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Trust in and through labelling – a systematic review and critique

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ABSTRACT

Purpose – Distrust of conventional food supply systems impacts consumer food choice. This in turn has implications for consumer nutrition outcomes and acceptance of expert advice regarding food and health. The research exploring consumer trust is found across a broad range of research streams, and is not cohesive in topic or approach. The purpose of this paper is to synthesise the disparate literature exploring the interaction between food labelling and consumer trust to determine what is known, and gaps in knowledge regarding food labelling and consumer trust.

Design/methodology/approach – A systematic search of trust and food labelling literature was conducted, with study results synthesised and integrated. Studies were then critically analysed for the conceptualisation of the consumer, the label, and their interaction with a framework developed using social theories of trust.

Findings – In total, 27 studies were identified. It was found that not only is the current literature predominantly atheoretical, but the conceptualisation of labelling has been limited.

Research limitations/implications – Further empirical research is needed to enable a more

comprehensive understanding of the role food labelling plays in influencing consumer trust in food systems.

Originality/value – This research develops a conceptualisation of the dual roles food labelling may play in influencing consumer trust in food systems. It distinguishes between trust in food labelling itself, and the trust consumers develop in the food supply system through food labelling. The novel theoretical model and synthesis provide a foundation upon which future research may be conducted.

Keywords: Social theory, Confidence, Trust, Food labelling, Food supply, Food systems

INTRODUCTION

Food labelling is positioned at the interface of the consumers' point of purchase and the regulation and functioning of the market (Kolodinsky, 2012). It is therefore a highly prized opportunity to impart information at the exact moment of food choice (Verbeke, 2005). The awareness of labelling as a direct line of communication with consumers has led to a proliferation of information on food labelling from retailers, producers, public health bodies, regulators and third-party certifiers. Food packages are crowded with labels, defined here as any information printed on a food package.

Examples of labels include marketing claims, nutrition information panels, allergen information boxes, date marking, use and storage information, nutrient content claims, health claims, country of origin labelling, and an ever-growing number of labels relating to ethical and moral production and consumption - fair-trade, organic, sustainably produced and carbon footprint labels (Sirieix et al., 2013). These last are, herein, collectively referred to as 'certification labels'. The roles played by labels are diverse, from encouraging sustainable production through harnessing consumer purchasing power and green consumerism (Sonderskov and Daugbjerg, 2011), to facilitating healthy food choices (Grunert and Wills, 2007) and product differentiation and marketing (Einsiedel, 2002). Thus in their interaction with labelling, consumers must interpret the many different messages labelling communicates concurrently, from numerous messengers with varying

motivations. In addition to this, theoretical literature suggests that food labelling may play a more complex role in the interaction between food systems and consumers than what is suggested in current research, potentially as a symbol of shared values, norms and expectations (Bildtgard, 2008). Beyond communicating the literal messages of food labels, labelling may provide consumers with the opportunity to see into and make judgements about the system's actors and function.

Food labelling provides a channel for communication between the food system and consumers, in the absence of a face-to-face encounter. As such, there is increasing recognition of the potential for food labelling to address social policy issues, in particular distrust in food regulatory and supply systems (Blewett et al., 2011). Food labelling may support or undermine consumer expectations of technical competence and fiduciary responsibility from the actors and system behind labelling, and therefore influence trust (Barber, 1983). That is, consumers expect that food systems function technically well and in their best interests, with food labelling providing the visual assurance, or otherwise, of this. Issues of consumer distrust are said to have come about through historical changes to food supply systems resulting in information asymmetry between consumers and producers (Eden et al., 2008a). Various food scares and scandals have thrown further doubt on the integrity of food supply systems.

This distrust has consequences for consumer decision making, having a direct impact on individual food choice and acceptance of expert advice (Williams et al., 2004, Coveney, 2008). Dietary intake patterns and therefore nutritional status are affected by the avoidance of foods considered to be unsafe or risky. When these foods are from core food groups essential nutrients can be marginalised, compromising health (Coveney 2008). Further, Ekici (2004) showed that consumers who were most distrustful of conventional food systems relied on alternative food supply markets, such as farmers markets and local produce. While of itself engagement with alternative food markets is not necessarily a problem, there can be unintended consequences. For example, the choice to consume unpasteurized milk, reportedly in some consumer groups related to distrust in conventional agriculture and governments, is known to result in occasional cases of food poisoning

(Jay-Russell, 2010). A notable explicit case is distrust in tap water chlorination and fluoridation being identified as a contributing factor in the movement towards drinking bottled water. Although viewed as innocuous by consumers, it has been suggested to be contributing to rising childhood dental caries (Cochrane et al., 2006). Accordingly, the capacity of food labels to engender trust and confidence has been provided as rationale for a number of policy positions in Europe (Einsiedel, 2002) and Australia (Blewett et al., 2011). Therefore, developing an understanding of and evaluating the trust judgements formed by consumers through interaction with labelling is essential. Policy relating to food labelling is fiercely contested and controversial; legislation is bargained and negotiated between the triumvirate of consumers, industry and government (Kolodinsky, 2012). Policy makers and regulators look to research to guide their policy decisions, however in this area are likely to find the literature ambiguous. Some research has explored consumer trust and food labelling; however this work has been disparate, cross-disciplinary (consumer studies, public understanding of science research, public health and nutrition research and business and marketing studies), and thus non-cohesive in topic or approach. The understanding of the relationship between food labelling and trust is therefore far from complete. No review has been conducted investigating what is known about food labelling and consumer trust, nor has a thorough critique of the way this topic has been approached by researchers.

