

# Consumer Trust in Food and the Food System

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Extensive research has examined various factors that influence consumer trust, including trust in supply chain actors, assurance and regulatory systems, and the economic development status of the producing country. While these efforts have advanced our understanding of consumer trust, much of the previous studies have focused on particular aspects of trust in food and the food system, with some findings being country and culture specific. As a result, the factors influencing consumer trust identified in the literature are often fragmented, and at times, contradictory.

Keywords: assurance ; food actor ; packaging label ; traceability ; supply chain operator ; food industry influencer

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## 1. Introduction

The globalisation of food supply chains and the increasing complexity of modern food systems are changing the relationship consumers have with food. Enhanced focus towards food safety and quality has reshaped the way contemporary consumers evaluate food and make purchase decisions. Specifically, several serious food safety incidents, cases of food fraud, and changes in food production practices have violated consumer trust across the globe <sup>[1][2][3][4][5]</sup>. While not all of these incidents have directly imposed risks to public health and safety, they do represent a breach of consumer trust and have reduced consumer confidence in the integrity of the food system <sup>[1][2][6][7][8][9]</sup>.

As food supply chains become increasingly globalised, there is a need to understand the range of cues and information that consumers trust and rely on when navigating the complexities of the modern food system. Consumers with high levels of trust have confidence in the quality of the food items they are purchasing, and that the food operators who produce, distribute, and sell food are meeting relevant standards <sup>[10]</sup>. Food quality refers to the tangible sensory characteristics of food, such as taste, flavour, freshness, juiciness, and appearance <sup>[11]</sup>. Food quality can also incorporate less tangible credence attributes including nutritional value, functional quality, and convenience aspect of food, as well as ethical and environmental considerations. In some instances, food quality represents prestige, and an individual's social status and wealth <sup>[12][13]</sup>. Food safety can also be considered as an attribute of food quality, and it refers to the safe handling and storing of food <sup>[14][15]</sup>. Safe foods are free from harmful biological, chemical, or physical agents.

Growth in income and awareness of the health, social, and environmental consequences of food choices has increased global demand for diverse, safe, and premium foods with specific attributes (e.g., organic, eco-friendly, nutritious) <sup>[16][17][18][19][20]</sup>. Consumers commonly use direct visual and physical cues related to individual food items (e.g., colour, firmness, size, and price) when assessing food quality. For example, consumers from Asia tend to assess meat quality based on the colour of the meat and its level of intramuscular fat <sup>[21][22]</sup>. However, there are a growing number of credence attributes that consumers consider in their purchasing decisions that cannot be directly inferred through search or experience, such as safety, nutrition, environmental protection, and animal welfare. Traditionally, branding, marketing, and advertising have been used to communicate such credence attributes of certain food items and influence consumer choice <sup>[23][24]</sup>. Over the past decades, however, the growing complexity and globalised scale of the food system have presented increased opportunities for fraud and food safety incidents to occur <sup>[25][26]</sup>. Consequently, consumers must rely on additional cues and information to help them assess the full suite of credence attributes they seek <sup>[16]</sup>. Thus, the scope of this review is focused towards outlining the cues and information beyond product branding and marketing that consumers trust for verifying the less visible food attributes.

In this study, we critically review the literature to generate a framework showing the diverse range of factors that influence consumer trust in food and the food system. We use this framework and review to discuss the trust-influencing factors that are well-supported by previous research, as well as areas that future research could further explore.

## 2. Development and Findings

Product labelling is the written information on the packaging of a food product that informs consumers about its unique attributes, quality certifications, country of origin, and production region. It also enables access to food traceability information. Labelling information, and links to traceability information, can also be presented on information boards in physical retail stores, as well as appear on a webpage when consumers are shopping online. Labels act as a direct communication channel from producers, retailers, regulators, and third-party certifiers to consumers [27]. They can also display branding and marketing information, food safety and quality information, as well as information including ingredients, instruction, and uses. Food packaging labels, therefore, are positioned at the interface between consumers, food, and the food system. From our analysis of the various factors influencing consumer trust, we consider food packaging labels that communicate food attribute claims, certifications, country and region of origin, and food traceability information to be the most tangible information sources that consumers can rely on for identifying and validating the different credence attributes they seek.

