

ISO 14000 Standards: An environmental solution or a marketing opportunity?

Clare D'Souza

La Trobe University, Australia

.....
The key to marketing is customer satisfaction. There is an apparent demand for green products, but these products are not without problems such as high price structure, inaccurate product claims, and so forth. This paper proposes a conceptual model suggesting that ISO 14000 series is market driven and can prompt customer satisfaction. ISO 14000 series has its impediments and although it may somewhat influence product characteristics and the firms' image, if invested discerningly, they will garner dividends in the long run. In general, firms are not fully aware of the potential benefits of these standards and consumers have no knowledge or way of understanding that a product or firm has been ISO 14000 certified. The existence of these standards needs to be more functionally understood to allow positioning strategies aimed to influence the evolving consumer's mind set.

Introduction

In the last 15 to 20 years sustainable development of the environment has become the pivotal political and social issue. Various authors have interpreted the terms *sustainable* and *sustainability*. Although some have defined their scope, dimensions, and measurability, these aspects remain debatable (Bebbington & Gray, 2001; Lele, 1991). What is sustainability? Although sustainability is defined in a variety of ways, one common definition is as follows: "Sustainability is more than a scientific concept, sustainability is a focus for a new value debate about the shape of the future. It is a signpost pointing to a general direction we must take, while the debate is engaged about the best path to lead us forward" (Dunphy, et al., 2000, p. 5).

Conversely, there also appears to be a need for explicit consideration and incorporation of sustainability of the environment within corporate strategy. Morrison (2003) indicates that with corporations sustainability involves "an integration of social, environmental, and economic accountability for the purpose of forging a new framework within which leaders make decisions and assume the accompanying responsibilities" (p. 124). While there is no standard definition of corporate sustainability, some authors have made attempts to vaguely define it as "demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders" (van Marrewijk & Were, 2003, p 107). In other words, today's

corporations have to create a new vision of environmental sustainability. They can achieve this by becoming more socially responsible. To assist organizations to achieve this concept of sustainability, institutions have proposed environmental standards and systems.

There has been a range of systems developed to provide management with a body of non-mandatory instruction to satisfy environmental demands from stakeholders such as employees, shareholders, consumers, and the general public. The development of the initial standard was in United Kingdom (BS 7750); this was also compatible with the European Union, Eco-Management and Audit Scheme (EMAS). The two systems contributed to the making of the Geneva based International Standards Organisation (ISO) 14000 series. The International Organization for Standardization was formed in 1946 and is headquartered in Geneva, Switzerland. Its purpose is to facilitate standardization as a means of promoting international trade. It disseminated a series of standards called ISO 14000 that are intended to help businesses around the world voluntarily manage their environmental responsibilities and ensure that policies, procedures, and practices conform to company environmental targets and objectives. The foundation of ISO 14000 standards is its objective to help a company manage, measure, and improve its environmental operations through efficiently complying with mandatory environmental regulations.

ISO 14000 standards can be best described as serving the basic elements of an effective Environmental Management System (EMS); for instance, in creating an environmental policy, setting objectives and targets, implementing a program to achieve those objectives, monitoring and measuring its effectiveness, correcting problems, and reviewing the system to improve overall environmental efficiency. While the benefits of applying the ISO 14000 standards are many-such as environmental pollution control; reducing environmental liability, risk and insurance rates; assisting with legislative and environmental compliance; and improving conditions both for employees and corporations (Graves, 2003)-this article will emphasize how this series stands to gain importance from a marketing perspective as well as discussing some of the impediments to its implementation.

The ISO 14000 series can be classified broadly into two categories (a) Environmental Management Systems (ISO 14001 and ISO 14004) and (b) Environmental Management Tools that encompasses all other ISO 14000 standards. Examples include: environmental auditing ISO 14010, 14011 and 14012; environmental labels and declarations ISO 14020, 14021 and 14024; environmental performance evaluation ISO 14031; life cycle assessment ISO 14040, 14041, 14042 and 14043; and inclusion of environmental aspects in product ISO 14060. The ISO 14000 standards advocate not only sustainable

development for firms as they stand, but for each and every nation and person (Sayre, 1996). Why are firms skeptical about using these standards?

