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Consumers' perception, understanding and use of labelling information on food packaging, with particular reference to front-of-pack food labels

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2.0 Literature Review

This review aims to explore existing literature surrounding food labelling information on food packaging. It will include a brief history of current legislation as well as exploring existing evidence about the extent to which consumers understand and use food labelling information when making point of purchase decisions on food selection. It also aims to identify current and perceived success of the new voluntary Front Of Pack (FOP) labelling and to suggest appropriate methods to address identified gaps in existing research.

Papers reviewed include world-wide published and unpublished reports in the English language only. Both qualitative and quantitative methodology papers have been reviewed as well as government reports and legislation documents.

In 1984 The Food Labelling Regulations 1984 (as amended) (SI 1984:1305) came into force. These regulations followed previous regulations from 1980 but widened the controls over claims and introduced nutrition labelling including implementing the European Nutrition Labelling Directive 90/496/EEC. As my research is focused on the development and presentation of food labelling with reference to nutritional labelling I believe it is therefore appropriate to look at research dating from 1984, when key nutritional legislation was introduced. (Turner, 2007).

2.1 Health Strategy and Healthy Choices

Since the 1980s we have seen a significant increase in obesity, Department of Health (DoH) figures indicate that 24 million people in the UK are obese or overweight, with 22% of men and 23% of women now classed as obese (DoH, 2004). These figures are important because of the severe impact being overweight or obese can have on an individual's health. Obesity is a known risk factor for; cancer, heart disease, type II diabetes, hypertension and liver disease as well as potentially causing complications in pregnancy (House of Commons Health Committee [HCHC], 2004). It is estimated that obesity is responsible for 9000 deaths a year in England (DoH, 2005).

The importance of these chronic diseases and the impact of future burden they will play on the health service in England has not been missed by the government (Garrett, 2007). It is estimated that the treatment of ill health from poor diet costs the National Health Service (NHS) approximately four billion pounds a year (DoH, 2005). The importance of maintaining healthy lifestyle including consuming a balanced diet high in fruit and vegetables and low in fat sugar and salt is now widely understood to reduce obesity and aid prevention of some of its associated diseases (Foster and Lunn, 2007).

In 2004 the Government published the White paper, *Choosing Health: Making Healthier Choices Easier*. This paper establishes key principles to support and promote lifestyle changes in a bid to reduce the chronic disease figures of the future. It aims to ensure that all people in England have the means to maintain a full and healthy lifestyle and supports the right to an individual's informed choice on health (DoH, 2004).

Building on the 2004 White Paper, the Government initiated, *Choosing a Better Diet: a food and health action plan*. It seems that people are aware of the need to improve diet to secure better health, but many are not following advice (DoH, 2005). Both the 2004 White Paper and the 2005 action plan make clear statements regarding the need to provide information to the population on how they can improve their health through nutrition and how to encourage healthier choices.

Food is highlighted as a "prime example of an area where there needs to be clear and consistent information to help people make healthy choices" (DoH, 2004, p.25). The HCHC report, *Obesity* (HCHC, 2004) recommends food labelling as a tool that may potentially enable consumers to choose healthier foods.

These statements are supported in *Healthy Weight Healthy Lives*, a government strategy to reverse the rise of obesity published in January 2008 (DoH, 2008). The strategy highlights the need to promote healthier food choices as key in tackling excess weight and ensuring people have "clear and effective information about food" in order to do so (DoH, 2008. p. 5).

2.2 Current Food Labelling Legislation

Principal European Union (EU) food labelling regulations date back to 1979 (Council Directive 79/112/EC) (EuroFIR, 2006). Although there have since been significant steps in labelling legislation, core regulations still stand (Foster and Lunn, 2007).

In 1984 The Food Labelling Regulations 1984 (SI 1984:1305) introduced nutrition labelling as voluntary (unless a nutrition claim was being made) (Turner, 2007). Further provisions added by the 1996 Food Labelling Regulations (SI 1996:1499), mostly derived from European Commission (EC) enactments, led UK labelling regulations to become more extensive and complex than ever before (Turner, 2007). Consolidation of the EU labelling regulations in 2000 (Council Directive 2000/13/EC) helped order the UK labelling regulations, but these have in turn been supplemented by many other pieces of labelling legislation (Turner, 2007).