Food traceability information. Food traceability systems capture information related to the origin of food products and document their journey across the supply chain [3]. These systems play an important role in supporting food safety and quality by providing increased transparency across the food supply chain [28]. While food traceability has historically been used as a supply chain risk management tool by agribusinesses and retailers, it is increasingly applied to enhance consumer confidence in food authenticity, safety, and quality. Traceability data is made accessible to consumers through barcodes, Quick Response (QR) codes, radio-frequency identification, and online links printed on food packaging [3][29][30]. Supported by cloud computing, storage technologies, and more recently decentralised blockchain networks, food traceability information made available to consumers reduces information asymmetry and increases trust [3][31][32][33]. Food traceability systems offer consumers reassurances on the origin and history of food products, raise the standards of food safety and quality across the international markets, and help build consumer confidence and trust in the traced food products [34][35][36][37].

While providing product assurance through food packaging labels directly supports consumer confidence in food products, food system actors also play an important role in influencing consumer confidence and trust in food and the food system. Food system actors are those who are directly involved in the production and distribution of food, including farmers and producers, manufactures and processors, and retailers. On a day-to-day basis, consumers have the greatest opportunity to develop face-to-face reciprocal relationships with retailers. Their engagement with the upstream food operators, such as producers and food companies, tends to be minimal. In the event of food incidents, however, upstream food actors often become more of a focus for consumers [38][39][40]. Food system actors also include industry influencers who assure or monitor food safety and quality, including government agencies and third-party institutions, consumer advocacy groups, and the mass media. Although industry influencers are not directly responsible for the production and distribution of food, they are positioned to influence how food is governed and certified, and can directly communicate with the public about food safety and quality. In the remaining of the Results and Discussions section, we outline the actors along the supply chain, including food industry influencers, to whom consumers trust and assign responsibility for ensuring food safety and quality.

Food industry influencers are in a position to confirm or challenge the legitimacy of the food attribute claims made by food actors, and to shape consumers' perception of the risks related to food safety and quality. While government agencies and third-party institutions influence consumer trust through certification labelling that validates certain food attribute claims, consumer advocacy groups and the mass media influence trust through directly communicating with consumers about the trustworthiness of food operators. There are some minor cultural differences in who consumers trust for communicating the relevant information relating to food safety and quality.

## 3. Conclusions

Income growth, increased awareness of health benefits of foods, and ongoing food safety incidents are accelerating consumer demand for safe and quality foods that cannot easily be distinguished based on visual and physical cues. Although branding and marketing strategies are widely used to communicate the credence attributes of food products, the complex, fragmented, and globalised modern food system presents growing opportunities for food incidents, fraud, and poor practices to occur. Consequently, agribusinesses and supply chain stakeholders have taken various approaches to address consumer concerns and secure their confidence in food safety and quality.

The present review developed a food trust framework and revealed that consumer trust can be built through product assurance and food system actors. Our findings show that product assurance through food packaging labels that communicate food attributes, certifications, country or region of origin, and food traceability are one important set of

tangible cues and sources of information that consumers trust when assessing food safety and quality at the time of purchase. In addition, food system actors, particularly retailers and food industry influencers, who detect or directly communicate with the public about food safety and quality, also play a crucial role in influencing consumer trust.

While there are similarities in the cues and information consumers trust and rely on for ensuring food safety and quality across the globe, the specific ways in which these factors operate can vary between countries and cultures. For example, geographical labels indicating the country and region from which the food was produced tend to be valued by all consumers. However, consumers from Europe tend to primarily rely on geographical origin for evaluating food safety and quality, while consumers in Asia tend to rely on more detailed labelling information that includes origin, but also health related attributes and personal qualities of producers.

Ongoing food safety incidents seem to have motivated consumers across developing countries to prefer imported foods and quality certifications from economically developed countries over domestic equivalents. Despite a price premium on foods, consumers from developing countries appear to trust reputable international retailers and manufactures over local producers. They tend to trust government authorities and third-party institutes for regulating and validating food safety and quality over advocacy groups and the mass media. In many of the developed countries, however, there is a general preference for domestic food products over foreign imports, even in countries where food safety incidents related to domestic production are prevalent. Consumers from developed countries with fewer experiences of food incidents tend to put more trust in local farmers and retailers who sell local produce than food manufactures. Compared to consumers from developing countries, the purchasing decisions of those from developed countries tend to be influenced more by the advocacy movements championing animal warfare and ethical consumption.

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