Objectives of the Research

At one time, firms applied environmental compliance procedures largely to reduce their exposure to fines or penalties. Today firms use these procedures in response to the consumer-driven green demand; they want to be perceived as having a green corporate image. This green corporate image can be used as a competitive advantage, even to the extent of facilitating global trade. ISO 14000 standards can be viewed as a positive environmental instrument as they enable firms to take control of the negative effects of environmental impact and audit procedures to reduce environmental impacts. Firms have expounded on the benefits of this program, mindful of various stakeholder demands. For example, Acushnet Rubber (New Bedford, Massachusetts) became ISO 14001 certified in order to anticipate customer demand, save money, and reduce the number of potential compliance issues. In addition, the company also expected that this certification would serve as a marketing tool (Fielding, 2001).

Alternatively, it may be argued that environmental performance practiced by firms can even have a beneficial effect on regulatory practices. These notions are worthy of attention as the contention over the ISO 14000 series is increasingly becoming prominent within some companies and governments. The key issue here is should the standards be a welcomed marketing opportunity and part of a solution to the environmental problems of firms? While, these standards have met with global acceptance and may be in keeping with the green agenda, many firms are still unsure of their benefits.

Another conjecture as to why these ISO standards may have a low impact and may not be the best mechanism to foster environmental responsibility is their lack of emphasis on corporate values and objectives. Firms may have perceived themselves as experts in identifying environmental problems, ensuring that their offerings met the needs and demands of the stakeholders. Many do not understand the general views about these systems. Despite their skepticism of the ISO 14000 series, companies fail to recognize that a strong concept of marketing appears to be emerging that can be applicable to the broader field of consumerism.

The central thrust of this article is to examine the benefits of adopting the ISO standards. Secondly, since these standards are identified as crucial contributors to several environmental solutions, numerous questions have arisen regarding the impact of them on corporate environmental

management systems and marketing. Thus, with the help of a conceptual framework this paper attempts to identify marketing opportunities that can be realized from the use of the ISO 14000 standards. Lastly, it appraises some of the key impediments adopting the ISO 14000 series of standards.

Marketing Implications and Benefits

The use of the ISO 14000 standards may perhaps have the greatest attraction for a certain set of consumers, called green consumers, that seeks environmentally friendly products, provided that these green customers and the suppliers understand that a verified quality or environmental management system has been undertaken. Complying with ISO 14000 indicates that a company and its products, to a certain degree, are environmentally sound. The key to marketing is satisfying consumer needs. It is evident that this apparent growth of green consumerism has made manufacturers and marketers aware of the possible market advantages they could gain through green processes, green packaging, and green products in attracting these consumers. Unfortunately, consumers have no way of knowing or understanding that a particular product or organization has been ISO 14000 certified (Cascio, 1994). The existence of these standards needs to be more functionally understood to allow positioning strategies aimed toward this evolving consumer's mindset.

Understanding consumer needs is the first logical process in marketing. To make that assumption that the ISO 14000 series provides a key market opportunity may, in fact, be an over assumption of these standards. The needs of consumers cannot be explained in any neat and linear fashion, but there is no doubt that those green consumers search for eco-efficient products. As well, shareholder demands for greater environmental responsibility and government demands for cleaner manufacturing processes encourage the integration of environmental issues into corporate strategies and raise concerns about the environmental effectiveness of the firm itself. In Figure 1 an attempt is made to incorporate stakeholder demands onto a firm's operational structure. In turn the firm's demands for cost effectiveness, resource optimisation, and continuous improvement on the environmental configuration may be met by the use of the ISO 14000 environmental standards. These standards provide a firm with guidance on the impact of all-environmental activities and services (ISO 14001, Environmental Management Systems), auditing (ISO 14010-13), environmental labelling (ISO 14020-24), lifecycle assessment of products (ISO 14040-43), and environmental aspects in product standards (ISO 14060). Adhering to the standards accomplishes two goals, one is production of a green product and the second is the creation of a green company image. This results in a marketing opportunity for those firms

interested in targeting green consumers and satisfies the stockholders who had indicated their desire for a greener company image.

