



Contents lists available at ScienceDirect

# Food Quality and Preference

journal homepage: [www.elsevier.com/locate/foodqual](http://www.elsevier.com/locate/foodqual)

## The effect of food shape abnormality on purchase intentions in China<sup>☆</sup>

Natascha Loebnitz<sup>\*</sup>, Klaus G. Grunert

Business and Social Sciences, Department of Business Administration, MAPP Centre for Research on Customer Relations in the Food Sector, Aarhus University, Denmark

### ARTICLE INFO

#### Article history:

Received 18 February 2014

Received in revised form 20 August 2014

Accepted 21 August 2014

Available online 30 August 2014

#### Keywords:

Food waste

Purchase intentions

Environmental concern

Social trust

### ABSTRACT

The assumption that consumers prefer cosmetically perfect fruits and vegetables contributes to global food waste, because food retailers refuse to offer abnormally shaped food. This study empirically examines how food shape abnormality affects purchase intentions and how two individual difference variables, environmental concern and social trust, might moderate the food shape abnormality–purchase intention relationship for consumers in China. A representative sample of 212 Chinese consumers indicated their purchase intentions for two fruits and two vegetables with varying levels of food shape abnormality (normal, moderately abnormal, and extremely abnormal). The results demonstrate that food shape influences purchase intentions; consumers are more likely to purchase normally shaped fruits and vegetables than moderately or extremely abnormally shaped food. However, environmental concern and social trust also drive purchase intentions, such that participants with high levels of environmental concern express higher purchase intentions toward abnormally shaped food. Social trust alone is not sufficient to prompt the purchase of abnormal food, but consumers with high social trust and high environmental concern are more likely to purchase. Thus, increasing environmental concern, particularly among consumers with low social trust, might encourage more people to purchase abnormally shaped fruits and vegetables.

© 2014 Elsevier Ltd. All rights reserved.

### Introduction

Throwing away food is like stealing from the table of those who are poor and hungry.

—Pope Francis (McKenna, 2013)

Food waste has become a popular media topic, because of its relationship with sustainability: If food is wasted, the resources employed such as usage of energy (e.g. transportation), chemicals (e.g. pesticides, fertilizers), water, land, and greenhouse gas emissions resulting from food production have been used in vain (Gustavsson, Cederberg, Sonesson, Van Otterdijk, & Meybeck, 2011). Therefore, food waste implicates a negative impact on the environment (Nellemann, 2009). Between 30% and 50% of the world's annual food production (or approximately 2 billion tons per year) never reaches consumers (Gustavsson et al., 2011); in developing countries, as much as 40% of food is wasted at the post-harvest and processing levels, due to poor infrastructure,

<sup>☆</sup> The authors thank Uli Westphal for providing professional photographs used as stimuli.

<sup>\*</sup> Corresponding author. Address: Aarhus University, Business and Social Sciences, Department of Business Administration, MAPP Centre for Research on Customer Relations in the Food Sector, Bartholins Allé 10, 8000 Aarhus, Denmark. Tel.: +45 87165189.

E-mail address: [N.Loebnitz@asb.dk](mailto:N.Loebnitz@asb.dk) (N. Loebnitz).

low levels of technology, and insufficient investments in food production systems. In industrialized countries, 40% of food also gets wasted because consumers demand and retailers supply only cosmetically perfect food (Smithers, 2013). In China, as a result of growing affluence and escalating urbanization (Liu, 2013), food consumption has increased in the past decade, and the country's 1.35 billion people are hungry for more. However, increased food consumption also increases food waste, to an extent that the problem demands immediate action (Liu, Lundqvist, Weinberg, & Gustafsson, 2013). In 2008, daily food waste reached 726 tons in Beijing and 589 tons in Shanghai (Liu et al., 2013).

Expanding Chinese urbanization also has shifted food retailing from fragmented, local markets to larger, centralized supermarkets (Reardon, Timmer, & Minten, 2012) creating a \$148 billion supermarket industry. With the entry of international market players such as Tesco, Carrefour, and Walmart, China's supermarket industry is expected to grow at an annual rate of 12.8%. If Chinese consumers adopt the same unsustainable decision path for judging food on the basis of its physical appearance that their Western counterparts have followed, which constitutes a significant driver of food waste (Gustavsson et al., 2011), global food waste will grow even greater.

In response, this research examines the impact of food shape abnormality on consumers' purchase intentions and the potential moderation by environmental concern and social trust. Although

consumers clearly prefer cosmetically perfect food, leading retailers to discard food that does not live up to such standards, improved understanding of this assumption could better inform retailers' decision making with regard to what food to showcase for consumers. Furthermore, worsening environmental conditions in China have led to increased levels of environmental concern (Hongyan, 2003) and added environmental issues to public agendas. Thus a recent anti-food waste campaign ("Operation Empty Plate") by the government urged Chinese consumers to finish their meals in restaurants rather than leaving half-finished dishes (Hatton, 2013). In turn, consumers with greater environmental concerns might react to food shape abnormality differently than consumers with lower environmental concerns. Whether consumers engage in pro-environmental behavior like reduction of food waste also depends on their level of trust in those who regulate or produce food (e.g. government and food industries (Lee & Holden, 1999)). Because trust has been identified as a barrier to acting pro-environmentally (Kollmuss & Agyeman, 2002) or can leverage the impact of consumers' engagement in environmental behavior (Blake, 1999; Ozaki, 2011), we anticipate that individual levels of trust in institutions (e.g., government, scientists) might influence consumers' purchase intentions toward abnormal food.