In the last twenty years we have also seen an increase of non-mandatory information presented on food packaging (Foster and Lunn, 2007). A tabulated list of mandatory and non-mandatory labelling regulation is shown in Appendix A. The table indicates a substantial amount of voluntary information presented on packaging, much of it is presented as FOP labels aimed to highlight specific product information or positive nutritional product attributes. (Foster and Lunn, 2007).

Whilst the government highlights food as a “prime example of an area where there needs to be clear and consistent information to help people make healthy choices” (DoH, 2004, p.25), food labelling law seems increasingly complex (EuroFIR, 2005). If the complexity of existing food labelling regulations cause problems in interpretation for food manufacturers and regulators (EuroFIR, 2005, Turner, 2007), what problems is the consumer facing?

The government is making clear progress to encouraging a change in food information presented on labelling, in January 2007 the EC proposed a new regulation on the provision of food information to consumers, to combine two major directives on labelling and nutrition labelling (Stockley, Kaur and Rayner, 2008).

The key issues from this proposal is that there will be a mandatory nutrition declaration on front of pack, key nutrients will be accompanied by and indication of the reference intake value and voluntary national labelling schemes would be permitted (Stockley et al, 2008).

With these proposed changes in regulation and the introduction of the voluntary nutritional labelling schemes already present on packaging (EHN, 2007), there is a clear need to understand if current food labelling is supporting the consumer's ability to make the informed choices the government promotes. It also seems important that we must assess the consumer's ability to interpret this information into a healthy balanced diet in order to promote a healthy lifestyle.

2.3 Labelling Behaviour

2.3.1 Consumer Understanding and Use of Food Labelling

There is considerable literature surrounding the understanding and use of food labelling information by the consumer. A number of large literature reviews have been cited in published papers as key texts within this subject area (Hoogland, Boer and Boersema, 2007, EHN, 2007, Lando and Labiner-Wolfe, 2007, Leathwood, Richardson, Strater, Todd and van Trijp, 2007, Mhurchu and Gorton, 2007). The recent review by Garrett (2007) on behalf of the FSA, identifies four of these key texts as summaries of relevant existing literature on consumer understanding and use of food labelling.

Garrett (2007) identified a number of common themes across all four of the review papers. He summarises that nutritional labelling use is more likely in consumers who have a;

- higher socio-economic status
- higher educational status
- greater interest in nutrition
- more positive attitude to diet
- knowledge of the link between diet and disease, and
- women

A major limitation to the use of labelling information was identified as a lack of time at point of purchase, Garrett (2007) found that use of information was inhibited by “complex or confusing presentation”. Consumers considered simple graphics and formats that did not rely on numerical or scientific information easier to follow and benchmarks aided judgement of how a food may fit into a balanced diet. A summary of the key points from the four systematic reviews identified by Garrett (2007), was summarised by Murphy (2007) and is presented in Appendix B.

Two survey based studies completed by Shine, O’Reilly and O’Sullivan (1997a, 1997b) highlighted the increasing consumer interest in nutrition labelling that was being seen through the 1990s. It is interesting to look at these papers in comparison to more recent publications to appreciate any change in attitudes of consumers to their understanding and use of food labelling information over the last ten years (Foster and Lunn, 2007).

Shine et al (1997a) indicates that time, size of print and lack of understanding of the terms used are all barriers to use of nutritional labels. When asked to express their opinions on how labels could be improved, consumers discussed use of colour and symbols, and possible inclusion of a rating system for foods. Similar comments were noted in the more recent study by Garrett (2007).

Shine et al (1997b) found that the majority of respondents perceived nutritional content an important product attribute and a significant association was found between attitude to nutritional content and reading nutritional labels. Significant association was found between attitudes to the diet disease relationship and use of nutrition labelling (Shine et al, 1997b), themes supported by Garrett (2007). Shine et al (1997b) notes that although respondents had an understanding of nutrients related to health, when asked to state what constituted a balanced diet, response was poor and consumers appeared unable to evaluate nutrition labels into the context of their overall diet. This is a cause of concern as the effectiveness of nutrition labels in this case, may be greatly reduced. The more recent publication by Garrett (2007) fails to discuss the content of food labelling and nutrition information in the context of a balanced diet.

