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LUMINOUS INSIGHTS

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Commentary

Emerging Trends in Sustainable Marketing: A Review of Upcycled Food Research and Opportunities for Growth

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1. Introduction

Upcycled foods, defined as those that utilize ingredients typically discarded close to the source of supply, present a unique opportunity for both the food industry and environmental sustainability. By repurposing surplus products from food production, such as brewers' spent grain or carrot peels, upcycled foods transform these materials into safe and nutritious products for human consumption (Bhatt et al., 2018). This not only reduces waste, but also promotes a more sustainable circular economy (Boz & Robinson, 2021).

The upcycled food industry is integral to the development of a circular food system, as highlighted by the Ellen Macarthur Foundation (2019). A circular food system, in contrast to the current extractive system, focuses on eliminating waste and pollution, circulating products and materials, and regenerating nature. By increasing the use of upcycled ingredients, businesses like fast-moving consumer goods (FMCG) and food retailers can tap into a growing market while reducing their environmental impact. Once considered a niche market, the value of the upcycled food industry reached $50 billion in 2019 (Shirvell, 2019). In 2021, the Upcycled Food Association (UFA) launched the world's first third-party certification program for upcycled food ingredients and products. This Upcycled Certification Program has diverted 840 million pounds of food waste annually and has seen sales of Upcycled Certified™ products grow by 1,046% between 2021 and 2022. Furthermore, upcycled food companies are attracting significant investments, with UFA members receiving $769 million in funding since 2021. At the beginning of 2022, mega-retailer Kroger identified upcycled ingredients as one of the top 10 emerging food trends, emphasizing their role in reducing waste and prioritizing the health of the planet (Barry, 2022).

As consumers become more aware of the environmental impacts of their food choices, they are increasingly seeking sustainable and eco-friendly options (Hutcheon, 2021; Malmqvist, 2022). Upcycled foods, with their potential to reduce waste and promote a circular economy, are well-positioned to meet this demand. Despite the growing interest in upcycled foods, there is still much to learn about consumer perceptions and behavior towards these products. By examining consumer responses to upcycled foods, researchers can develop a deeper understanding of the factors that drive consumer acceptance and uncover potential barriers to their adoption. This understanding is critical for the success of upcycled food products, as it will enable manufacturers, marketers, and policymakers to formulate effective strategies that resonate with consumers and facilitate the integration of upcycled foods into

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mainstream consumption patterns. This commentary will first review current upcycled food research and then discuss several theories that can help advance our understanding of consumer behavior in the context of upcycled foods.

2. Current Upcycled Food Research

Parallel to the growing market demand of upcycled food, upcycled food research has gained increasing attention in academia. Bhatt et al. (2018) was among the first to carry out upcycled food research. They introduced "value-added surplus products (VASP)" as a novel food product category and proposed "upcycled food" as a term for VASP products. Bhatt et al. (2018) tested "upcycled" alongside terms like "reprocessed", "reclaimed", "recycled", "upscaled", and "rescued". They found that "upcycled" served as an extrinsic cue that helped consumers differentiate this novel food product category from conventional and organic foods while understanding the potential benefits of consuming such foods. The authors concluded that understanding consumer acceptance of upcycled foods is crucial for their commercialization. Following Bhatt et al. (2018), upcycled food research attracted more interest from consumer researchers (Aschemann-Witzel & Peschel, 2019; Bhatt et al., 2020; Goodman-Smith et al., 2021; Grasso & Asioli, 2020; Moshtaghian et al., 2021; Perito et al., 2020; Peschel & Aschemann-Witzel, 2020; Spratt et al., 2021). These early inquiries focused on defining upcycled food, assessing market potential of upcycled foods, identifying potential challenges (e.g., quality concerns), and determining factors driving consumer acceptance and willingness to pay for upcycled foods. As the conversation on upcycled foods evolved, researchers expanded upcycled food research by exploring topics such as marketing communication strategies (Aschemann-Witzel et al., 2022; Stelick et al., 2021; Taufik et al., 2023; Yang et al., 2021; Zhang et al., 2021) and how consumers from different backgrounds respond to upcycled foods (Altintzoglou et al., 2021; Aschemann-Witzel et al., 2022; Grasso et al., 2023; Moshtaghian et al., 2023). Recently, researchers investigated different types of upcycled food, such as upcycled pet food (Ye et al., 2022), suggesting further potential for upcycled food research. This growing body of research highlights the increasing importance of upcycled food in both academia and the broader food industry. As the upcycled food industry continues to expand rapidly, most existing research has focused on offering practical guidance for practitioners navigating this nascent market (see Table 1 for a summary).