The closer we move to an understanding of which individual factors provoke Chinese consumers to purchase abnormally shaped food, the better we will be able to design communication campaigns and education programs aimed to inhibit food retailer's unsustainable custom to only showcase picture perfect food in grocery stores.

### Theoretical approach and hypotheses development

According to cue utilization theory (Olson, 1977), consumers rely on extrinsic and intrinsic cues to infer a product's experience or credence qualities (Grunert, 2005). Intrinsic cues include physical characteristics of the product, such as their color or shape; they cannot be changed without altering the physical product (Akdeniz, Calantone, & Voorhees, 2013). Extrinsic cues instead represent external links, such as brand, price, or product labels. They can be manipulated without modifying the physical properties of the product (Akdeniz et al., 2013). While food may deviate along several sensory characteristics such as color or size, the present study focuses on food shape abnormality as an intrinsic cue.

#### *Food shape abnormality and purchase intentions*

Excluding fresh foods (e.g., fruit, vegetables) that do not conform to a particular visual appearance standard (i.e., shape, color, size) from displays is a common practice in the retail food industry.<sup>1</sup> This practice is based on the belief that consumers associate food abnormalities with lower product quality and therefore avoid purchasing such products. What distinguishes fresh food from other retail products is that their outward appearance represents the main quality cue consumers use (Grunert, Bredahl, & Brunsø, 2004). Most food products also are offered loose or packed in transparent packaging (Deng & Srinivasan, 2013). Thus food's visual appearance, including its color, physical form, presentation mode, and shape (Hurling & Shepherd, 2003; Sobal & Wansink, 2007), determines consumers' initial sensory impression and activates inferences about expected quality (Bello Acebrón, & Calvo Dopico, 2000; Bitner, 1992; Bloch, 1995; Steenkamp & Van Trijp 1996; Wei, Ou, Luo, & Hutchings, 2012), such that they also influence consumers' preferences and pur-

chase intentions (Cardello, 1994; Grunert et al., 2004; Wansink, 2004; Wilkins, Bokaer-Smith, & Hilchey, 1996). When Garber, Hyatt, and Starr (2000, p. 68) manipulate the color and labels on beverages, they find that consumers inextricably associate food color with flavor expectations, to such an extent that it made "the selection of uncharacteristic food color problematical." Similarly, abundant research shows that consumers prefer products that are typical of the category and use typical products as cognitive reference points to analyze atypical products (Veryzer, Robert, & Hutchinson, 1998).

In contrast with this preference for typicality, brand extension literature implies that consumers prefer moderately inconsistent products over congruent or extremely incongruent products if they have sufficient motivation to resolve the incongruity. When consumers recognize an incongruity, their cognitive processing increases (Lee & Schumann, 2004), which can be a satisfying experience (Meyers-Levy & Tybout, 1989) and may activate positive thoughts (Wilson, Lindsey, & Schooler, 2000). Prior knowledge (Peracchio & Tybout 1996) influences this moderate incongruity effect, such that it does not hold for participants with extensive product knowledge, because they already have strong preferences for and purchase intentions toward the norm. Retailers further reinforce this normative knowledge by excluding food with abnormal appearance from displays, so consumers become familiar only with a particular, normal shape for food items. Because the moderate incongruity effect does not hold if consumers are unmotivated to solve the incongruity or possess too much product knowledge, we argue that consumers have higher purchase intentions for normally shaped food, compared with moderately or extremely abnormally shaped food. Extending these findings to the current study, we argue that food abnormality, as an intrinsic cue, affects consumers' purchase intentions, such that they express lower purchase intentions toward moderately and extremely abnormal food. Formally,

H<sub>1</sub>: The greater (lesser) the food abnormality of a product, the lower (higher) consumers' purchase intentions are for that product.

#### *Environmental concerns*

Although several studies reveal a significant increase in people's concerns about environmental issues (Lee, 2008), an attitude-behavior gap persists (Chan, 2001). Gupta and Ogden (2009) posit that consumers' failure to translate positive attitudes toward environmental issues into pro-environmental behavior is because "green buying" creates a social dilemma. When it comes to environmental consumer behavior, consumers are torn between purchasing a product out of self-interest or to maximize group gains, which would require purchasing items produced in environmental friendly ways (Steg & Vlek, 2009).

Until recently, China has not made the environment an issue of great urgency, but some significant changes have emerged in terms of the environmental concerns of its people (Xie, 2011). Despite their relatively limited knowledge of environmental issues (Harris, 2004, 2006), Chinese people indicate positive attitudes toward environmentally friendly behavior (e.g., green purchase intentions, Chan & Lau, 2000). Although reluctant to relinquish their accustomed lifestyle (Sorron, 2010), Chinese people also express strong environmental concerns (Chan & Lau, 2000), which may reflect their collectivist heritage (Hofstede, 1994), in that collectivists tend to collaborate (McCarty & Shrum, 2001). Considering the Confucian emphasis on living in harmony with nature, and given that purchasing abnormally shaped food constitutes pro-environmental behavior, we expect a positive relationship

<sup>1</sup> While it is also a common practice to offer abnormal food (e.g. overripe bananas with brown spots) at lower prices, this kind of abnormality is not the focus of this study as these abnormalities offer additional inferior sensory properties besides the shape.

Download English Version:

<https://daneshyari.com/en/article/4317059>

Download Persian Version:

<https://daneshyari.com/article/4317059>

[Daneshyari.com](https://daneshyari.com)