Blitstein and Evans (2006) indicate that the only belief variable associated with search for nutrition information was the “importance of knowledge in order to maintain body weight”. An understanding between the use of nutrition information and other associated health factors was limited (Blitstein et al, 2006).

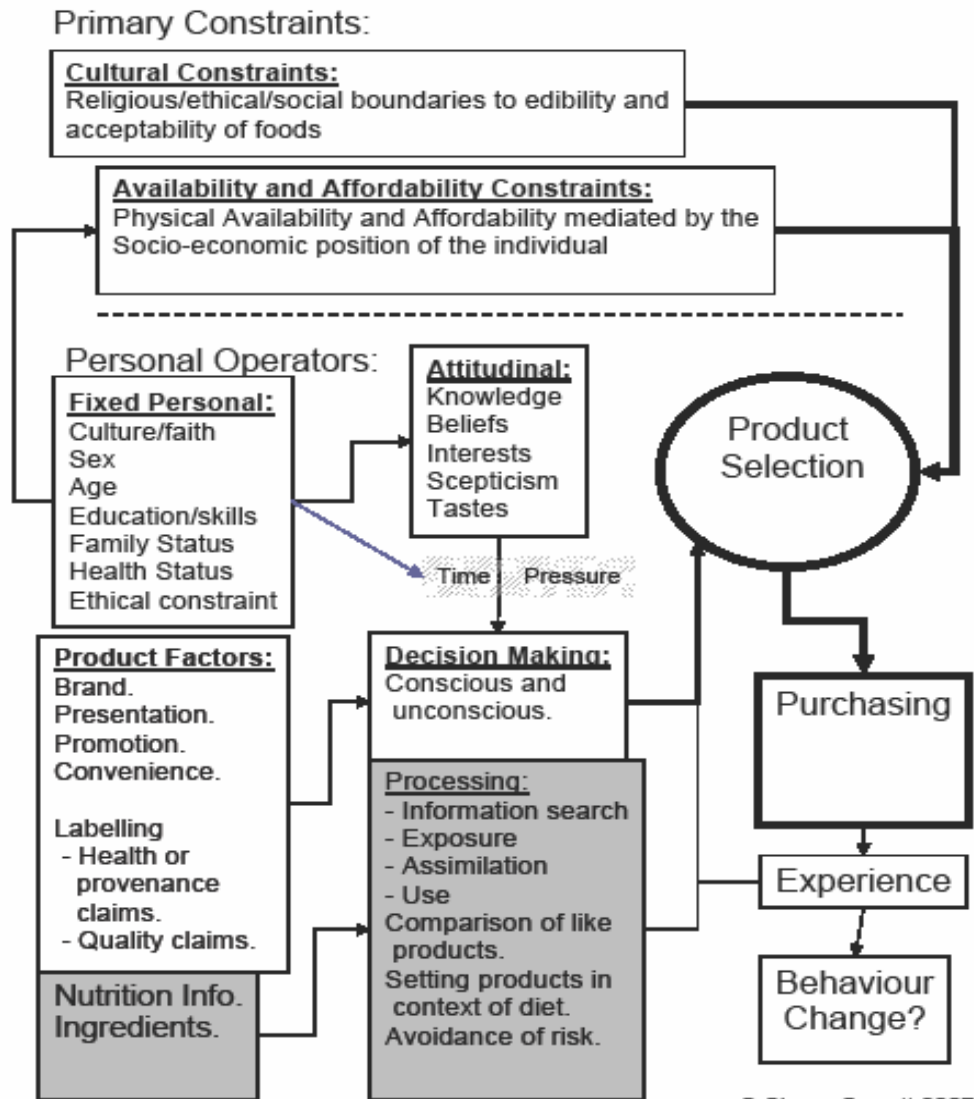
Smith, Taylor and Stephen (1999) suggest “there are opportunities to increase use of the food label as a tool for selecting a healthy diet by targeting specific groups with tailored health messages”. This is an opportunity also noted by Signal, Lanumata, Robinson, Tavila, Wilton and Mhurchu (2007). They conclude that current New Zealand nutrition labels are not meeting the needs of those who need them most and improvements to nutrition label use may need to include targeted health messages. However, New Zealand is a country where specific health messages are already present on the front of food packaging in the form of the National Heart Foundation (NHF) *Pick the Tick* logo (Signal et al, 2007).