Clearly the benefits of ISO 14000 certification are many: gaining market place and shareholder advantages, insurance hedging, reduced costs, other financial benefits, and achieving a higher productivity. But how do the 14000 standards assist firms?

Firstly, the underlying potential benefits of the ISO 14000 series would help firms implement their commitment to environmental excellence; help avoid multiple registrations, inspections, certifications, labels and conflicting requirements; and remove the need for certain regulatory "command and control" initiatives (Cascio, 1994). Even though to a certain extent the standards may lead to more cooperative relationships between businesses and government regulators (Stenzel, 2000), they also reinforce proactive rather than reactive environmental protection measures. Another advantage of certifying under these standards is that they complement the traditional existing safety and performance standards (Hormozi, 1997). During the 1960s people realized the importance of integrating their personal values and social and environmental concerns with their investment decisions. In response to the concerns of these investors firms regularly issue press releases, initiate public relations and publish information about their environmental performance initiatives. It is assumed that ISO 14000 certification would assist in justifying corporate claims of environmental responsibility. These claims must be authenticated to the public, which requires some independent verification (Muska, 1998). ISO 14000 certification would assist firms to improve all around environmental efficiency as well.

Secondly, with respect to international trade ISO 14000 calls for a potentially new way by which manufacturers will trade in the international markets given the current global strength of free market ideology. ISO 14000 should facilitate international trade and remove trade barriers (Alexander, 1996). For example, in Manila, large as well as small firms have been asked by the government to comply to these standards in order to remain competitive (Government agencies want local firms to meet international mark, 2002). ISO certification is also important to companies interested in Common Market trade (Showalter, 1997). On the other hand, ecolabels similar in their objectives to the ISO 14000 standards have gained importance in global trade. Anecdotal evidence shows that sales have increased when an ecolabel has been obtained but there is no statistical data in general to give objective evidence of the market power than an ecolabel may confer on a product (OECD, 1997). Producers, however, continue to apply for and pay for environmental labels, indicating they have some

market value (OECD, 1997). Claims are particularly important in international trade as a company can make assertions about environmental performance but it has few ways to validate those assertions. It may be possible that ISO 14000 certification can assist firms by providing them validation to justify their claims.

Thirdly, these systems can also assist companies in targeting green consumers. For instance, green consumerism is viewed as a powerful marketing force, which in well operating markets drives environmental innovation and prompts firms toward environmentally responsible behavior. It is certain that corporate environmental awareness mainly emerged due to the apparent growth in number of these green consumers. By showing their support for environmental protection issues through their marketing of green products, organizations can pursue a distinctive way of competing. While there has been emphasis on the use of market-based instruments in environmental policymaking, firms are not readily perceived as being strongly environmentally friendly, nor are firms aware that they are merely attacking the symptoms of the problem (Kilbourne, McDonagh & Porthero, 1997; Levy, 1997).

Marketing is meeting and satisfying consumer needs. The existence of the green niche market is verified by polls conducted in the early 1990s. Roper Organization polls have shown that the greenest segment of consumers nearly doubled over the two-year period from 1990 to 1992 (Iyer, Banerjee and Gulas, 1994). Opinion polls throughout Europe and North America suggest that consumers have become more environmentally concerned (Dagnoli, 1991; Simon, 1992). Several studies have even shown that green consumers are willing to change their consumption behavior to preserve the environment (Brooker, 1976; Du Preez, Diamantopoulos and Schlegelmilch, 1994; Kassarian, 1971). This green movement is no longer stimulating the same kind of innovative awareness that was characterized in the early 1990s, as this environmental concern has attained substantial momentum and continues to alter consumers' basic habits (Stisser, 1994). There seems to be a fundamental shift in that environmental concern is increasingly becoming embedded in consumers' everyday behavior patterns, less as a source of anxiety and more as a lifestyle choice (Frankel, 1993). Being certified through the ISO 14000 standards provides the social fabric to support a product's environmental claim, and success of green products can be seen as part of a broader association of ISO 14000 standards. If such is the case then one may assume that ISO 14000 certification can improve product sales and/or product image. This improved marketability of products, in turn, fosters the quest for the niche green market.

