, 1999) that involve a permanent questioning and reinventing of the self. Moisander and Pesonen (2002, p.330) state that much of environmental advocacy represents a certain way of thinking and acting that can be characterised as a style of life and a desire to be a certain kind of person, stemming from a complex interplay of both moral and aesthetic criteria, which on close examination are not completely stable (Darier, 1999).

Having considered green government, business strategy and consumer behaviour, the next section

considers how the gaps between them can be bridged.

Bridging the gap between consumers and organisations

One factor that bridges the gap between the green organisation and the green consumer is that of 'choice editing' (Sustainable Consumtion Roundtable, 2005). Shoppers have more options than ever before, it has been shown in the previous section that buyers can perceive buying green as more expensive, and eco-labelling can be confusing. 'Choice-editing' involves suppliers restricting consumer choice. Choice can be confusing: 'Choice is beneficial up to a point. But limitations, restrictions and boundaries can have a strangely liberating effect' (Sigman, 2004). An example of choice editing is energy-efficient fridges and freezers.

A combination of product policy measures, and 'choice editing' by retailers, has helped to make a significant shift in the market towards more efficient fridges and freezers. Mandatory A-G labelling was introduced by the EU in 1995, but A rated models still remained stuck below three per cent market share until a European regulation removed anything rated below C in 1999. Then in 2001, thanks to price incentives from energy suppliers under the Energy Efficiency Commitment (EEC), the market share of A-rated fridge freezers leapt from ten to 70 per cent within three years. A virtuous circle has ensued in which retailers have only wanted to stock higher-rated appliances and manufacturers have responded to demand by raising performance further and instigating a voluntary agreement which cut out C-rated fridges in 2004. Comet, for example, made a policy decision not to stock products below a C. From the consumer perspective, choice editing held no disadvantages, as A-rated products were offered by all their favourite brands at normal prices and improved performance. From the edited range, the customer could choose their favourite model using the criteria they have always used – price, quality, looks and utility.

A further example is that of free range eggs, which was led by consumers but involved choice editing. The size of the UK free range egg market has grown from around seven per cent in 1987 to 30 per cent in 2005 (40 per cent of retail sales). Consumer choice has led the change because of the health scare of salmonella, the perception of better taste and public concerns about animal welfare. The price premium is modest. Legislation has helped. From 2004, EU legislation has made it compulsory for eggs to be labelled according to method of production. However, lack of consumer transparency in the catering sector means that demand for eggs from caged hens remains over 50 per cent. Choice editing by caterers or regulators would be needed to drive further market transformation.

Eco-branding or differentiating the organisation through greening products and services may occur through the afore-mentioned 'choice editing' (e.g. B&Q committed to remove non-sustainable wood in their stores) or through innovation and leadership driving the development of green products (e.g. Toyota Prius wins car of year at 2005 Paris and Detroit motor shows – innovative product becomes new 'must-have').

Businesses can pursue green processes and also engage consumers with products by appealing to consumers emotions, especially on issues such as animal welfare. Consumers have responded emotionally to intensive farming, and are increasingly buying free range eggs and organic meat. Consumers prefer dolphin-friendly tuna, rather than tuna caught by seine netting. The polar bears floating on shrinking icebergs captured the public's imagination in Al Gore's film 'An Inconvenient Truth', promoting the climate change agenda. Conversely, businesses that do not behave responsibly can experience consumer backlash, as demonstrated in 'When good companies do bad things' exposing sweatshops used by Nike and pollution by Shell (Schwartz, 2000). The emotional response of consumers is a further mechanism by which businesses can engage consumers in the green agenda.

THE NETWORK PICTURE

Viewing "buying green" from a network perspective it can be seen that a variety of network actors have influence, as shown in Figure 3. Shifting towards buying green requires change across entire networks, including for example consumers, customers, distributors, suppliers, sub-suppliers, government, stakeholders, and shareholders. The internal drivers for the different actors identified in the literature are listed within their boundaries. The arrows show external drivers that influence other actors. The actors are shown as separate in this figure, but it should be noted that some actors transcend boundaries e.g. shareholders can be seen as part of organisations, stakeholders can also be consumers etc. Some actors in the network may embrace or promote change towards buying green, such as NGOs or champions within organisations. Some may be reactive, such as organisations responding to regulations. Some may be unresponsive or unaware, such as consumers uninterested in buying green.

Figure 3 shows that buying green sits within a much broader macro context and sector context. In the macro context, for a wide range of organisational and individual stakeholders, green purchasing is now considered as just one facet within a framework which also encompasses concepts such as CSR, Ethical Consumption, Globalisation and Fair Trade. This broader framework impacts on both consumer and organisational behaviour. In the sector context, certain industries are more likely to lend themselves to buying green. These are primarily industries subject to regulatory pressures such as petrochemicals or product categories where some competitors have used greenness as a point of differentiation such as food and timber products.