A study completed both in the UK and Australia, where the NHF *Pick the Tick* logo is also found on the front of food packaging, looked at actual use of health endorsements during shopping trips (Rayner, Boaz and Higginson, 2001). This study followed participants whilst shopping ‘normally’ and shopping ‘healthily’ for foods on a pre-agreed list. Rayner et al (2001) asked the shopper to think aloud whilst choosing products, they then observed reactions to the use of health endorsements such as, Tesco and Sainsbury’s ‘healthy ranges’ and the Australian *Pick the Tick*. They concluded that endorsement information was rarely or never used by shoppers and even when asked to shop more healthily, endorsements were rarely mentioned. The findings from this study are interesting as it was completed before the recent campaigns to promote FOP labelling schemes as the “tool that may potentially enable consumers to choose healthier foods” (HCHC, 2004). There are many competing pressures aiming to alter the food buyers behaviour (Garret, 2007) in the shopping environment and it is clear that many more factors have to be taken into consideration when understanding consumers’ decision making at purchase point (Navigator, 2007).

From the literature reviewed, Garrett (2007) aimed to build a conceptual model of food purchase decision making, in order to understand the effect of nutritional labelling and the value placed on it by the consumer. Whilst this study does build a

comprehensive model (Figure 1*), it does not test it. The model aims to locate the hierarchy of food information within product and purchase selection criteria. There is scope to understand the magnitude each factor has on food purchase decisions and the 'real time' use of these factors at the time of purchase.

Figure 1: Food purchase constraints and operators



2.3.2 Contribution of food labelling to a healthier diet

The 2004 White Paper specifies the need for “a clear and straightforward coding system that busy people can understand at a glance which foods can make a positive contribution to a healthy diet” (DoH, 2004). Is there evidence to suggest reading food labels will automatically lead to healthier diets?

Neuhouser, Kristal and Patterson (1999) found a significant association between label use and lower fat intake, however they also surmise that people already interested in health are the ones seeking the information of food labels to make food purchasing decisions. Lin, Lee and Yen (2004) also make this connection. Their study indicates individuals who consume more fat, are less likely to search for fat information on food labels. However, they suggest individuals who have less healthy dietary habits are also less likely to want to seek out food label information (Lin et al, 2004). Research undertaken by Satia, Galanko and Neuhouser (2005) found that although 78% of respondents were reading nutrition labels, the majority of participants were not reaching recommended dietary targets.

The research suggests that consumers are more aware than ever before about nutrition and the need to look for information on food packaging (EUFIC, 2005, Feunekes, Gortemaker, Williams, Lion and van den Kommer, 2007, Foster and Lunn, 2007, Shine et al 1997b, Smith et al, 1999) but research shows obesity rates are still rising (DoH, 2008) and the most recent National Dietary Nutrition Survey (NDNS) figures indicate that on average the UK population are achieving less than two thirds of their daily 5 portion of fruit and vegetables (Swan, 2004). There is a real need to understand if the changes in labelling information on food packaging are making a significant impact on improving consumers' diets.

2.3.3 Are the formats making a difference to purchase choice?

Research undertaken by Mathios (as cited by Murphy, 2007) identified a decrease of 5% in sales of high fat salad dressings after the introduction of mandatory nutrition labelling in the United States. An article published in *The Times* (Fletcher and Rogers, 2006) reports that both Sainsbury and Tesco have provided sales figures that show sales of healthy products were up and comparable un-healthy

products were down, 15 months after the introduction of their FOP labelling schemes. However this evidence is anecdotal and unsubstantiated. Evidence-based research is required to provide an indication of any impact the FOP schemes are having on new product development and sales figures within the food industry.

Much of the research on labelling formats has relied on consumer self reported use of labels (Feunekes et al, 2007, Shine et al 1997b, Smith et al, 1999). Cowburn and Stockley (2004) suggest that consumers are reporting use, but may not be processing the label information any further. A review of the use of nutrition labels and claims in New Zealand and Australia (Mhurchu and Gorton, 2007) concluded self reported use of nutrition labels is common but actual use and understanding appears limited.