This review aims to integrate the work from diverse research streams to determine what is known, and gaps in knowledge regarding food labelling and consumer trust. The objectives are therefore:

1. to synthesise the peer-reviewed literature examining the interaction between consumers and food labelling in relation to trust, and
2. to conduct a critical analysis of how consumers and food labelling have been conceptualised in this literature to date.

As the central focus of this relationship is trust, social theories of trust can provide a firm basis from which to explore the role of food labelling in influencing consumer trust in the food system.

In the first section an entirely novel theoretical model for conceptualising consumer trust in relation to food labelling utilising social theories of trust is proposed. This theoretical model has two components, a conceptualisation of trust judgements made by consumers in interaction with food labelling, and an analytical framework for identifying the contextual factors influencing these judgements. This innovative theoretical model provides deep and unique insight into the dimensions of the trust judgements made by consumers in and through food labelling.

Herein we provide a description of the search and review methods employed and subsequently a summary of characteristics of included studies. Findings of included studies of relevance to this discussion are then synthesised, and the aforementioned theoretical model is used to provide a critical examination of the literature exploring consumer trust and food labelling. Finally, the implications of the findings for research and policy are discussed, demonstrating the importance of the novel insights provided by the theoretical model and providing a platform for future research.

THEORETICAL MODEL

Social theory provides a framework for investigating specific aspects of everyday experiences and phenomena. Theories draw together a set of abstract concepts that can be operationalised to further understand the aspect of lived experience to be investigated (Punch, 2005). There is an extensive body of sociological literature devoted to the understanding of trust, how it is built and how it is maintained. Very broadly, this work distinguishes between trust among people (interpersonal or ‘facework’) and trust in societal institutions and systems (institutional or ‘faceless’) (Misztal, 1996). Niklas Luhmann and Anthony Giddens are key theorists in the area of institutional trust, making their work of particular relevance to the current discussion of trust and food systems. The following section separates the conceptualisation of trust in relation to food labelling into two parts. It begins with a conceptualisation of the trust judgements made by consumers through their interaction with labelling, followed by a discussion of the factors that influence these trust judgements. Through

these discussions, the model for our critical analysis and review of the extant literature of trust in relation to food labelling emerges.

Conceptualisations of trust in relation to food labelling

Insert Figure 1 about here

Figure 1 graphically presents an interpretation of the different trust judgements made by consumers in relation to food labelling; it defines where trust is actually being placed. The theoretical basis for this figure is driven by the abstract trust theories of Giddens (1990) and Luhmann (1979), and extensions of their theories as related to food labelling by Bildtgard (2008). The central purpose of this figure is to delineate the different trust judgements made by consumers in their interaction with food labelling; that is, it identifies that consumers can place trust *in* labelling, but can also develop trust in the food system, system actors and system governance because of, or *through*, food labelling. This separation of how food labelling functions with respect to trust (in or through) is novel and timely, as international governments seek to enhance consumer trust in food systems with sparse resources; it provides a new means for research to inform policy makers regarding which areas to direct those resources for greatest efficacy.

In figure 1, the trust consumers place in the literal message of the label or logo is categorised as trust *in* the label/logo message. This type of trust judgement centres around the belief in the truth of the message as it relates to that product and is influenced by consumer and label/product characteristics (to be detailed further below). Importantly, trust in the label message is seen as possible only if the messenger is trusted with regard to this information, as trust is a three-part relation (Hardin, 2001, Barbalet, 2009). Here the messenger is conceptualised as a ‘label characteristic’; for example the messenger being ‘Tesco’ is a characteristic of the UK ‘Nurture

Tesco' sustainability logo. Theoretically trust *in* the label is seen as similar to Giddens' (1990) facework trust.

We now turn to trust *through* labelling, where labels act as access points to a system. As food labelling is a point of communication between consumers and the food system, it may be thought of as a representative of the food system and therefore an access point (Bildtgaard 2008). Giddens (1990, p. 88) describes 'access points' as the intersection between facework and faceless (or systems) trust. For example, a label promoting the organic properties of a product speaks not only to the product ingredients but also represents the system of production, prudence and provenance that can be ascribed to the organic food industry. Thus as an access point, labelling may influence consumer belief in either the integrity of the main actors (for example industry), or the competence and function of regulatory processes, and as such influence trust in the system overall (Giddens 1990). Date marking ('use by', 'best before') is another example. Date marking may be seen by consumers as an indicator of regulatory management of the food system to prevent foodborne illness, and result in increased trust that the system functions to ensure a safe food supply, thus building trust in the wider food system. In these examples it is not so much the literal message being communicated by the date mark, but the fact that there is a date mark/label at all that builds trust; it is labelling acting in a symbolic role to influence trust (Bildtgaard 2008). Therefore, trust in the food system, its actors and its governance is conceptualised here as being developed *through* interaction with labelling. Similarly, trust in the product with regards to safety and quality is also seen as being, in part, developed *through* labelling. This system of classification–trust *in* and *through*–was used to group studies for critical analysis.

Development of the study critical analysis framework

The framework for critical analysis follows the philosophy of Foucault (1981, p. 456); 'A critique does not consist in saying that things aren't good the way they are. It consists in seeing on what type of assumptions, of familiar notions, of established, unexamined ways of thinking the accepted

practices are based'. Thus, in the present review, critical analysis focussed on how the consumer, the label and their interaction with regards to trust were framed.

