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Labelling sustainability – what consumers want, know and understand

With today's concerns about the general status of the environment, there is an increasing expectation for products to have sustainability attributes. Labelling is a common method of letting consumers know more about what they have bought. Different consumers react differently towards various attributes on food labels and this may have an effect on their choices. It is helpful to understand which of the many attributes appeal to consumers and how much they may be willing to pay.

As an example, carbon labelling is a practice which has grown in importance. There are currently approximately 16 carbon labels, of which eight were developed in European countries. The process of developing carbon labels has varied, some being initiated by governments, others by government quangos and non-profit organisations. But all of them have usually involved cross-sector consultation.

The UK's introduction of carbon footprinting and carbon labelling is of particular interest for New Zealand as it started the trend and is an important export market. In 2006, the UK Carbon Trust introduced a label called the carbon reduction label. Products bearing the label have to reduce emissions associated with their products by 20 per cent over two years following certification, otherwise they risk losing the right to use the label. Tesco, UK's major supermarket chain, announced in 2007 their intention to carbon label 70,000 stocked products. Currently only 120 products in six categories have been assessed, but there are plans for more products and categories in the future.

A carbon labelling scheme was also introduced to Japan in 2009, with retailers voluntarily attaching these labels. Japan's undertaking carbon labelling is of interest to New Zealand as this is an important export market. It is of value to assess how consumers react to carbon labelling and if this influences their purchase behaviour.

The study

A study undertaken by the Agribusiness and Economics Research Unit of Lincoln University in 2010 investigated consumers' attitudes, knowledge and preferences towards certain sustainability claims on food products across countries. In particular, the study assessed consumer attitudes to greenhouse gas and footprinting information along with other criteria. The aim of the research was to help industries

and companies benefit from market opportunities, especially with regard to carbon footprints and other sustainability attributes on food labels. Focus group meetings were held to support survey development. Subsequently, several web-based consumer surveys were undertaken in the UK and Japan in July 2010, using a sample of 440 people in each country.

Focus group meetings

Two focus group meetings were held in Christchurch in February 2010 to determine a general understanding of people's views and attitudes towards different food labels and the importance of sustainability, particularly carbon footprint labelling. The participants in the first group were aged 20 to 30 years, with the second group including people aged 30 to 60 years. Both group meetings followed a similar format, including discussion of individual products and awareness and perceptions of sustainability, especially carbon footprint labelling. The level of awareness was roughly the same across both groups.

The focus groups were presented with three specific carbon labels to assess their preference and user interpretation. Participants were concerned about how the standard of the carbon measure was set. In addition, respondents felt that they



Carbon labels shown to focus group participants

were missing a reference point and background information. However, it was agreed that if all products had such labels this would be more useful as food items could be compared.

Overall, the variety of focus groups' responses showed the complexity of the decision-making process and constraints that individuals face while shopping.

Web survey

The questionnaire for the web survey included generic questions on shopping behaviour and on attitudes towards sustainability. In addition, a choice set was shown to respondents in which they were given two options of food with different levels of sustainability attributes. Participants then had to choose which alternative they would prefer.

The sampling strategy involved the recruiting of participants from an online panel database of consumers. Each survey was stratified by age and household income distributions. The surveys were implemented using a combination of Qualtrics, a computer programme, and purpose built software developed for the experiment.