Within this broader context, we have positioned the green consumer and the green organisation in a macro-context including government, with all three playing a role in pushing the green agenda. Factors affecting the green consumer include the lack of information on products and issues, emotional resonance, apathy and price sensitivity. The far larger body or research we identified has the organisation rather than the individual as the unit of analysis. Research has identified differences between green strategies involving organisational processes and products / services. Factors affecting firms are external (e.g. regulation, company image, competitive advantage, legitimation), organisational boundary spanning issues (e.g. stakeholders, shareholders) and internal organisational characteristics (e.g. leadership, ecological responsibility) that all affect an organisations propensity to supply and buy green. Situated between consumers and organisations, choice editing helps organisations steer consumers towards green choices.

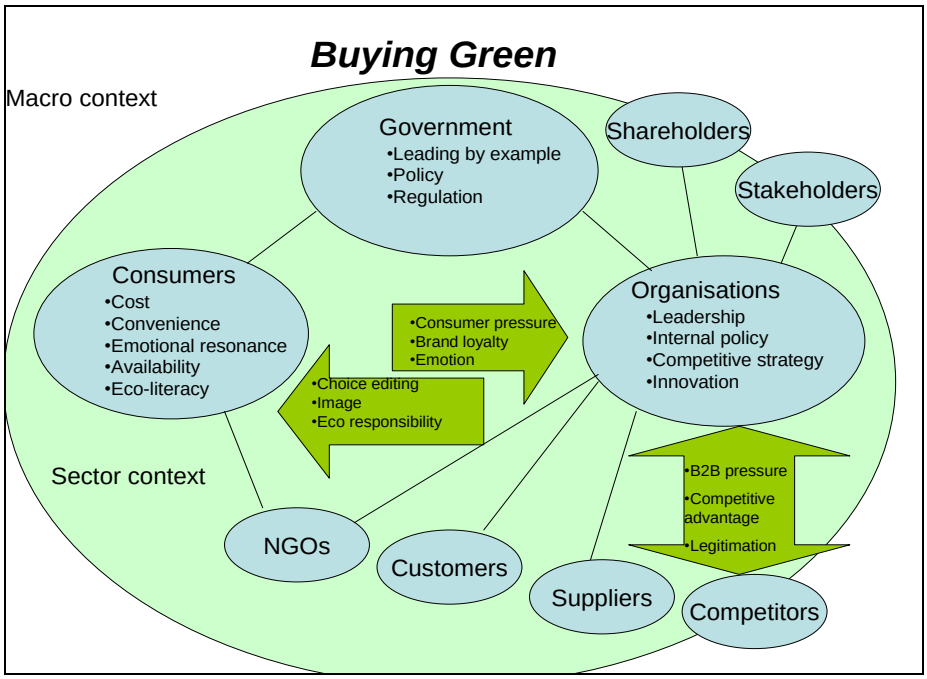


Figure 3: Buying green: a network perspective, showing different actors and drivers in the network

CONCLUSIONS

This paper reviews a range of literature on buying green by synthesising marketing and supply approaches. It explores what has been written on the drivers that make people buy green and the factors which help business deliver green goods and services.

This research has several limitations. First, it is based on a review of literature, and the actors and drivers identified by this review have not been subject to empirical investigation, to understand drivers of buying green in more depth. Second, in attempting to combine marketing and supply perspectives, the challenge of different units of analysis arises. Some findings identified in the literature concern individuals such as consumers or champions, some are focused at the organisational level, some comment on particular sectors. This mix of levels of analysis presents the problem of whether one is comparing like with like, and future research could explore such differences more systematically. Further, in the literature review methodology, papers were selected from journals that are listed in the Classification of academic journals in the field of business and management studies (Harvey & Morris, 2005). A more stringent approach could be to only select articles from journals of a minimum ranking (e.g. ranked as international or top international).

It may be helpful to think of the buying green issue in terms of a network of actors including government, businesses and people. A variety of network actors may need to change together if sustainable consumption is to become a reality. Businesses could begin by looking at the greening of their processes as this is more straightforward and has shown tangible strategic benefits across a range of industries. At the same time government could ensure that its own processes are underpinned by an ethos of sustainability as an example to others. And businesses could lobby for fiscal incentives for sustainable process. Retailers and businesses could then work together on choice editing programmes to make it easy for consumers to buy green conveniently and at a fair price. Businesses may be wasting their time chasing elusive green consumers. Instead they may do well to devise product strategies which will eventually turn all consumers green without them even noticing.