2.4 Front of Pack (FOP) labelling

2.4.1 Background of FOP

The introduction of the FSA in 2000, revived the effort to emphasise the importance of making healthy diet choices easier for all consumers (Foster and Lunn, 2007). A report by the FSA *Better Food Labelling* (FSA, 2000) considered how it could help to support informed choice by improving food labelling.

The report found that there were key areas of misunderstanding surrounding food labels with particular concerns on nutritional labelling. A strong theme emerging from this report was to make nutritional labelling mandatory (FSA, 2000), with preferences for displaying nutrition information in 'simple, symbol format' highlighted.

Since the *Better Food Labelling* report was published we have seen an increased use of voluntary information labels on food products (Hentzepeter, 2007). At a glance, front of pack information may help consumers make healthier food choices (DoH, 2005), however the government, manufacturers and supermarkets disagree about labelling format, leaving the market containing many different and inconsistent information systems (Feunekes et al, 2007).

2.4.2 Food Information Schemes

Multiple Traffic Lights

Following research completed in 2004 and 2005, the FSA designed a colour coded signposting labelling format, referred to as the multiple traffic light system (MTL). Approved by the FSA board in March 2006 (EHN, 2007) this system indicates whether products are high, medium or low in fat, saturated fat, sugar and salt. The MTL are for use across product categories (FSA 2006).

The MTL was developed after substantial consultation between the FSA and major stakeholders. A number of formats were tried and tested (FSA, 2004, 2005) with consumers. MTL were considered to best fit the objectives of a signposting system; “simple and easy to understand and use, enabling faster choices and decisions” (FSA, 2005).

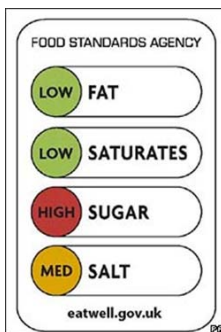


Figure 2: Food Standards Agency's Multiple Traffic Lights

The MTL is supported, amongst others, by; Asda, The Cooperative Group, Marks and Spencer, Waitrose, Sainsbury's, McCain foods and Covent Garden Soup Company. Whilst these companies support the government initiated system they present the information in their own formats.



Figure 3: Alternative presentations of Multiple Traffic Lights

Rival System

A number of leading manufacturers and retailers responded to the introduction of FSA MTL with concerns that standard products would end up with many red marks due to the nature of the product itself and therefore not sell (Hentzepeter, 2007). Multinationals launched alternative labels and introduced their own scheme of Guideline Daily Amounts (GDA). The GDAs, originally designed by the Institute of Grocery Distribution (IGD) in 1998 (Foster and Lunn 2007), support information provided in the nutrition panel on food packaging. They are an estimate of typical appropriate nutrient intake levels for an individual, based on government led nutrient recommendations. It is important to note that GDAs are not designed as targets, but provide a benchmark suitable for the majority of people. The GDA system is supported by Coca Cola, Danone, Nestle, Kraft, Kellogg, Pepsico and Unilever (Hentzepeter, 2007).

The GDA is also open to alternative interpretation by the manufacturers and retailers. A number of different colour systems and presentation formats are used by those supporting the system and across their product categories.

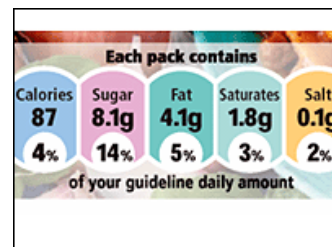


Figure 4: Guideline Daily Amount Presentation

Point of Purchase Symbol Schemes - International

Green Keyhole System

The Swedish National Food Administration (NFA) implemented the voluntary Keyhole labelling scheme in 1989 (Kinnunen, 2000). It is used as an indicator for the healthiest foods within a product category. Products that carry this symbol are lower in fat, saturated and trans fat, sugar and sodium and contain more fibre than food products of the same type (Reutersward, 2007).



Figure 5: Swedish Green Keyhole

Finland Heart Symbol

Introduced in 2000, the Heart symbol is designed to indicate that “a food product with the symbol is a nutritionally better choice among its product group in terms of fat and salt” (Kinnunen, 2000).