Food labelling may be thought of as a policy representation and an instrument of policy, and therefore analysed using policy analysis frameworks (Coveney, 2010). The framework used here was developed by adapting that of Bacchi (2009) to suit a critical analysis of research (table 1). For Bacchi, the aim of policy analysis is to identify 'problematizations'; to illuminate how an issue is represented and shaped as a particular object for examination (Bacchi, 2012). A key aspect of analysis therefore is to stand back from the issue in order to uncover and shed light on the limitations of the current thinking around the 'problem' (Bacchi, 2012). The framework identifies a series of questions which uncover the assumptions and presuppositions, areas of light and shade and their effects on factors included, and not included, in the proposed policy (Bacchi, 2009, 2012). Using Bacchi's framework (2009) this is done by examining a policy's proposals; 'what we say we want to do about something indicates what we think needs to change and hence how we constitute the "problem"' (Bacchi, 2012, p. 4). In the same way, looking at the methods of investigation, the questions asked and variables measured in a research study can elucidate how the researchers are framing the consumer, the label, their interaction resulting in a trust judgement, and the assumptions underpinning these framings. Thus, studies were examined to uncover the assumptions underpinning their framings of the consumer, the label/s, and the interaction between the two resulting in a trust judgement, which will be abbreviated hereafter to 'consumer-label-trust interaction'.

The critical analysis framework outlines the contexts under which trust judgements formed around food labelling are made, and was developed prior to the literature search. Bacchi's method was used to separate the consumer-label-trust interaction into the main areas for critical analysis, those of consumer and label framings, and place them into a table illustrating how they interact to form a trust judgement. Table 1 was then nuanced by using social theories of trust to further separate each area into groups of factors known to influence trust judgements (Consumer 1, 2, 3 and Label 1, 2,

3). The included studies were then analysed using this framework. The analyses enabled the extension of the framework to include additional contextual influences such as those specific to labelling, one example being the addition of a potential interaction between labelling elements as described by Garretson and Burton (2000). In its application to the analysis of research studies, the framework critiques how consumer and label aspects are seen to influence trust judgements in the interaction between consumer and label.

In summary, Bacchi's framework was used to classify according to how each study framed food labelling as a problem to be investigated (Label 1, Label 2, Label 3 as described in table 1), and the position of consumers as social actors was used to classify them in context (Consumer 1, Consumer 2, Consumer 3).

Insert Table 1 about here

Using the analysis framework studies were placed in the category describing their framing of the label (Label 1, 2 or 3) and their consumer representation, where Consumer 1, 2 and 3 group studies with a rational, personal and social consumer representation respectively. Research indicates that trust is influenced by numerous factors that extend from the rational/cognitive (Rowe and Calnan, 2006) through to personal (socio-demographic characteristics, attitudes, beliefs) (Poppe and Kjaernes, 2003, Meyer et al., 2012, Taylor et al., 2012) and social/structural factors (Poppe and Kjaernes, 2003). For example, those studies only noting basic demographic characteristics of participants, Consumer 1, assume the consumer-label-trust interaction is only influenced by the label characteristics, with the consumer responding to these changes in a rational, predictable way. Studies exploring the internal attitudes, knowledge and beliefs of participants, Consumer 2, may be thought to be assuming these are aspects which influence trust judgements in the interaction between consumer and label. Studies placing consumers within the context of the wider food system, Consumer 3, may be said to be considering the external social and structural factors related to the consumer as influencing trust judgements built around labelling. Notably, these categories are

not exclusive, but hierarchical, with studies placed in the highest possible category. Consequently, a study placed in Consumer 3 may also include characteristics of the categories Consumer 1 and 2.

It is clear that the categories for the framing of the label (Label 1, 2 and 3 in table 1) are inextricably linked to the conceptualisation developed in figure 1. Should a study frame labels as representatives of the food system, acknowledging their role beyond simply the communication of an explicit label message (Label 3), the results will consequently be discussing trust *through* labelling. Likewise, if labels are framed as an explicit message only (Label 1) results can only possibly discuss trust *in* labelling. In this way, the conceptualisation of trust judgements proposed in figure 1 and constructed using theory is further broken down and nuanced to include the factors influencing these judgements, generating a picture of how this could be further investigated in empirical research (table 1).

REVIEW METHODS

Search method

Databases searched included Scopus, Web of Knowledge, Pub Med, PsychINFO and Sociological Abstracts. Searches were conducted up to the 27th of August 2013, with the earliest year covered by included databases being 1806. Four concepts were used to structure the search query including trust (keywords: trust*, confiden*, faith*, belief*, perce* [perception], expect* [expectations]), food (food*, food supply, food system*, food regul*), labelling (label*, certification, assurance) and consumer (consumer*, buyer*, purchaser*, layperson*, lay person*). Medical Subject Heading (MeSH) terms were used where necessary, complemented with keyword searching of the concept terms and synonyms. The common use of 'trust' has numerous synonyms, therefore existing empirical and theoretical literature was examined for terms used and these were included to ensure all relevant papers were captured. The included terms were chosen as they are MeSH terms and

therefore commonly used as keywords. No limits were placed on year of publication or country, however only English language papers were included.