Lastly, these ISO 14000 standards can be of assistance by being an asset to

the claims made by advertisements. The emanations of green claims (for example, "eco-friendly", "environmentally safe", "recyclable", "biodegradable" and "ozone friendly") have arisen as a response to the environmental challenge in the 1990s. These new approaches identifying products that are environmentally friendly represent important evolvments in the development of global business. This encourages firms to reevaluate their policies and practices. However, some of the claims that organizations made were misleading and false, while others gave the impression that an entire product was eco-friendly, when in actual fact only a small component had an environmentally benign attribute (West, 1995).

There is some indication that for 70% of the respondents in one survey, purchase decisions were at least sometimes influenced by environmental messages in advertising and product labeling, and most respondents reported that environmental claims were not particularly believable (Chase & Smith, 1992). In another survey 83% of the respondents indicated they preferred buying environmentally safe products and 79% reported they considered a firm's environmental reputation in purchase decisions; however, only 15% said that environmental claims were extremely or very believable (Dagnoli, 1991). Furthermore, a 1990 Roper poll showed that Americans tend to think companies are not environmentally responsible and that they distrust advertising and labeling claims pertaining to the environment (Schwartz & Miller, 1991). There is little agreement with, and apparently no clear understanding of, these claims. This may be so because *green* is often loosely translated and often enough the relevance of critical product features affecting the environment are neglected by these claims. Consequently, it may be that the ISO 14000 series can assist in supporting advertising claims. These standards in labeling, life cycle assessment, and environmental attributes in products emphasize the evaluation and analysis of product and process characteristics thus assuring that products are environmentally friendly.

Impediments of ISO 14000

Considering the benefits of the ISO 14000 series and how it may assist firms to take advantage of an marketing opportunity, it is not surprising to find some impediments within these systems. Some concerns that have been raised regarding the ISO systems are discussed below.

Price Concerns

When comparing products in the market place, price is often relevant to consumers. If the price is high, consumers use a tradeoff to make purchase decisions. This may also be so in the case of the green consumer. There are

a host of factors that consumers take into account before making a decision but invariably price is a prime factor. Certification is based on the premise that consumers will differentiate and perhaps be willing to pay a premium for green products (Carter & Merry, 1998). However, there has been contradictory evidence on consumers' willingness to pay more for green products. Studies have shown that British consumers are willing to pay more for green products (Prothero, 1990) and that Canadian consumers will pay more for green products, but the quality must be maintained (McDougall, 1993). In a poll by the J. Walter Thompson advertising agency, 82% of the respondents said they would pay at least 5% more for a product that was environmentally friendly (Levin, 1990).

Furthermore, green consumers are also extremely price-sensitive when it comes to buying environmentally friendly products (Mandese, 1991). Companies that have presented these green products as premium-priced items, have found the market to be less receptive than expected (Wasik, 1992). Some researchers have indicated that consumers' claims that they were willing to pay more for green products were not been matched by their actions (Bennett, 1992; Reitman, 1992; Winski, 1991). Although many consumers say they support green products, they often do not behave as if they do (Hume, 1991). Research tends to indicate a lack of willingness to actually pay premium prices for green products (Wasik, 1992).