Public perceptions

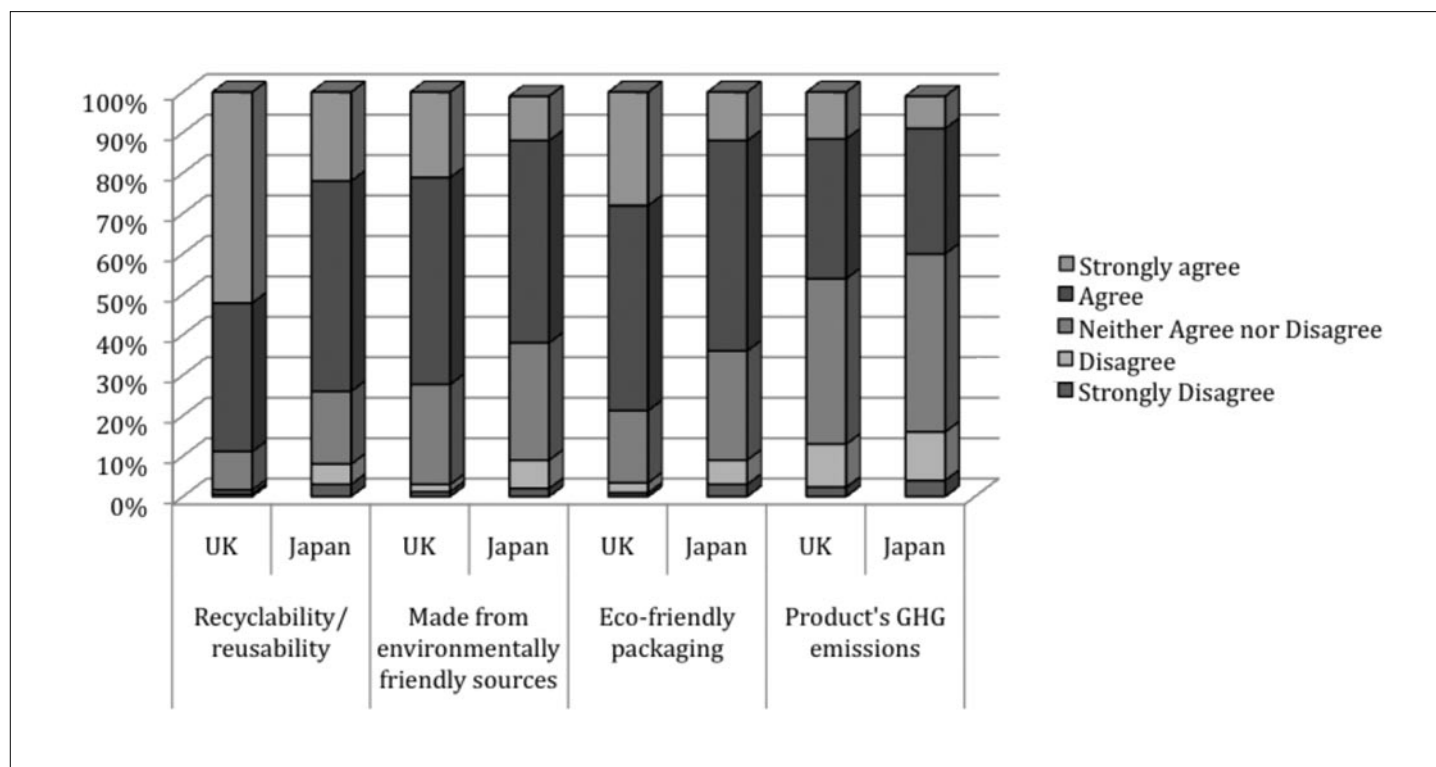
In the first part of the survey, participants in the UK and Japan were asked about their attitudes, knowledge and preferences towards sustainability and other attributes of food products. On a scale varying from 'very important' to 'not important at all', participants were asked about the importance of certain features, such as brand, quality, price and effect on the environment when making a purchase decision. Participants showed interest in the effect on the environment, although in both countries price and quality were rated higher.

The results also outlined several attributes that consumers would like to see on environmental labels. As shown in the graph, recycling and reusability of a package was the most desired label claim in both countries. The second most desired claim was whether a package is eco-friendly. In both countries, the proportion of respondents selecting greenhouse gas emissions as most desired information on environmental labels was lowest compared to all other listed claims but still significant.

When respondents were asked how much they agree or disagree if 'there is a connection between environmental well-being and my personal health', results demonstrated the largest difference between the two countries compared to all other survey questions. In the UK, less than a third either agreed or strongly agreed, and over a third disagreed or strongly disagreed. Conversely in Japan, almost two-thirds of participants agreed with this statement and among these, 17 per cent agreed strongly. Then respondents were asked to agree or disagree with the statement 'I trust producers' claims about the environmental performance of their own products'. There was a similar result in the two countries, with about a half agreeing and a further 15 per cent strongly agreeing in both. This left only about one in ten respondents who would not trust producer's claims, and within this amount only one per cent in each country strongly disagreed with the statement.

Sustainability knowledge

In order that we could learn more about consumer perception and attitudes on specific environmental and social issues, participants were asked about their knowledge of general sustainability on a scale varying between 'a lot'



Consumer preferences for environmental label claims

and 'never heard of it'. Perceived knowledge about specific terms showed differences between the countries with the terms Fair Trade, sustainability and carbon footprint not well known by Japanese participants but well known by the UK respondents. More than 55 per cent of Japanese respondents have not heard of the term sustainability. This may be a translation issue specific to the survey or due to the fact that the term is not commonly used in Japan.

In addition, Japanese respondents were less aware of carbon footprint compared with UK respondents. Again, this may be a translation and application problem as both were similarly aware of the term carbon dioxide emissions. The knowledge of the term carbon footprint in the UK, about which 40 per cent of respondents indicated to know a lot or a fair amount, may be generated by carbon footprint labelling of the major supermarket chains in the UK. The term water footprint was not well known by respondents in either country.

Preferences for food labels

The second part of the survey included an experiment, in which participants in the UK and Japan were shown sets with two options of food products with different levels of attributes. The attributes were selected following indications from the focus group meetings. These were –

- Price
- Reduced carbon emissions
- Increased water efficiency
- Reduced waste and packaging in production
- Nutrition content measured in increased vitamins.

A choice experiment allows estimation of a willingness to pay for the display of a specific attribute on a label. This is measured as a tradeoff as it evaluates how much a consumer is willing to pay for a change in the level of a particular attribute, such as a dollar price increase for a 10 per cent reduction in carbon emissions.

Results indicated that consumers from both countries were willing to pay for improvements in each of the sustainability attributes considered. UK respondents were willing to pay more for reduced carbon emissions than the Japanese, while Japanese respondents valued increased water efficiency higher than the UK participants.