Data extraction

Studies were initially screened for relevance to the review topic. Inclusion criteria were that the study needed to be peer-reviewed, report original research and to discuss trust or its many synonyms in relation to food labelling in the results section. Confidence and other synonymous terms were included as they have been used interchangeably with trust in the extant literature; however there is some debate around their interchangeable use (Luhmann, 1988) that will not be specifically addressed here. No limits were placed on study design and how trust, food labelling and the consumer were investigated; this enabled a greater sense of the way trust and food labelling has been explored in the peer-reviewed literature. However, papers were excluded if A) they extrapolated their results from non-trust items to a discussion of trust (Bernues et al., 2003, Wang et al., 2013)—that is, trust was not an outcome explored in the study; or B) consumer trust was part of the premise of the research but again trust was not explored with participants (Verbeke and Viaene, 1999, Gellynck et al., 2006). To summarise findings, studies were grouped according to type of labelling investigated, and data were extracted into summary tables (Supplementary material).

Analysis and critique

Studies were grouped as trust *in* or *through* for analysis according to which trust judgement was presented in the results, using the categories in figure 1. Critical analysis of included studies then followed, involving the application of the critical analysis framework (table 1) to all studies to evaluate the framing of the consumer-label-trust interaction. Finally, each article was examined for incorporation and use of social theories of trust in either the justification for the study, study design, or in explanation and discussion of results.

FINDINGS

Search Results

The results of the search and screening process are summarised in figure 2.

Insert Figure 2 about here

Twenty-seven studies were included in this review. Twelve studies examined trust in relation to certification labels and these were published relatively recently (2005-2013). Five studies explored nutrition labelling or health claims (1999-2010), and six labelling in general (1997-2011). Four further studies examined trust in relation to genetic modification (GM) labelling (2003-2008). The included studies represent both qualitative and quantitative methods. Eight studies used a focus group method and six further used in-depth interviews to explore attitudes and perceptions relating to labelling and trust. Sixteen studies utilised a survey method, with the majority of these measuring trust through the use of 5-7 point scales of agreement with statements such as ‘I do trust this label/logo’ under varying experimental conditions (Supplementary material). Two studies combined focus groups with surveys (Gerrard et al., 2013, Uysal et al., 2013), and one interviews and focus groups (Coveney, 2008). Characteristics of included studies are summarised in the supplementary material.

Summary of Study Findings

Certification labelling studies

Of the 12 studies exploring certification labels, ten measured trust *in* certification labels or logos (Padel and Foster, 2005, Eden et al., 2008b, Essoussi and Zahaf, 2009, Mahe, 2010, Janssen and Hamm, 2011, Sonderskov and Daugbjerg, 2011, Janssen and Hamm, 2012, Rezai et al., 2012,

Gerrard et al., 2013, Uysal et al., 2013), and two both trust *in* and *through* certification labels (Wier et al., 2008, Sirieix et al., 2013). A high level of trust or confidence in certification labels was repeatedly found (Mahe, 2010, Sonderskov and Daugbjerg, 2011, Uysal et al., 2013), but often a small minority of respondents were defiantly distrustful – so much so they refused to read labels – or reported reduced confidence with increased scrutiny of the labelling (Eden et al., 2008b).

Familiarity with certification labels evoked trust in them (Sirieix et al., 2013), and in the products they are on (Janssen and Hamm, 2011). However ‘good’ labels could be distrusted through association with those perceived to be disingenuous, such as the UK ‘Nurture Tesco’ sustainability logo (Sirieix et al., 2013). It was repeatedly found that higher price premiums were attracted for products with the most trusted labels (Essoussi and Zahaf, 2009, Mahe, 2010, Janssen and Hamm, 2012, Gerrard et al., 2013).

Trust *in* certification labels was linked to the credibility of the overseeing organisation (Sirieix et al., 2013). Danish consumers were shown to have high confidence in organic labelling (Wier et al., 2008) even after controlling for generalised institutional and social trust (both themselves found to be important predictors of confidence in organic labelling) when compared to UK, Swedish and US residents (Sonderskov and Daugbjerg, 2011). As the Danish organic certification system incorporates high state involvement, the authors conclude that substantial state involvement, and visibility, increases consumer confidence in organic labels (Sonderskov and Daugbjerg, 2011). This was supported by Uysal et al.(2013) who found lower trust in private organic labels compared to government labels, however others found the opposite (Padel and Foster, 2005, Eden et al., 2008b).

The UK ‘Organic Farmers and Growers’ label (Sirieix et al., 2013), the JAKIM Halal logo (Rezai et al., 2012), certification logos generally (Koenigstorfer and Groeppel-Klein, 2010), and labelling of production location and methods (Wier et al., 2008) were found to add something trustworthy to, and enhance confidence in, organic/eco-friendly products. Additionally, trusting in certification was noted by some participants to be more important as organic distribution channels become larger (Essoussi and Zahaf, 2009). In the study by Sirieix et al. (2013, p. 147) one consumer discussed the

symbolic role of labelling, stating that a particular label made them think ‘of community as local group with good values. Trustworthy’.