To further develop the field and attract attention from various disciplines beyond consumer research and food product research, it is crucial to conduct more in-depth, theory-driven research. In the next section, we will discuss theories that may help advance theoretical contributions of upcycled food research.

3. Theories Relevant to Upcycled Food Research

3.1. Product Evaluation

Understanding how consumers engage in product evaluation is pivotal in new product development. The novelty inherent in upcycled food products may require greater cognitive resources for interpretation (Mukherjee & Hoyer, 2001). However, consumers often function as 'cognitive misers' and would therefore prefer routes that minimize cognitive expenditure during information processing (Lynch et al., 1988). In this regard, two key streams of literature - Product Categorization and Cue Utilization - should be taken into account to comprehend consumer evaluation of upcycled foods.

To make sense of new products like upcycled foods, consumers often construct and use categorical representations to classify, interpret, and understand the information they receive about these products (Loken et al., 2008). For instance, when consumers encounter the Tesla Cybertruck, they might classify it as a smart pickup truck running on electricity, based on their prior knowledge about smart systems, pickup trucks, and electric vehicles. Such prior knowledge could lead to formation of certain expectations for the new product prior to the actual consumption (Stayman et al., 1992). In the case of upcycled foods, consumers might associate them with different existing product categories.

Table 1. Summary of Current Upcycled Food Consumer Research

Year	Title	Outlet	Method(s)	Sample	Food Stimuli	T. U. F.	Outcome Variable(s)	P. D.
2018	From food waste to value-added surplus products (VASP): Consumer acceptance of a novel food product category	*Journal of Consumer Behavior*	Online Survey	254 US Participants	Soup, juice, granola bars, and pasta sauce.	Grocery	Food Category Perceptions; Label Appropriateness; Benefit Perceptions	Yes
Findings 1) Consumers considered VASP food products as a unique category compared to conventional and organic food; 2) The term "upcycled" was deemed the most appropriate label for VASP food products; 3) Consumers believed purchasing upcycled foods benefits society, while purchasing organic foods benefits themselves								
2019	How circular will you eat? The sustainability challenge in food and consumer reaction to either waste-to-value or yet underused novel ingredients in food	*Food Quality and Preference*	Online Experiment	491 Danish Participants	Plant-based chocolate drink.	Grocery	Attitude; Expected quality; Expected calories	Yes
Findings Consumers preferred alternatives more than upcycled plant-based drinks, but this lower attitude could be alleviated by communication highlighting the product's sustainability impact.								
2020	Consumer preferences for upcycled ingredients: A case study with biscuits	*Food Quality and Preference*	Online Experiment	106 UK Participants	Biscuits (cookies).	Grocery	Attitude; Purchase intention; Willingness to pay	Yes
Findings 1) Most consumers had little knowledge of upcycled food but would consider purchasing products with upcycled ingredients; 2) Motivation to reduce food waste, followed by curiosity, drove consumers' purchase intentions; 3) Lower prices may promote consumer acceptance of upcycled foods;								

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Table 1 continued

2020	Consumer Attitudes towards Local and Organic Food with Upcycled Ingredients: An Italian Case Study for Olive Leaves	*Foods*	Online Survey	852 Italian Participants	Organic foods with upcycled ingredients	Grocery	Willingness to Try	Yes
Findings Consumers valuing sustainability were more likely to accept organic food products with upcycled ingredients compared to those who valued sustainability less.								
2020	Consumers' willingness to pay for upcycled foods	*Food Quality and Preference*	Online Experiment	592 US Participants	Chicken nuggets, granola bars, ice cream, muffins, and pasta sauce.	Grocery; Dairy	Willingness to Pay	Yes
Findings 1) Consumers showed significantly lower willingness to pay for upcycled food products than conventional alternatives (e.g., upcycled granola bar vs. regular granola bar); 2) Rational messages were more effective in enhancing consumers' willingness to pay for upcycled food products across all tested categories compared to emotional messages;								
2020	Addressing food waste: How to position upcycled foods to different generations	*Journal of Consumer Behavior*	Online Survey	551 US Participants	Only showed definition of upcycled foods and general examples	NA	Purchase Intention; Perceived Quality	Yes
Findings 1) Baby Boomers, followed by Gen Y and Gen Z, showed high willingness to purchase upcycled foods; 2) Gen X indicated reluctance to purchase upcycled foods due to quality concerns;								