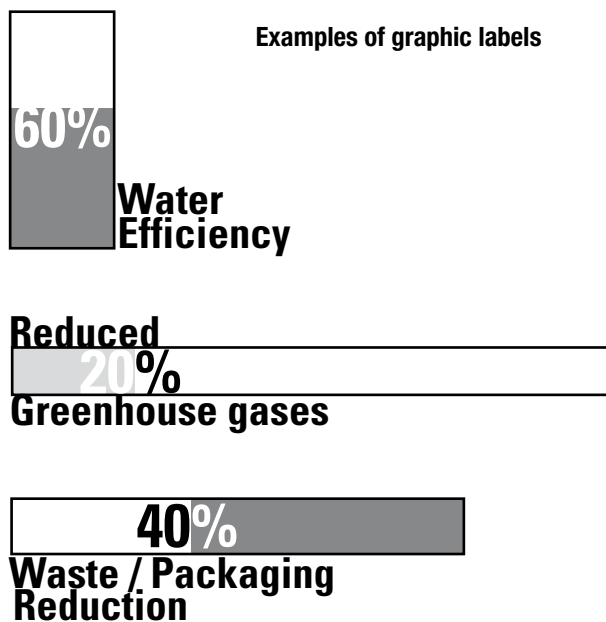
Does the label format matter?

An additional facet of the survey was that the choice sets were shown to the participants in different formats, ranging from pure text to graphical and pictorial. This was carried out to determine if the display of information affects the decision-making process of consumers.

The following illustrations give an example for the graphical presentation format shown to survey participants. This format combines a graphic representation of the changes in the attribute and a brief text description with each of the attributes presented individually.

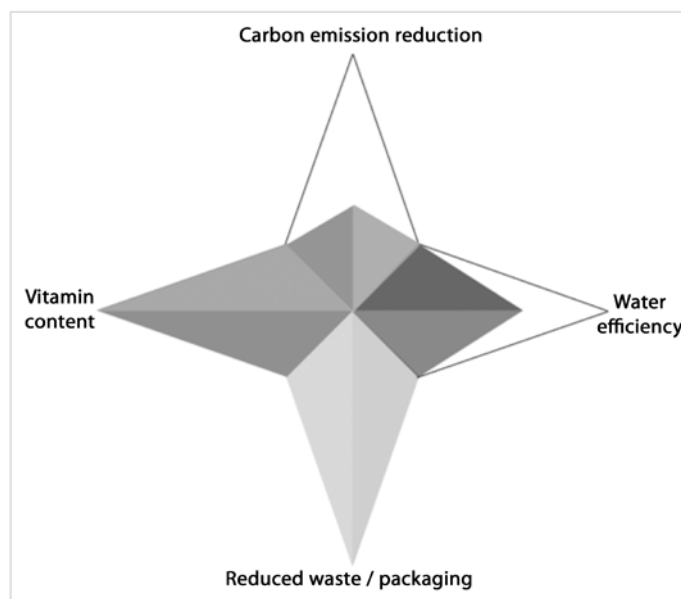
The sustainability compass allows information to be presented in a holistic way by presenting all the sustainability

Examples of graphic labels



attributes together. Price is given separately reflecting normal markets. Each of four sustainability attributes corresponds to a point on the compass. The points can be filled in with colour to represent how well the product is doing.

Sustainability compass holistic label



Results showed that differences are evident between presentation formats, and between countries, with willingness to pay for increased vitamins being the most sensitive to format and country while willingness to pay for reduced carbon emissions is the most insensitive.

The ranking of reduced waste and packaging is reasonably consistent in Japan across presentation formats. Similarly willingness to pay for UK consumers for increased vitamins was consistently ranked over the different presentation formats. However, the ranking of the other non-price attributes varied.

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Conclusion

The purpose of this study was to examine the attitudes, knowledge and preferences of consumers towards sustainability attributes on food products. The preferences consumers have for differing sustainability attributes may influence the production processes of primary sector exporters aiming to market their products effectively.

Overall, the results found evidence that consumers in the UK and Japan value the display of product attributes on food labels. It was found that the majority of consumers trust producers' claims of the environmental performance. This result may be useful for producers as consumer trust can help in forming the basis for an effective label which contains sustainability attributes.

Interesting differences between the two countries could be observed in the perceived connection between environmental well-being and personal health, where a majority of UK respondents did not see a connection compared to a large Japanese population that did. In both countries it was found that consumers are aware of climate change. However, consumer knowledge and perceptions of

some label claims differ between countries, and in particular the knowledge about certain terms, such as sustainability and carbon footprint is very different between the Japanese and UK consumers.

An important result from the choice experiment showed that perceptions are dependent on presentation format and that this influences willingness to pay for sustainability attributes. In addition, in both countries consumers valued improvements in all sustainability attributes considered. However UK and Japanese consumers had different preferences over the importance of each attribute.

This project is part of research aimed at examining the role of sustainability attributes of New Zealand food in decision-making. Future research will focus on other attributes which are emerging as significant for the New Zealand export markets. These could include farm animal welfare, functional foods, biodiversity and safe foods. This research could help identify potential market opportunities for the primary sector.

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