GM labelling studies

The four studies exploring trust in relation to GM labelling predominantly examined trust in the products *through* food labels/logos (Poortinga and Pidgeon, 2004, Miles et al., 2005, Batrinou et al., 2008), with only Soregaroli et al. (2003) measuring trust *in* GM labelling. Having an ‘EU approved’ label on GM corn chips increased the number of respondents willing to eat them, suggesting that including authorising agency on the label resulted in greater trust in product safety (Batrinou et al., 2008). Similarly, the number of consumers reporting trust in a ‘GMOs-free’ label increased from 20 to 30% with government certification, and confidence in the proper functioning of the food supply system was associated with higher trust in these labels (Soregaroli et al., 2003). The labelling of all food containing GM products, even those similar to conventionally produced products, was selected as a way to increase confidence in GM food safety by Italian consumers (Miles et al., 2005) and is supported by similar findings from Poortinga and Pidgeon (2004) showing mandatory labelling to be a necessary measure for maintaining trust in governance of GM food.

Nutrition and Health Claims labelling studies

All of the studies exploring trust related to nutrition and health claims labelling measured trust *in* labelling (Nayga, 1999, Garretson and Burton, 2000, Worsley and Lea, 2003, Singer et al., 2006, Koenigstorfer and Groeppel-Klein, 2010) and one study also measured trust *through* labelling (Garretson and Burton, 2000). Nutrition labels were subject to consumer trust judgements (Worsley and Lea, 2003, Koenigstorfer and Groeppel-Klein, 2010), particularly front-of-pack labelling and health/nutrition content claims. In a study by Singer et al. (2006) of those participants who trusted in the truth of a health claim 42-52% also thought it was ‘just an advertising tool’ compared to 60-85% for those participants who did not trust the claim. Trust in nutrition content claims varied with

the claim message, the socio-demographics of the consumer (Nayga, 1999), and whether the claim was consistent with the nutrition information/facts panel (Garretson and Burton, 2000).

Incongruence between health claims and the nutrition information/facts panel showed a marginally statistically significant negative impact on perceived credibility of the manufacturer when measured as a composite variable though agreement with adjective scales ‘trustworthy/untrustworthy’, ‘dependable/not dependable’ and ‘honest/dishonest’ (Garretson and Burton, 2000). This was only found to be the case with fat however, and not fibre; the authors concluding the perceived diagnosticity of the nutrient impacts the trust judgement (Garretson and Burton, 2000).

General labelling studies

Of the six general labelling studies, two measured trust *in* allergy labelling (Cornelisse-Vermaat et al., 2007, Barnett et al., 2011), two trust *in* (Pieniak et al., 2007, Van Rijswijk and Frewer, 2012) and *through* (Van Rijswijk and Frewer, 2012) traceability labelling, and two trust *in* (de Almeida et al., 1997, Coveney, 2008) and *through* (Coveney, 2008) labels in general. Food packaging was found to be the third most trusted source of healthy eating information for European adults (de Almeida et al., 1997). Traceability labelling on fish (Pieniak et al., 2007), and allergy information on labels were not always trusted (Cornelisse-Vermaat et al., 2007), but labelling of/by certain food companies was trusted over others, usually based on perceived safety and quality of that company’s products (Barnett et al., 2011). As with the GM studies, many consumers sought to build trust in the food supply through government endorsements on food labels, but finding this lacking, distrusted food labelling as they felt it was often simply marketing information and therefore misleading (Coveney, 2008). A number of respondents said if they found labelling was counterfeited it would result in a loss of confidence in all information about authenticity, some directly implicating producers, others ‘doubting everything’ (Van Rijswijk and Frewer, 2012).

Overall, these results show trust judgements did vary depending on the messenger, however there were mixed findings regarding who is most trusted to deliver food labelling information. Trust in

the message was clearly dependant on the messenger, and trust in the message was foundational for developing trust in something else through labelling (food supply system or food governance), although this was rarely examined.

Critical analysis of studies – The framing of the consumer-label-trust interaction

Here studies have been grouped according to whether they presented results exploring trust *in* or *through* labelling. Nineteen studies examined trust *in* labelling, and eight studies examined trust *through* labelling (see references for these studies in Table 1).

Studies discussing trust in labelling

When the critical analysis framework was applied to these 19 studies, none were classified above Label 2 for the framing of labels, with the vast majority classified as Label 1 (13 of 19) (table 1). These 13 studies (de Almeida et al., 1997, Nayga, 1999, Worsley and Lea, 2003, Padel and Foster, 2005, Pieniak et al., 2007, Eden et al., 2008b, Koenigstorfer and Groeppel-Klein, 2010, Mahe, 2010, Janssen and Hamm, 2011, Sonderskov and Daugbjerg, 2011, Janssen and Hamm, 2012, Gerrard et al., 2013, Uysal et al., 2013). Put simply, these studies framed labels as explicit messages only, with many simply measuring the level of trust in the truth of the message, for example through Likert scale agreement statements such as ‘I trust this logo’. A lack of incorporation of any other labelling elements in the study methods suggests the assumption that this one explicit message can be interpreted in isolation from the rest of the labelling. Six studies (Soregaroli et al., 2003, Singer et al., 2006, Cornelisse-Vermaat et al., 2007, Essoussi and Zahaf, 2009, Barnett et al., 2011, Rezai et al., 2012) did however frame labels in accordance with Label 2 criteria, in the context of being on packaging which is sending multiple concurrent messages which influence trust judgements about the label. This typically incorporated only a few other labelling elements however, such as brand or nutrition information panel, and was still only linked back to trust in one explicit label message.