To what extent are consumers willing to pay more for green products? Dagnoli's (1990) research on potential buyers' behavior revealed that most respondents claimed they would willingly pay 5% more for environmentally friendly products or containers. This roughly coincides with research by Kalwani and Yim (1992), who found that most consumers have a range of price indifference (about 5%) for the products they purchase. It is possible that the reported willingness to pay more for environmentally friendly products is based simply on the range of prices that customers feel are fair for a product. The lack of consumer interest may be strongly related to consumer perceptions of price and quality of the environmentally friendly products (Reitman, 1992; Wasik, 1992).

While complying with ISO 14000 ensures operating cost reduction and materials savings through systemic management (Johnston, 1997), for some firms' compliance could be a costly affair. To have a strong environmental management system, a firm must provide all the resources required for implementing the standards. Implementing the ISO 9000 standards is estimated to increase costs by 20% (Cascio, 1994) and this is assumed to be the same benchmark figure for the ISO 14000 standards (Hormozi, 1997).

However, direct costs will vary from industry to industry. For example, certification review includes fixed fees such as royalties or certifying agent's fee, application, initial inspection, and auditing. The indirect costs include incremental costs of improved environmental management such as planning and monitoring costs and costs arising from changes to manufacturing equipment or compliance costs. Implementation and certification costs are estimated to range from \$100,000 to \$1 million for plants run by a multinational corporation, while costs for small- or medium-sized plants may range between \$10,000 and \$100,000 depending on the company's individual needs and circumstances (Stenzel, 2000).

These costs indirectly increase the final price of the product. Should premium prices then really matter? For companies to adopt this certification they must believe that the benefits of ISO 14000 will outweigh the costs. The extent of this impact is however uncertain. Products with certification may necessitate higher prices, and if the market demand is not perfectly inelastic, there would be an overall decrease in the quantity of the product demanded. There is little evidence in the literature substantiating that consumers will pay premium prices to buy green products. Clearly, the economic implications of putting premium prices on products sound more complicated than believed originally, but then again, it is short-term pricing measures that are being considered. From a marketing perspective, the cost of certification on the overall product category may be under-represented as anticipation of consumer demand and long-term prospects harbor cheaper price values.

Regulatory Concerns

Over the last several years new regulations have come into effect that encourage industry to follow more environmentally-sound practices. Generally, countries started with the traditional command and control approach that, if adequately enforced, has the qualities of high reliability and predictability. However, this approach sometimes proved to be rigid and inept. During the 1980s, environmental regulation laid importance on the employment of market-based strategies and tools such as pollution taxes, tradable permits, and deposit-refund systems. These instruments were alleged to recover both economic efficiency and environmental effectiveness by relying on market incentives. It was not until the 1990s that voluntary environmental initiatives signaled a movement away from the traditional adversarial relationships (Delmas, 2000).

The underlying problem is that existing government regulations do not provide a proven course of action for environmental strategy. Lacking such a standard, companies must rely on their own internal approaches, created for

varying reasons. These approaches may or may not be good for the environment, but are almost certain to mean little to customers (Carter, 2001).

Another major concern is preemption. Maxwell, Lyon and Hackett (1998) investigated preemption as an aspect for environmental over-compliance. They explain the requirement for voluntary pollution abatement as a response to the threat of environmental regulation. Their study indicated that expectations are that under certain conditions a strong threat of regulation will induce firms to self-regulate. The effectiveness of that self-regulation depends on the strength of the legislative threat. The level of abatement is directly related to the probability of the threat (Segerson & Miceli, 1998). In essence those companies with strict regulatory programs will obviously make use of these voluntary compliance measures. Those firms that don't have environmental policies in place may also have a dominant strategy calling for participation in industry self-regulation because they can benefit most from the improvements the program provides (Lyon & Maxwell, 2000; Russo & Fouts, 1997).

Proactive initiatives by industry can help defuse opposition from government environmental regulatory agencies, but to what extent? Should ISO 14000 be kept separate from government regulatory systems or should it meet the objectives of government regulatory systems? This self-regulation may perhaps be seen as a gray area, especially in countries that demand high regulatory standards. As such, it is anticipated that the ISO 14000 standards will become a way for firms to follow one set of standards of practices rather than having to deal with the conflicting environmental regulations of different countries (Sayre, 1996).

