

Communicating Sustainability Aspects of Products using Modern Information Technologies

The Case of the Retailer Sector

Executive Summary

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About This Study and Acknowledgements

This study is conducted within the scope of the Sustainability in the Retailer Sector Project of the CSCP. The project involves development of guidelines manual for retailers, which shows how to comply with sustainability requirements. As a part of the project, a study is conducted to identify options for retailers to inform consumers by means of modern information technologies. This document presents the findings of this study.

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Sustainability information and the retail sector

Because of its role as the interface between consumers and producers the retail sector has a unique potential to influence sustainable consumption and production. In the upstream supply chain retailers can define environmentally oriented purchasing requirements. At the downstream consumer level retailers can educate consumers about sustainability issues. In addition to providing information on products produced in a sustainable manner, retailers are also well positioned to provide information on improving life-cycle impacts, for instance respecting the use-phase and end-of-life disposal of products.

Modern information technologies (MITs) are becoming increasingly being applied by retailers to communicate within supply chains and, more recently directly with consumers. This summary identifies and evaluates options for retailers to apply leading MITs to communicate sustainability related information to consumers based on a review of leading practice in the food, information and communication technology (ICT), automobile, do-it-yourself (DIY) and textile sectors of Europe, North America and Japan.

Modern information technologies

Modern information technologies are a rapidly advancing field that can facilitate new effective means for retailers to reach consumers. Methods profiled below include the use of the Internet as a provider of static information and facilitator of traceability schemes, in-store interactive screens and information kiosks, personal shopping assistants, television monitors, mobile technologies and customer club cards. 'Smart ads', interactive window-shopping and holographic imaging as emerging technologies are also profiled.

Internet

There has been a significant application of the Internet by many retailers as **information provider** for consumers and high profile examples are easily identified. It has been shown that by increasing access to information retailers are often able to win consumer trust in the products and the retailer. Types of information provided by retailers include the range sustainable products on offer, information 'behind' the label, producer profiles and production methods, additional details on product contents, commitments to sustainability, information on the proper use of products and retailer/producer contact information.

A second application of Internet technology includes **traceability schemes**, which go beyond providing static information to enable consumers to trace supply chains of individual products. This emerging application offers retailers an opportunity to further increase consumer trust in both the retailer and the products on offer. Furthermore, when tracing products through the supply chain, consumers can feel more that they are part of the chain themselves, which increases the likelihood of environmental and social externalities being

For a growing number of consumers the Internet is emerging as a central element of the retail experience



considered in purchasing decisions. In addition, increased knowledge of supply chain issues gained when compiling traceability information offers tangible benefits to retailers such as quality tracking.

Examples of retailers offering traceability information include Albert Heijn (NL) and ICA (SE) with regard to Utz Kapeh certified coffee, and Barts, Alchemist, Kids Case, Kuyichi, and INTI Handmade Knitware in the clothing textile sector within the 'MADE-BY check it Out' traceability system in the Netherlands (www.made-by.nl).

Interactive screens

Different types of interactive screens with similar but unique functionalities are used by retailers to communicate product related information to consumers. Simple **information kiosks**, which offer functionality such as tag scanning to provide supply chain information, enable consumers to browse other product related information and order other related products connected to the product in question directly from the kiosk. Metro, a German retailer provides consumers with opportunities to scan egg cartridges to learn about production methods. **Personal Shopping Assistants (PSAs)** are devices attached to shopping carts to guide and inform customers. Advanced PSAs offer customisation functionality based on aisles visited within the store and deliver product descriptions, alerting customers to sustainability attributes. Furthermore, they have the potential to keep customers on track with their purchasing, thus eliminating unwanted and unplanned purchases. While lacking interactivity, the use of **television** in retail environments is a new phenomenon. Large retailers using TV technologies in their shops include Tesco (UK), Asda (UK) and ICA (SE) for short brand ads and store information.

Mobile technology

Mobiles technologies offer another opportunity to provide sustainability information to consumers. Quick Response (QR) code readers have been used in Japan to transfer product information in-store to the consumer. In Europe, QR code readers are mainly available through a technology called i-mode, pioneered by NTT DoCoMo, a Japanese mobile communications company. QR codes which are readable by a mobile phone camera are affixed onto a product or package and direct consumers to online product information via wireless internet enabled mobile phones.

Customer club cards

Although a long standing tool to encourage customer loyalty, club cards are now used to encourage sustainable behaviour by awarding 'points' normally associated with purchasing behaviour to other desirable behaviours such as bringing reusable shopping bags. Other initiatives include opportunities to calculate greenhouse gas emissions (British Petroleum) or support contributions to support greenhouse gas mitigation schemes.

Emerging MIT applications

Several emerging technologies offer potential applications in communicating sustainability information to consumers. Poster advertisements called **Smart Ads** can now “talk” to their viewers by using either near-field communication (NFC) or Bluetooth technology via mobile phones. Communications modes can include text, graphics and video. These technologies offer opportunities to communicate sustainability information to consumers and enable informed purchasing decisions. **Interactive Window Shopping** has been tested by Polo-Ralph Lauren in New York City to offer information and shopping opportunities after hours. **Holographic images** have been pioneered on a test basis by Toyota on a test basis for application in vehicles to assist with control of air conditioning, audio and satellite navigation systems and potential exists to enable communication of energy efficiency matters.

Conclusions

The MIT sector is developing through a number of different avenues, including the Internet, interactive screens, mobile technologies and customer club cards. Technological developments, such as RFID and i-mode technologies have enabled new ways for retailers to interact with consumers. While not fully mature as a communication technology, MITs can strengthen the message to the consumer by providing an interactive interface, which can hold more information than typical in-store or even beyond-the-store methods, such as the Internet. These factors can possibly translate into the purchase of more sustainable products and the use of products in a more sustainable manner and may contribute indirectly to the sustainability of the supply chain. Many aspects of MITs are not well understood, which presents significant challenges given the implementation costs and uncertainty surrounding the real benefits the technologies offer retailers. Uncertainties include a lack of clarity of whether they contribute to retailer sales or brand recognition, especially for sustainable products.