The consumer representation was spread across all consumer categories in these studies. Nine (Worsley and Lea, 2003, Cornelisse-Vermaat et al., 2007, Pieniak et al., 2007, Barnett et al., 2011, Janssen and Hamm, 2011, Janssen and Hamm, 2012, Rezai et al., 2012, Gerrard et al., 2013, Uysal et al., 2013) framed consumers in their personal context (Consumer 2), and six (Soregaroli et al., 2003, Padel and Foster, 2005, Eden et al., 2008b, Essoussi and Zahaf, 2009, Koenigstorfer and Groeppel-Klein, 2010, Sonderskov and Daugbjerg, 2011) also extended this to social context (Consumer 3). Four studies (de Almeida et al., 1997, Nayga, 1999, Singer et al., 2006, Mahe, 2010) failed to frame the consumer at all (Consumer 1). In these studies the trust judgement was presented as only influenced by product characteristics; here we can see links with the conceptualising of the consumer as a rational information processor, simply responding to changes in information provision. While a number of these studies recorded socio-demographic information; this was presented as influencing the trust interaction in a linear and predictable way. The nine Consumer 2 studies framed the consumer as bringing something personal to the interaction – beyond simply their gender and age. This was done in a range of ways, from measuring familiarity with logos, to knowledge of and attitudes towards standards underpinning the assurance schemes the logo represents. The six studies that placed the consumer in their social context conceptualised other prior beliefs about actors within the system, and the functioning of the system itself interacting with their interpretation of the label, thus influencing their confidence in the label message. With the exception of one study (Koenigstorfer and Groeppel-Klein, 2010), they all focussed on topics regarding food production processes, therefore topics that lend themselves to consumers viewing themselves as part of a wider system, such as GM, eco-labelling and traceability.

Overall, the label-consumer-trust interaction representation in these studies was typically limited to personal or social context influencing trust judgements of one explicit label message, with few studies exploring the possibility for a number of labelling elements to influence the trust judgement. However in all studies the discussion was limited to trust in the literal message communicated. A good example of the typical framing of the consumer-label-trust interaction in these studies is the

statement from de Almeida et al. (1997, p. 21) and later restated by Pieniak et al. (2007, p. 123) ‘food labels may be of little use [for connecting with consumers], because lack of knowledge and inability to perform simple inference-making leads to failure in decoding the information’, suggesting labels play no role other than explicit information communication, which often fails due to personal characteristics of the consumer.

*Studies exploring trust **through** labelling*

All studies presenting results exploring trust *through* labelling were categorised at or above Interaction 2.2 (table 1). Of the five studies classified as Label 3 (Garretson and Burton, 2000, Poortinga and Pidgeon, 2004, Miles et al., 2005, Batrinou et al., 2008, Coveney, 2008), one study (Batrinou et al., 2008) framed labels as avenues for making judgements about products other than those explicitly expressed by the message, and four (Garretson and Burton, 2000, Poortinga and Pidgeon, 2004, Miles et al., 2005, Coveney, 2008) extended this to trust judgements about actors within the system and food supply governance. For example, Garretson and Burton (2000) hypothesised that incongruence between health claims and nutrition information on labelling would impact trust judgements about the manufacturer. Coveney (2008) framed government endorsement on labelling as an avenue for building trust in food system governance. In all eight studies food labelling was conceptualised as a complex entity, communicating both explicit and implicit messages concurrently. In the three Label 2 studies however (Wier et al., 2008, Van Rijswijk and Frewer, 2012, Sirieix et al., 2013), the possibility for labels to be representatives of something more than their literal message was only discussed by participants, and not followed up by the researchers with further discussion.

Five studies (Garretson and Burton, 2000, Poortinga and Pidgeon, 2004, Batrinou et al., 2008, Wier et al., 2008, Sirieix et al., 2013) explored the consumers knowledge, attitudes, beliefs and values in relation to their interpretation of the label, thus framed the consumer in their personal context (Consumer 2). Three studies (Miles et al., 2005, Coveney, 2008, Van Rijswijk and Frewer, 2012)

were categorised as Consumer 3, framing the trust interaction with labels as being influenced by the consumers perceptions and understanding of the system and their position within it. However, as with the studies discussed above, this was typically limited to a particular market area (GM) or issue (traceability).

The representation of the consumer-label-trust interaction was more sophisticated and contextual in these eight studies compared to those above. It was conceptualised as the personal and/or social context of the consumer influencing the trust judgements of either multiple labelling elements together, or aspects of the wider food system. Still, all but two studies either did not acknowledge the social context of the consumer, or the potential for labels to influence trust in something more than an explicit message.

Incorporation of social theories of trust

Twenty-three papers were completely absent of any use of social theories of trust, or any theory relevant to trust in either methodology or analysis (de Almeida et al., 1997, Nayga, 1999, Garretson and Burton, 2000, Soregaroli et al., 2003, Worsley and Lea, 2003, Miles et al., 2005, Padel and Foster, 2005, Singer et al., 2006, Cornelisse-Vermaat et al., 2007, Pieniak et al., 2007, Batrinou et al., 2008, Eden et al., 2008b, Wier et al., 2008, Essoussi and Zahaf, 2009, Koenigstorfer and Groeppel-Klein, 2010, Mahe, 2010, Barnett et al., 2011, Janssen and Hamm, 2011, Janssen and Hamm, 2012, Van Rijswijk and Frewer, 2012, Gerrard et al., 2013, Sirieix et al., 2013, Uysal et al., 2013). Two papers referenced some social theory in the justification for the study (Poortinga and Pidgeon, 2004, Rezai et al., 2012), however Rezai et al. (2012) only did so briefly. Two further papers utilised social theories of trust more extensively; Sonderskov and Daugbjerg (2011) using theory to inform selection of explanatory variables and explain results, and Coveney (2008) basing second order analysis of results on understandings of trust development from social theory. As overall these studies were so rarely connected with social theory, definitions of trust (if provided) were typically incongruent with the definitions provided by social theories of trust. In one study it