Other Issues

ISO 14000 has also been critiqued on other grounds. In a recent study, Montabon, Melnyk, Sroufe, and Calantone (2000) suggest that companies do not see overall, environmental management systems in a positive light. In general, they conclude that these systems are perceived as having a strong negative impact on the major strategic dimensions of a company's performance (i.e., lead-time, costs, and quality), and that these systems do not enhance a firm's competitive position in the marketplace nor do they improve a firm's ability to sell its products internationally. The authors found that a company's attitude toward the standards was influenced by the progress of its plant in attaining ISO 14000 certification.

Furthermore, neither the ISO 9000 nor the ISO 14000 standards apply to any specific product. Nor does completion of the standards requirement

imply endorsement or certification by the International Organization for Standardization. According to the ISO there is, in fact, no such thing as ISO registration or certification. The certification labels are created and conferred only by independent auditors who are in the business of evaluating and "rating" a firm's ISO efforts, and that certification is based on the auditor's understanding of the standards (Carter, 2001). ISO 14000's EMS standards are process standards, not performance standards. ISO 14000 also requires that a company establish an environmental management system and hence these standards are concerned with processes, not outcomes, that is, not with establishing performance standards; nor do the standards measure environmental performance, they merely enable a company to reach the goal of improved performance (Stenzel, 2000). In other words, these standards do not advise firms what environmental performance they must accomplish aside from compliance with environmental regulation. Instead, the standards describe a system that will assist an organization to achieve its own objectives and targets. The assumption is that improved environmental management will indirectly lead to improved environmental performance.

The most prominent shortcoming of the ISO 14000 standards is that certification is completely voluntary and that certification is conferred by a private, non-governmental organization. Since certification is based on the goals that are set by the company that is being certified, the company's management has the flexibility of setting lenient environmental goals (Stenzel, 2000). The weakness of the ISO system is that it allows businesses that are highly polluted to have leaner environmental goals. While the International Organization for Standardization saw the need to recommend for businesses of all types one common strategic standard, which may hold well for some firms, it failed to recognize that a one-size-fits-all strategy has its shortcomings (Carter, 2001). Yet this vague strategy of achieving environmental goals may be more of a defining factor in businesses whereby they may modify their systems to suit themselves. Contrary to the above, one may suggest that a lot depends upon the firm's ethical conduct itself. ISO 14000 standards are voluntary, each of the series has a set of criteria, and while some firms may opt for leaner environmental goals, much would depend upon the prevailing environmental regulations of the country that a firm operates in.

Conclusions

We are in an era when environmental concerns are becoming an ever-increasing aspect of our wellbeing and environmental pressures cannot be disregarded. The need for sustaining environmental management systems and environmentally friendly products will require the best possible

solutions. At an ideological level, no matter how rational or prudent managers aim to be, they cannot solve environmental problems completely. No matter how well these environmental programs are implemented, there will always be a gap between what is achieved and what needs to be done to protect the environment. Despite having price and regulatory constraints and some limitations, ISO 14000 standards are certainly promising, as they promulgate a holistic approach toward achieving social-environmental responsibility. However, if a firm were to adopt the ISO 14000 standards, it would need to be specific in order to produce meaningful results. In addition, consumers should be made aware of these programs, especially in the case of the environmental labels. The labels should be placed where they are visible to the consumer in order to influence purchase decisions. It may be argued that if the ISO 14000 standards work as intended, they will probably set a higher level of expectations for environmental management practices worldwide (Montabon, et al., 2000).

By failing to perceive a marketing opportunity from using this well-known standard, firms can lose their market share. Market-driven solutions work best with the emergence of the green consumer who demands products that are environmentally friendly. Firms should want to voluntarily participate in the certification process mainly to be able to appeal to this segment of consumers. Rather than company-led or government-led initiatives, a private scheme such as the ISO 14000 series, which works in collaboration with company and government initiative, represents an even more powerful approach. While the success of this program brings many benefits, both regulatory as well as marketability, that success will depend on how much a firm is willing to invest in time and resources. Like all good investments, if cultivated well, it may be suggested that the ISO 14000 standards can garner substantial dividends in the long run.