References

Alba, J.W., & Hutchinson, J.W. 1987, Dimensions of consumer expertise, Journal of Consumer Research, 13(March): 411-454.

Araujo, L, Harrison D, 2002, Path dependence, agency and technological evolution. Technology Analysis and Strategic Management, Vol. 14, No. 1, pp 5-19.

Axelsson, B. and Easton, G. (1992) Industrial Networks: A new View of Reality, Routledge, London.

Bansal, P., & Roth, K. 2000. Why companies go green: A model of ecological responsiveness. Academy of Management Journal, 43(4): 717 - 736.

Bowen, F. E. 2000. Environmental Visibility: A Trigger of Green Organisational Response? Business Strategy and the Environment, 9: 92-107.

Bowen, F.E., Cousins, P.D., Lamming, R.C. & Faruk, A.C. 2001a. Horses for Courses – Explaining the Gap between the Theory and Practice of Green Supply. Greener Management International, 35 (Autumn): 41-60.

Carter, C.R. & Ellram, L.M. 1998. Reverse Logistics: A Review of the Literature and Framework for Future Investigation. International Journal of Purchasing and Materials Management, 34(4): 28-38.

Carter, C. R. & Dresner, M. 2001, Purchasing's Role in Environmental Management: Cross-Functional Development of Grounded Theory. The Journal of Supply Chain Management, 37(3, Summer): 12-26.

Chan, K. 1999, Market segmentation of green consumers in Hong Kong, Journal of International Consumer Marketing, 12(2): 7-24.

Charter, M., Peattie, K., Ottman, J. & Polonsky, M. 2002. Marketing and sustainability, Centre for Business Relationships, Accountability, Sustainability and Society (BRASS), UK

Crane, A. 2000. Facing the backlash: Green marketing and strategic reorientation in the 1990s. Journal of Strategic Marketing, 8(3): 277-296.

Darier, E. 1999. Foucault and the environment: an introduction. In E. Darier (Ed.), Discourses on the environment: 1-33. Oxford: Blackwell.

Day, G., & Montgomery, D. 1999. Charting new directions for marketing. Journal of Marketing, 63(special edition): 3-13.

Dean, T.J. and Brown, R.L. 1995. Pollution Regulation as a Barrier to New Firm Entry: Initial Evidence and Implications for Future Research. Academy of Management Journal, 38(1): 288-303.

DEFRA. 2006. Procuring the Future - The Sustainable Procurement Task Force National Action Plan. Department for Environment, Food and Rural Affairs, London.

Dillon, P. W., & Fischer, K. 1992. Environmental management in corporations. Medford, MA: Tufts University Centre for Environmental Management.

Dosi, G. (1982) Technological paradigms and technological trajectories: a suggested interpretation of the determinants and direction of technical change. Research Policy, Vol. 11, No. 3, pp. 147-162, Elsevier: Amsterdam.

Drumwright, M. 1994. Socially Responsible Organisational Buying: Environmental Concern as a Non-economic Buying Criteria. Journal of Marketing, 58, (July): 1-19.

Elkington, J. 1994. Toward the sustainable corporation: Win-win-win business strategies for sustainable development. California Management Review, 36(2): 90-100

Euromoniter International. 2005. Sustainability - Its Impact on Global Consumption to 2010.

Fineman, S. 1996. Constructing the green manager. In McDonagh, P. and Prothero, A. eds.Green Management (1997): A Reader, 179-189. London: The Dryden Press.

Font, X., & Harris, C. 2004. Rethinking standards from green to sustainable. Annals of Tourism Research, 31(4): 986-1007.

Gabriel, Y., Fineman, S. & Sims, D. 2000. Organizing & Organizations. 2nd ed. London: Sage Publications Ltd.

Gadde, L.E. and Håkanssson, H. (1992) Analysing change and stability in distribution channels – a