Figure 6: Finnish Heart Symbol

Australia and New Zealand Pick the Tick

Products labelled with the Tick are lower in fat, saturated fat and trans fat, sodium and calories and higher in fibre and calcium than comparable products, this system is also available in Australia (Heart Foundation Tick Programme [HFTP], 2008).

These symbol based schemes are viewed as positive indicators, by those who have designed them (Hentzepeter, 2007), as the schemes highlight positive product attributes (Feunekes et al, 2007, Kinnunen, 2000, Signal et al, 2007). They also aim to encourage food manufacturers to develop healthier versions of existing products (Kinnunen, 2000). Having the symbol on food products may certainly be seen as beneficial in terms of positive marketing and sales (HFTP, 2008, Kinnunen, 2000, Reutersward, 2007), an evaluation of the New Zealand Pick the Tick programme by Young and Swinburn (2002) found that in a one year period 33 tonnes of salt had been removed from the food chain through the formulation and reformulation of products.



Figure 7: Australia/New Zealand Pick the Tick

Point of Purchase Symbol Schemes - UK

5 a DAY

In 2002 the DoH, in collaboration with the NHS launched the 5 a DAY campaign and logo (NHS, 2008), to prompt people to eat more fruit and vegetables. Most major UK retailers and a few food manufacturers have developed their own 5 a DAY logo, different to that of the DoH approved logo (Foster and Lunn, 2007).



Figure 8: National Health Service/Food Standards Agency 5 a DAY



Figure 9: Alternative presentations of 5 a DAY logo

Calorie Flags

More recently Calorie ‘flashes’ have been introduced on product ranges such as Marks and Spencer’s (M&S) ‘Count on Us’ (Marks and Spencer, 2008) and major confectionary manufacturers Mars and Nestle. Van Kleef et al (2007) reveal that studies show calories are the most widely looked at information on food labels in Europe. They recognise that previous research has focused solely on provision of information of specific nutrients and significant signposting schemes such as that of the FSA have failed to include the amount of calories as an “explicit piece of information to the consumer” (van Kleef et al, 2007). The van Kleef study looks at consumer preferences for FOP calorie labelling and concludes that participants were generally positive about FOP flags, particularly if they are uniform across products. It is important to note that whilst this study indicated that participants were familiar and widely used calories as a nutritional indicator, very few understood how to apply them to into a daily balanced diet (van Kleef et, 2007).



Figure 10: Front of Pack Calorie Flags

Other Schemes

In 2006 Unilever launched *Choices*, a world wide front of pack logo programme designed to help consumers identify foods that offer a healthier choice (Unilever, 2008). We also are seeing many other commercially created logo systems (EHN, 2007) on packaging including, Weight Watchers points, M&S eat well, Pepsico smart spot, as well as further product attribute flashes particular to the manufacturer such as fibre, sugar, cholesterol, vegetarian (Higginson, Rayner, Draper and Kirk, 2002), not to mention storage and usage logo flashes, recyclable packaging symbols and brand logos.



Figure 11. Further examples of Front Of Pack labelling logos

2.4.3 Present Understanding of FOP

FOP of pack labelling has come to the forefront of interest as manufacturers and government alike recognise the potential of these schemes to aid as quick information reference points (Hentzepeter, 2007). Research by Wansink (2003) concluded that consumers looking at the FOP are more likely to engage with the product, move their interest to the back of pack to seek further information and therefore potentially, be more likely to buy the product (Wansink, 2003).

However, the sheer volume of information coupled with many different formats across retailers and manufacturers may be taking away the choice for consumers that these schemes originally intended. Feunekes et al (2007) concludes by commenting on the potential for many different FOP labelling formats to cause confusion with consumers, thereby potentially decreasing the effectiveness of all FOP labelling formats.

A recent statement by the European Consumers Organisation (ECO) calls for a common position on nutrition labelling (Stockley et al, 2008). These comments are echoed by the UK DoH (2008) *Healthy Weight Healthy Lives* strategy where the government is determined to ensure a single, simple and effective approach to food labelling used by the whole food industry, based on FSA recommendations following their signposting research (DoH, 2008).