References

- Alexander, F. (1996). ISO 14001: What does it mean for IEs? *The Industrial Engineer*, 28(1), 14-19.
- Bebbington, J., & Gray, R. (2001). An account of sustainability: Failure, success and reconceptualization. *Critical Perspectives on Accounting*, 12, 557-587.
- Bennett, S. (1992). Green commitment: Fading out? *Progressive Grocer*, Stamford, 71(12), 4-7.
- Brooker, G. (1976, Sept.). The self-actualizing socially conscious consumer.

- Journal of Consumer Research*, 3, 107-112.
- Carter, D., & Merry, F. (1998). The nature and status of certification in the US. *Forest Products Journal*, 48(2), 23-28.
- Carter, R. (2001). Is there an ISO in your future? *Industrial Maintenance & Plant Operation*, 62(8), 4.
- Cascio, J. (1994, April). International Environmental Management Standards. *ASTM Standardization News*, no. 4449.
- Chase, D. & Smith, T. (1992). Consumers keen on green but marketers don't deliver. *Advertising Age*, 1(26), 2.
- Dagnoli, J. (1990). Green buys taking root. *Advertising Age*, 61(36), 27.
- Dagnoli, J. (1991). Consciously green. *Advertising Age*, 62(38), 4.
- Delmas, M. (2000). Barriers and incentives to the adoption of ISO 14001 by firms in the United States. (Voluntary management of environmental pollution). *Duke Environmental Law & Policy Forum*, 11(1), 1-7.
- Dunphy, D., Benveniste, J., Griffiths, A., & Sutton, P. (2000). *Sustainability: The corporate challenge of the 21st century*. New South Wales (St. Leonards): Allen and Unwin.
- Du Preez, J. P., Diamantopoulos, A., & Schlegelmilch, B. (1994). Product standardization and attribute saliency: A three country empirical comparison. *Journal of International Marketing*, 2(1), 7-28.
- Fielding, S. (2001). ISO 14001: A plan for environmental excellence. *Industrial Maintenance & Plant Operation*, 62(8), 11-15.
- Frankel, C. (1993). Change comes to green consumerism: The environment settles in. *Green Market Alert*, 4(10), 1-3.
- Government agencies want local firms to meet international mark. (2002 Jan. 18). *Business World*, 1.
- Graves, B. (2003). ISO 14000: Environmental Management-What is it? What is required? *Product Finishing*, 68(2), 62-69.
- Hormozi, A. (1997). ISO 14000: The next focus in standardization. *S.A.M. Advanced Management Journal*, 62(3), 32-41.

- Hume, S. (1991). Consumer double talk makes companies wary. *Advertising Age*, 62(46), 4.
- Iyer, E., Banerjee, B., & Gulas, C. (1994). An expose on green television ads. *Advances Consumer Research*, 20(3), 62-69.
- Johnson, P. (1997). *ISO 14000: The business manager's complete guide to environmental management*. New York: John Wiley & Sons, Inc.
- Kalwani, M., & Yim, C. (1992 February). Consumer price and promotion expectations: An experimental study. *Journal of Marketing Research*, 29, 90-100.
- Kassarjian, H. (1971 July). Incorporating ecology into marketing strategy: The case of air pollution. *Journal of Marketing*, 35, 61-66.
- Kilbourne, W.E., McDonagh, P., & Porthero, A. (1997). Sustainable consumption and the quality of life: A macro-marketing challenge to the dominant social paradigm? *Journal of Macro-marketing*, 17(1), 4-24.
- Lele, S. M. (1991). Sustainable development: A critical review. *World Development*, 19, 607-621.
- Levin, G. (1990). Consumers turning green: JWT survey. *Advertising Age*, 61(12), 74.
- Levy L. (1997). Environmental management as political sustainability. *Organisation and Environment*, 10(2), 126-148.
- Lyon, T. P., & Maxwell, J. W. (2000). Voluntary approaches to environmental regulation: A survey. In M. Franzini & A. Nicita (Eds.), *Economic Institutions and Environmental Policy*. Aldergate, England: Ashgate.
- Mandese, J. (1991). New study finds green confusion. *Advertising Age*, 62(45), 1-56.
- Maxwell, J.W., Lyon, T.P., & Hackett, S.C. (1998). *Self-regulation and social welfare: The political economy of corporate environmentalism* (Working paper). Bloomington: Indiana University School of Business.
- McDougall, G. H. (1993). The green movement in Canada: Implications for marketing strategy. *Journal of International Consumer Marketing*,