network approach. In Axelsson, B. And Easton, G. (eds) Industrial networks: a new view of reality, London, Routledge, pp. 166-179.
Gallastegui, I. G. & Spain, S. 2002. The use of eco-labels: A review of the literature. European Environment. 12(6): 316-331
Georghiu, L., Metcalfe, J.S., Gibbons, M., Ray, T., and Evans, J. (1986) Post-Innovation Performance: Technological Development and Competition, MacMillan: London.
Gonzalez-Torre, P. L., Adenso-Diaz, B., & Artiba, H. 2004. Environmental and reverse logistics policies in European bottling and packaging firms. International Journal of Production Economics, 88: 95-104.
Green, K., Morton, B. & New, S. 1996. Purchasing and Environmental Management: Interactions, Policies and Opportunities. Business Strategy and the Environment, 5: 188-197.
Håkansson, H., and Waluszewski, A. (2002) Path Dependence: Restricting or Facilitating Technological Development. Journal of Business Research, Vol. 55, Issue 7, pp. 561-570.
Hall, J. 2001. Environmental Supply-Chain Innovation. Greener Management International, 35(Autumn): 105-119.
Halpern, D. & Bates, C. 2004. Personal responsibility and changing behaviour: the state of knowledge and its implications for public policy. Pri
me Minister's Strategy Unit.
Hampson, J., & Johnson, R. 1996. Environmental Legislation and the Supply Chain, Proceedings of the 6th Annual International IPSERA Conference, Eindhoven University, The Netherlands: 269-287.
Handfield, R.B., Walton, S.V., Seegers, L.K. & Melnyk, S.A. 1997, Green' value chain practices in the furniture industry. Journal of Operations Management, 15: 293-315.
Hart, S.L. 1995. A Natural-Resource Based View of the Firm, Academy of Management Review, 20(4): 986-1014.
Hart, S.L. 1997. Beyond Greening, Harvard Business Review, January-February: 66-76
Harvey, C. & Morris, H. 2005 Classification of Academic journals in the field of Business and Management Studies. http://www.uwe.ac.uk/bbs/research/jlists.shtml
Henriques, I. and Sadorsky, P. (1999). The Relationship between Environmental Commitment and Managerial Perceptions of Stakeholder Importance. Academy of Management Journal, 42(1): 87-99.
Hertz, S. (1998) Domino effects in international networks, Journal of Business-to-Business Marketing, Vol. 5 No.3, pp. 3-31.
Holdsworth, M. 2003. Green choice: What choice? - Summary of NCC research into consumer attitudes to sustainable cnsumption. London, National Consumer Council.
Holt, D. and Kockelbergh, C. 2003. Environmental Supply Chain Management in the UK – An Exploratory Analysis of Current Practices, Proceedings of the 12th Annual International IPSERA Conference, Budapest: 677-689.
Kalisch, A. 2002. Corporate futures: Consultation on good practice: Social responsibility in the tourism industry. London: Tourism Centre.
Keynote report 2005 The green and ethical consumer. February 2005.
Klein, N. 1999. No logo: Taking aim at the brand bullies. New York.
Klein, J., & Dawar, N. 2004. Corporate social responsibility and consumes' attributions and brand evaluations in a product-harm crisis. International Journal of Research in Marketing, 21: 203-217.
Knox, S., & Maklan, S. 2004. Corporate social responsibility: Moving beyond investment towards measuring outcomes. European Management Journal, 22(5): 508-516.
Lamming, R. & Hampson, J. 1996. The Environment as a Supply Chain Management Issue. British Journal of Management, 7 (March; Special Issue): 45-62.
Lamming, R., Cousins, P., Bowen, F. & Faruk, A. 1999a. A Comprehensive Conceptual Model for Managing Environmental Impacts, Costs and Risks in Supply Chains,Proceedings of the 8th Annual International IPSERA Conference, Belfast and Dublin: 513-522.
Lampe, M., Ellis, S. R., & Drummond, C. K. 1991. What companies are doing to meet environmental