2.4.4 Effectiveness and Use of FOP

Research seems to indicate that consumers' ability to use and understand food labels has remained relatively unchanged over the last ten years (Shine et al, 1997a, 1997b, Garrett, 2007). In that time we have seen a significant change in labelling formats in the UK with the introduction of the FOP nutrition information schemes. These schemes have been marketed as giving the consumer the ability to make correct healthy choices and have a positive impact on the diet and health (FSA, 2006). Where there has been significant research into the need for FOP labelling (FSA, 2000, 2004, (EUFIC), 2005) and much research into consumer preferences of the different available formats (FSA, 2005, 2006, Murphy, 2007), there is limited literature on the effect of the formats on behaviour change (Feunekes at al, 2007).

Denny (2006), identifies that whilst signposting research has tested the ability of consumers to identify key nutrients of a product, it has yet to investigate the effectiveness of formats. A key area of future research will be to understand the use and impact of FOP information on actual purchase decisions (Cowburn and Stockley, 2004, EUFIC, 2005, Denny, 2006, Garrett, 2007, Mhurchu and Gorton, 2007, Smith at al, 1999).

A literature search of current studies detailing actual use and effectiveness of FOP labelling schemes was undertaken by the author. Primary electronic searches were made of the following online resources, using reference criteria 'food labelling', 'effectiveness', 'use'; PubMed, ProQuest, Cochrane Library, Science direct.

Publications dating from 2006 to present only were included as we are interested in the impact of FOP labelling schemes since the official introduction by the key stakeholder the FSA, in 2006. Government, health organisations and other health charities were also searched, as the author recognises much work has been completed in this field by a large variety of stakeholders. From the literature searched only three papers were found, two of these were FSA initiated reviews. At the time of writing the FSA is conducting fieldwork to explore how people are actually using front of pack labels when buying food. Publication of this research is pending.

The papers selected for review are detailed as follows. The key findings from these papers are detailed in table 1.

Feunekes, G. I. J., Gortemaker, I. A., Williams, A. A., Lion, R., van den Kommer, M. (2007). Front-of-pack labelling: Testing effectiveness of different nutrition labelling formats front-of-pack in four European Countries. *Appetite*, 50 57-70.

Navigator. (2007). *Front of Pack Signpost Labelling Research*. (Report COI 280040 1095 JS). Gerrards Cross: Navigator

TNS. (2007). *Front of Pack labelling survey*. London: Food Standards Agency.

Table 1: Summary of key findings from literature reviewed on the effectiveness and use of FOP labelling formats on food packaging, 2006 - present

	1	2	3
Author, Year	G.G. Feunekes, I.A. Gortemaker, A.A. Williems, R. Lion and M. van den Kommer, (2008).	Navigator, on behalf of the Food Standards Agency, (2007).	TNS, on behalf of the Food Standards Agency, (2007).
Subjects	<p>Study 1: 1630 participants, men and women, from four European countries.</p> <p>Study 2: 776 participants, men and women, from two European countries.</p>	<p>Men and women arranged into lifestyle stages;</p> <ul style="list-style-type: none"> • 'pre-family' – aged 18 – 34 single or married/co-habiting, no children • 'family' – single parents, married or co-habiting, • 'empty nesters' – singles or couples, no children at home. 	<p>Representative sample of UK adults: Participants presented in groupings;</p> <ul style="list-style-type: none"> • Sex • Age • Social Class • Marital Status • Working Status • Children • Principal shopper
Study Design	<p>Study 1: Tests 6 FOP formats, 4 'simple formats', 2 MTL, across 3 product categories that contained one healthier and one less healthy product variant. Computer based, online testing.</p> <p>Study 2: Tests 4 FOP formats, 3 'simple' formats, 1 GDA, first as study 1, second tested across 5 product categories that contained one healthy and one less healthy product variant. Computer based, online testing.</p>	Qualitative, 8 discussion groups of 6 or 7 participants arranged as above.	Quantitative survey
in explanatory variable	<p>Study 1: Label format</p> <p>Study 2: Label format and differences in frequency of use pre and post education measure</p>	FOP labelling schemes	Not known