was expressed that participants ‘had no option but to trust the information’ [provided on the package] due to their own lack of knowledge and agency compared to the massive food industry (Eden et al., 2008b). Theoretically this would not be described as trust as there is no option to remove oneself from the trusting situation (Gambetta, 1988), nor would it be described as confidence as the consumer is clearly aware of and has considered the risks of trusting (Luhmann, 1979, 1988), but would be better described as dependence, or hope (Gambetta, 1988, Meyer and Ward, 2013). This difference has significant implications for how vulnerable consumers are seen to be, and therefore the corresponding actions required to address the problem. Often ‘credible’ and ‘sceptical’ were used as synonyms for (dis)trust and confidence, despite the fact that they have a different meaning to trust in the theoretical literature. The use of these terms potentially takes the emphasis off the trustworthiness (or not) of the system and places the focus of the problem on individual characteristics of consumers.

A number of papers also confused the function of trust, indicating assurance from stricter certification schemes builds trust (Janssen and Hamm, 2011, Gerrard et al., 2013, Sirieix et al., 2013), an example being ‘Trust is built by having audit and enforcement systems in place to ensure accuracy of the label’ (Sirieix et al., 2013, p. 150). However, rather than enhance trust these actions reduce the need for trust. Gambetta (1988) discusses that with greater restriction of possible future behaviour through contracts and other forms of coercion, uncertainty is reduced, and therefore trust becomes less relevant. Having enforcement and regulation such that noncompliance results in prosecution makes compliance with expectations almost certain, therefore reducing to a minimum the uncertainty that trust bridges. The proposed actions are mechanisms of social control used when the level of trust has been shown to be no longer sufficient for system function (Barber, 1983).

DISCUSSION

Consumer distrust in conventional food systems presents a problem for food industry and governments alike. Trust erosion undermines expert nutrition advice and supports an ever growing movement of consumers toward unorthodox and, at times, nutritionally risky food choices and consumption patterns (Coveney 2008). The role of food labelling in fostering trust is increasingly recognised as one of many important considerations for policy to help address consumer distrust. This renders an understanding of how food labelling influences trust pertinent and focuses attention squarely on research investigating food labelling and trust. This review aimed to synthesise and critically analyse this disparate literature to identify what is and is not known about food labelling and consumer trust. The findings indicate consumers are continuously forming trust judgements related to specific products, product markets, system actors and system function in their interaction with food. It is also clear that food labelling is a key focal point for forming these judgements, as suggested by Bildtgaard (2008). This literature does not however provide a comprehensive picture of how consumers form trust judgements around food labelling.

The findings in many cases provide support for the conceptualisation of consumer trust judgements formed around food labelling proposed in figure 1. It was repeatedly shown that trust in the messenger (a label characteristic) is fundamental for trust in the message. There were also glimpses of labelling playing a larger role in enabling consumers to form trust judgements about food systems, the actors within them and how they are governed. This however was not explored comprehensively, but rather often discussed briefly and unprompted by participants, or with reference to only one market area. This demonstrates the need for theoretical considerations of trust in relation to food labelling, with this being a key area for further empirical investigation. Thus, the conceptualisation proposed in figure 1 may be used in future empirical research to outline unambiguously where consumers are placing trust. This in turn will enable clearer identification of what the implications of the research are. This is crucially important as currently there is evidently widespread confusion about this, as this review demonstrates. The conceptualisation could, and

should, be used in both designing empirical research studies to make explicit the trust judgement being investigated, and in interpreting the results of any such study.

To be applicable and useful, future research must reflect the complexities of the interaction between consumer and label. Much of this research confirms that label messages are not judged in isolation from the rest of the package – or, indeed, the system – but that labelling is a highly complex combination of messages, the meanings of which consumers interweave with their own knowledges and understandings to make sense of food labelling (Eden, 2011). While many of these studies were strengthened by their inclusion of attitudes, beliefs and values in their conceptualisation of the consumer, the examination of these was typically narrowed specifically on a particular market issue, such as GM labelling. Research positioning consumers within the context of the functioning of the wider system overall is needed to facilitate a more complete understanding of the role of food labelling in influencing trust and confidence in food regulatory and supply systems. The analytical framework (table 1) used here to critique studies may be used to assess the dimensions of context considered in future research. When used in combination with the conceptualisation in figure 1, this presents a comprehensive theoretical model. This novel theoretical model should be used in designing and conducting empirical research as it enables research to adequately reflect the complexity of consumer trust judgements. This would be a considerable step forward from the research synthesised in this review, which was only able to allude to this complexity.

A crucial limitation of the literature reviewed is the lack of incorporation of the vast body of literature in social theory mapping how trust operates. This limits the richness of the interpretations of many of these studies in the sociological sense of understanding how the relationship between trust and labelling operates. There is much to benefit from incorporating social theory in empirical research; theory may be extended by having its assumptions and presuppositions challenged with empirical evidence, while sophisticated forms of analysis and explanation enhance the generalizability and applicability of social research (Layder, 1998). ‘Theory, then, should be neither a status symbol nor an optional extra in a [social] research study’ (Silverman, 2013, p. 118). A

primary advantage of social research is its ability to utilize theoretical ideas to provide direction for research and comprehensive, useful analysis (Silverman, 2013). If social theories of trust had been consulted to inform study methods and variables of interest, as was the case in only one study, a far deeper and more transferrable understanding of why and how consumers form trust judgements around food labelling could have been achieved.