5(3), 69-87.

- Montabon, F., Melnyk, S., Sroufe, R., & Calantone, R. (2000). ISO 14000: Assessing its perceived impact on corporate performance. *Journal of Supply Chain Management*, 36(2), 4-16.
- Morrison, J. L. (2003). Organizational change for corporate sustainability: A guide for leaders and change agents of the future. *Journal of Education for Business*, 79(2), 124-126.
- Muska, A. (1998). The challenge of independent corporate environmental performance evaluation. In B. Piasecki, K. Fletcher, & F. Mendelson (Eds.), *Environmental Management and Business Strategy* (pp. 323-325). London: John Wiley and Sons.
- OECD. (1997). Eco-labelling: Actual effects of selected programs (OECD working papers, v. 5 no. 44). Paris: Organisation for Economic Co-operation and Development.
- Prothero, A. (1990). Green consumerism and the societal marketing concept: Marketing strategies for the 1990s. *Journal of Marketing Management*, 6(2), 87-103.
- Reitman, V. (1992 May 18). Marketing: Green product sales seem to be wilting. *The Wall Street Journal*, p. B1.
- Russo, M., & Fouts, P. (1997). A resource-based perspective on corporate environmental performance and profitability. *Academy of Management Journal*, 40(3), 534-551.
- Sayre, D. (1996). *Inside ISO 14000: The Competitive Advantage of Environmental Management*. Delray Beach, FL., St. Lucie Press.
- Schwartz, J., & Miller, T. (1991 February). The earth's best friends. *American Demographics*, 13, 26-35.
- Segerson, K., & Miceli, T. (1998). Voluntary environmental agreements: Good or bad news for environmental protection? *Journal of Environmental Economics and Management*, 36(2), 109-130.
- Showalter, K. (1997 February 21). Trading in green ISO environmental standards make selling abroad easier. *Business First* (Columbus), 1.
- Simon, F. (1992, fall/winter). Marketing green products in the triad.

Columbia Journal of World Business, 27, 268-285.

Stenzel, P. (2000). Can the ISO 14000 standards environmental management standards provide a viable alternative to government regulation. *American Business Law Journal*, 37(2), 237- 297.

Stisser, P. (1994). A deeper shade of green. *American Demographics*, 16(3), 24-30.

Van Marrewijk M., & Were, M. (2003). Multiple levels of corporate sustainability. *Journal of Business Ethics*, 44(2/3), 107-110.

Wasik, J. (1992). Market is confusing, but patience will pay off. *Marketing News*, 26(21), 16-17.

West, K. (1995). Ecolabels: The industrialization of environmental standards. *The Ecologist*, 25(1), 16-21.

Winski, J. M. (1991). Green marketing: Big prizes, but no easy answers. *Advertising Age*, 62(46), 3.

.....
Clare D'Souza <cdsouza@latrobe.edu.au>, Faculty of Law and Management,
La Trobe University, Plenty Road, Bundoora, Victoria 3083 Australia. TEL:
613 9479 1232, FAX: Fax: 613 9479 5971.

Figure 1: Influence of the Firm, ISO 14000 and Customer Satisfaction