Main outcome variable	<p>Study 1: Impact of format on perceived consumer friendliness, comprehension, credibility, likeness, ability to distinguish an unhealthy product from a healthier one</p> <p>Study 2: Impact of format as study one and intended use and time taken to evaluate formats.</p>	<p>Awareness, role and usage of schemes</p>	<p>Not known</p>
Results	<p>Study 1</p> <ul style="list-style-type: none"> • All formats found to be understood • MTL rated highest for comprehension, liking and credibility • All formats helped distinguish between healthier and less healthy products • Endorsement by national and international health organisations strongly increased credibility of format <p>Study 2</p> <ul style="list-style-type: none"> • All formats found to be understood. • GDA scored lowest on comprehension but highest likeness. • GDA liked most when comparing across product category. • GDA needed more times to be assessed than other formats. 	<ul style="list-style-type: none"> • Awareness - overall awareness of both schemes, MTL most thought of. • Perceived need - agreement on a need for FOP systems although believed to be mostly for the benefit of others 'who buy a lot of processed food' • Understanding - MTL well understood, GDA understood from in store contact, some confusion of understanding from external sources e.g. media • Usage - MTL glanced at on all pre-packed or processed items. Used system within a category of food, used to help balance whole 'basket'. • GDA tended to be used on food items participants had concerns with. • GDA was 'read' rather than glanced at. • Non-users claim systems not spotted, only use for new products, only bought fresh 	<ul style="list-style-type: none"> • 41% social class AB and 29% social class DE understood GDA represents a maximum figure for salt, sugar and fat. • 15% of people in social class DE thought GDA figures indicated the minimum amount. • 76% correctly thought the red traffic light indicated the food is high in something the population needs to cut down on. • Majority of remaining respondents interpreted red light foods should not be eaten at all.

	<ul style="list-style-type: none"> No difference in formats for distinguishing between healthy and unhealthy products. 	<p>food so didn't feel they needed to use</p>	
Limitations	<ul style="list-style-type: none"> Internet users used in study only therefore may not be able to generalise to total population. Potential of participants to misinterpret some of the information presented. Research conducted in experimental environment, will not reflect 'real-world' situation. Differences found may be attributable to different country demographics. Possible conflict of interest as research funded by Unilever 	<ul style="list-style-type: none"> Familiarity of systems Tested in research environment FOP seen as only a small part of the decision making process of food choices 	Not known
Conclusions	<ul style="list-style-type: none"> FOP labelling helps consumers make healthier choices. Detailed MTL formats such as the Wheel of Health, may provide too much information and therefore be less suitable for 'vulnerable' groups. Official endorsements strongly increase the credibility of the format. Consumers prefer single format that works across product categories. Simple MTL format preferred for fast decisions. 	<ul style="list-style-type: none"> Universal awareness of schemes although not all participants felt they had encountered schemes. Agreement that FOP was perceived to be needed. Felt that the schemes do help make decisions about food choice easier. GDA is an improvement on nutrition panel although still needed to be read. MTL offers the chance to evaluate at a glance. 	None made

2.5 Summary

Arising from the literature there appears to be four common themes that reoccur.

- There is widespread use of labelling/nutrition information on packaging
- The idea of a simplified FOP labelling information format is well liked
- The most common formats are understood
- There is little information on how the formats are currently being used by the consumer.

With the rapid increase of FOP schemes across the food industry (EHN, 2007) there is a significant need to understand the effect the schemes are having on consumer behaviour and how the labels may be affecting actual purchase decisions (Denny, 2006). Murphy (2007) asks “what is the ability of a labelling format to ensure the consumer makes correct healthy choices and have a positive impact on diet and health?” It seems important therefore, that an appreciation of the impact of food labels on consumer food choice is needed and an understanding of the influence that the new FOP information schemes may be having.

2.6 Aims and Objectives

In summary, the purpose of this study is to research evidence of how consumers currently perceive, understand and use food labelling information to make food purchasing decisions, with particular reference to the recent introduction of FOP voluntary food information schemes. The study aims to understand if the FOP schemes are supporting the ability of the consumers to make healthy food choices and if they are having a positive impact on diet and health. It is hoped to achieve this through the objectives of the study which are to;

- Conduct a number of focus groups with the general public in order to explore consumers’ response to the presentation of food packaging information.
- Gather data from these focus groups to understand if:

- a) consumers have an interest in food labelling information,
 - b) consumers trust food labelling information,
 - c) consumers value food labelling information,
 - d) consumers understand food labelling information,
 - e) consumers use food labelling information
-
- Analyse and collate this data to address the research questions as detailed in section 1.3.