Indeed, utilising social theories of trust in the interpretation of results of the studies presented here would have enhanced the explanatory power of this research vastly. Use of theory in research can help make the leap from simple description to explanation, to understand the ‘how and why’ a phenomenon occurred as it did (Punch, 2005). This enriched analysis is what makes theoretically driven social research useful for policy; it facilitates more nuanced understanding and therefore the potential for a position of greater prediction and control (Punch, 2005). Many of these papers were more focussed on categorising who-(dis)trusts-what and how this relates to purchase intention and label use. While this is useful data for some purposes, this narrow focus limits the body of knowledge regarding why this is so or what broader implications this may have. To not only know what the current state of affairs is, but also how and why this is the case will improve the success of policy development and implementation, and enhance strategies used by industry to support consumer trust. Theoretically driven research addressing social questions is relevant ‘to grasping the likely consequences of whatever policies might be initiated in relation to them’ (Giddens, 1996, p. 5). If the results were placed in the context of how trust works from social theory (as proposed in Figure 1), the implications for policy may be clearer. Economically speaking, as many of the questions addressed by public policy are sociological (Giddens, 1996), using social research to inform policy decisions is likely to help prevent inefficient resource use and ill-advised decisions (Landry et al., 2003). Certainly, in a time of increasing competition for scarce food labelling space, understanding the generation of systems trust through the label provides a new lens to critically assess these competing demands.

There may be a number of reasons for the lack of use of theory in this research. Layder (1998) cites the specialist and segregated nature of academic publication outlets as reinforcing the separation between theoretical and empirical social research. However, a more direct reason for both the lack of trust theory and limited framing of the consumer-label-trust interaction shown here is that just over half of the studies specifically aimed to explore trust or confidence, the remaining studies examining other aims (for example willingness-to-pay for certain labels). While the aims unrelated to trust reflect worthy questions and are useful in their own right, the focussed attention on other theoretical or empirical investigation means their results regarding trust are limited for the purposes of this review (developing a comprehensive conceptualisation of food labelling and trust). However, all studies still reported results relating to trust and labelling, and therefore contribute to the body of knowledge regarding the relationship. This justifies their inclusion in this review, and opens them to critique of their methods related to their framing of the label-consumer-trust interaction.

An issue in conducting the present review was found to be the interchangeable use of a number of words with trust, where authors seem to be referring to trust but using words that are not theoretically synonymous with trust, such as 'scepticism'. Thus structuring a search to enable complete confidence that every single paper with potential relevance is included is difficult at this time. Further to this, trust has been conceptualised here as thoroughly and inclusively as possible, however we acknowledge that it is only one way to examine it. Our inclusion and exclusion criteria reflect our conceptualisation of trust, and therefore exclude studies with operationalisations of trust that fall outside our scope. However, we have been transparent about papers excluded based on inclusion/exclusion criteria in the methods section, and the scope of both the search and conceptualisation provides a solid basis upon which to draw the above conclusions regarding empirical gaps in this field of study. A final limitation of this review is the exclusion of non-English language reports. In particular there may be relevant data in the Swedish doctoral thesis presented by Bildtgard. Due to practical resource and time constraints inclusion of non-English reports was not possible.

Finally, very little of this work was conducted outside of Europe, with the majority in the United Kingdom. Differences in political environment and food supply system structure, food regulation, as well as food culture may be expected to influence the consumer-label-trust interaction, therefore results from Europe alone cannot necessarily be generalised worldwide. Additionally, controversial food technologies and upcoming markets dominated the type of food labels studied, with only one focussing on the label as it is received by the consumer – as a whole. Therefore the general, broad role of food labels in building trust, not in relation to any particular issue, remains unexplored.

CONCLUSIONS

It is commonly cited by policy makers and academics that food labelling reinforces confidence and trust in food regulatory and supply systems. Deep consideration of this statement suggests consumers may not only have trust *in* food labelling, but potentially develop trust in the wider food system *through* food labelling. This review makes clear that this relationship remains to be investigated empirically; current literature examining trust in relation to labelling predominantly exploring trust *in* labelling, with very little entertaining the possibility of trust *through* food labelling. This is because to date, few studies have comprehensively conceptualised labelling as anything other than a direct message communicated to consumers. Thus the potential role of food labelling in engendering trust in food systems through being a representative of them remains largely unexplored. Additionally, the vast majority of research investigating trust in relation to food labelling is atheoretical. As such, a very common conclusion and policy recommendation offered by these papers is to increase assurance through strict governance and enforcement of labelling, as this builds consumer trust in food systems; however this confuses the role of trust. Trust is needed where there is no assurance, trust is the bridging of uncertainty and lack of knowledge; trust is vulnerability.

The fragmented and unfocussed nature of the findings of this literature exploring trust and food labelling widely opens the door to further empirical study. Future research must comprehensively conceptualise the consumer-label-trust interaction to provide a complete picture of how trust works in relation to labelling. Research must move past a narrow, literal view of food labelling, and explore the symbolic, representative role labels may have. Here we have provided a means to move forward with this research through the proposal of a novel and theoretically informed model.

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