protection responsibilities: Balancing legal, ethical, and profit concerns. Proceedings of The International Association for Business and society: 527-537.
Lacey, M., Deacon, S., & Shelley, T., 2005, Surveyors: Use delay in energy laws to read up.
Estates Gazette, 534
Laroche, M., Bergeron, J. & Barbaro-Forleo, G. 2001. Targeting consumers who are willing to pay more for environmentally friendly products. Journal of Consumer Marketing, 18(6): 503 - 520
Lawrence, A. T., & Morell, D. 1995. Leading-edge environmental management: Motivation, opportunity, resources, and processes. In D. Collins, & M. Starik (Eds.), Research in corporate social performance and policy: 99 - 126. Greenwich, CT: JAI Press.
Linton, J.D. (2002) Forecasting the Market Diffusion of Disruptive and Discontinuous Innovation, IEEE Transactions on Engineering Management, November 2002 Vol. 49, No. 4, pp. 365-374.
McCarty, J.A., & Shrum, L.J. 1994, The recycling of solid wastes: personal values, value orientations, and attitudes about recycling as antecedents of recycling behavior, Journal of Business Research, 31(1): 53-62.
McDonald, S., & Oates, C. J. 2006. Sustainability: Consumer perceptions and marketing strategies. Business Strategy and the Environment, 15(3): 157-170.
McWilliams, A., & Siegel, D. 2001. Corporate social responsibility: A theory of the firm perspective. Academy of Management Review, 26(1): 117-127.
Mendleson, N., & Polonsky, M. J. 1995. Using strategic alliances to develop credible green marketing. Journal of Consumer Marketing, 12(2): 4 - 18.
Min, H. and Galle, W.P. 1997. Green Purchasing Strategies: Trends and Implications. International Journal of Purchasing and Materials Management, 33(3): 10-17.
Min, H.& Galle, W.P. 2001. Green Purchasing Practices of US firms. International Journal of Operations & Production Management, 21(9): 1222-1238.
Mitchell, A. 2001. Right side up. London: Harper Collins Business.
Moisander, J., & Pesonen, S. 2002. Narratives of sustainable ways of living: Constructing the self and the other as a green consumer. Management Decision, 40(4): 329-342.
Murray, K.B., & Schlacter, J.L. 1990, The impact of services versus goods on consumer's assessment of perceived risk and variability, Journal of the Academy of Marketing Science, 18(1): 51-65.
National Consumer Council & Sustainable Development Commission Roundtable 2006 I will if you will: Towards sustainable consumption.
Nelson, R. and Winter, S. (1977) In search of a useful theory of innovation. Research Policy, Vol. 6, No. 1, pp. 36-76.
O'Brien, C. 1999. Sustainable production - A new paradigm for a new millennium. International Journal of Production Economics, 60 - 61: 1-7.
Ofori, G. 2000. Greening the construction supply chain in Singapore. European Journal of Purchasing and Supply Management, 6: 195-206.
Opaluch, J. 2003. Environmental policy and endogenous technical change: A theoretical and empirical analysis: EPA STAR GRANT.
Orsato, R. J. 2006, Competitive environmental strategies: When does it pay to be green? California Managament Review, 48(2): 127-143.
Porter, M. E., & Van der Lande, C. 1995. Green and competitive: Ending the stalemate. Harvard Business Review, 73(5): 120-134.
Rawwas, M.Y.A. 2001, Culture, personality, and morality: A typology of international consumers' ethical beliefs, International Marketing Review, 18(2): 1-18.
Schwartz, P. 2000. When good companies do bad things. Strategy and Leadership, 28(3): 4-12.
Sharma, S. & Vrendenburg, H. 1998, Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities, Strategic Management Journal, 19: 729-753.
Shaw, D. & Shiu, E. 2003. Ethics in consumer choice: A multivariate modelling approach. European Journal of Marketing, 37(10): 1485-1498
Sigman, A. 2004. The Explosion of Choice: Tyranny or Freedom?

Srivastava, S. 2007. Green supply chain management: A state-of-the-art literature review. International Journal of Management Review, 9(1): 53-80.
Suchman, M. C. 1995. Managing legitimacy: Strategic and institutional approaches. Academy of Management Review, 20: 571-610.
Thogersen, J. & Olander, F. 2002, Human Values and the Emergence of a Sustainable Consumption Pattern, Journal of Economic Psychology, 23(5): 605-630
Tilly, C. (1994) The Time of States. Social Research, Vol. 61, No. 2, pp. 269-295.
Trowbridge, P. 2001. A Case Study of Green Supply-Chain Management at Advanced Micro Devices. Greener Management International, 35 (Autumn): 121-135.
Vredenburg, H., & Westley, F. 1993. Environmental leadership in three contexts: Managing for global competitiveness. Proceedings of The International Association of Business and Society: 495-500.
Wagner, S. 2003, Understanding Green Consumer Behaviour: A Qualitative Cognitive Approach, Routledge, London,
Walton, S. V., Handfield, R. B., & Melnyk, S. A. 1998. The green supply chain: Integrating suppliers into environmental management processes. Journal of Supply Chain Management, 34(2): 2-11.
Willmott, M. 2001. Citizen brands. Chichester: John Wiley & Sons Ltd.
Winn, M. 1995. Corporate leadership and policies for the natural environment. In D. Collins, & M. Starik (Eds.), Research in corporate social performance and policy, supplement 1: 127-161. Greenwich, CT: JAI Press.
Wycherley, I. 1999. Greening supply chains: The case of the Body Shop International. Business Strategy and the Environment, 8: 120-127.
Zhu, Q. & Geng, Y. 2005. Green supply chain management in China: Pressures, practices and performance, International Journal of Operations & Production Management, 25(5): 449-468
Zsidisin, G. A., & Siferd, S. P. 2001. Environmental purchasing: A framework for theory development. European Journal of Purchasing and Supply Management, 7: 61-73.