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Table 1 continued

2020	Sell more for less or less for more? The role of transparency in consumer response to upcycled food products	*Journal of Cleaner Production*	Online Experiment	3118 Danish Participants	Coffee, sandwiches, and cookies (plant-based option available for each).	Drinks; Bakery	Tendency to Choose; Price Fairness Perceptions	Yes
Findings Transparent communication about production costs may help attenuate price unfairness perceptions of upcycled foods when priced higher.								
2021	Food Waste and Upcycled Foods: Can a Logo Increase Acceptance of Upcycled Foods?	*Journal of Food Products Marketing*	Online Experiment	494 US Participants	Chicken nuggets, and pasta sauce.	Meat; Grocery	Purchase Intention; Perceived Quality	
Findings An appropriately designed logo (circular shape, descriptive, green themed) can enhance quality perceptions of upcycled foods and thereby increasing consumers' purchase intention.								
2021	Do consumers value food products containing upcycled ingredients? The effect of nutritional and environmental information	*Food Quality and Preference*	Online Experiment	430 UK Participants	Biscuits (cookies).	Grocery	Willingness to Pay	Yes
Findings 1) Messages conveying both environmental and nutritional benefits of upcycled foods enhanced consumers' willingness to pay; 2) Providing environmental information had a comparable effect to providing nutritional or combined information;								

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Table 1 continued

2021	Using Imagination to Overcome Fear: How Mental Simulation Nudges Consumers' Purchase Intentions for Upcycled Food	*Sustainability*	Online Experiment	450 Chinese Participants	Cookies, ice cream, and chicken nuggets.	Grocery; Dairy	Purchase Intention	
Findings 1) Asking consumers to picture positive environmental and societal effects after purchasing upcycled foods (mental simulation) enhanced their purchase intention; 2) The main effect of mental simulation was moderated by future self-continuity;								
2021	Impact of sustainability and nutritional messaging on Italian consumers' purchase intent of cereal bars made with brewery spent grains	*Journal of Food Science*	Lab Experiment	159 Italian Participants	Cereal bars.	Grocery	Liking (appearance, aroma, flavor, texture) Purchase Intention; Willingness to Pay	Yes
Findings 1) Blind tasting tests showed upcycled cereal bars were outperformed by conventional cereal bars in most sensory measures; 2) Blind tasting tests showed upcycled cereal bars were perceived as more natural compared to conventional cereal bars; 3) Messages conveying either nutritional or environmental benefits enhanced consumers' purchase intention; 4) Messages focusing on environmental benefits had a greater positive impact on purchase intention compared to messages focusing on nutritional benefits;								
2021	Differentiating Price Sensitivity from Willingness to Pay: Role of Pricing in Consumer Acceptance of Upcycled Foods	*Journal of Food Products Marketing*	Lab Experiment	30 US Participants	Chicken nuggets, granola bars, ice cream, muffins, and pasta sauce.	Grocery; Dairy	Price Sensitivity	Yes
Findings Consumers showed higher price sensitivities towards upcycled foods compared to conventional alternatives.								

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Table 1 continued

2021	Influence of the involvement in food waste reduction on attitudes towards sustainable products containing seafood by-products	*Journal of Cleaner Production*	Online Experiment	1867 UK Participants	Seafood products.	Seafood	Attitudes	Yes
Findings 1) Consumers generally responded positively to upcycled food products when told purchasing these products contributes to food waste reduction or improved public health; 2) Without product definitions and benefits, consumers with high involvement in food waste reduction were more skeptical about upcycled foods; 3) Including information about environmental and health benefits is important in promoting upcycled seafood products.								
2022	Communicating upcycled foods: Frugality framing supports acceptance of sustainable product innovations	*Food Quality and Preference*	Online Experiment	1603 Participants from UK, Denmark, Germany, Portugal, and Italy	Bread, dairy drinks, chips, granola bars, and cookies.	Bakery; Dairy; Grocery	Purchase Intention; Attitudes	Yes
Findings 1) Consumers favored communication messages focusing on frugality; 2) Environmental concerns drove consumer acceptance of upcycled foods, while food neophobia acted as a barrier;								
2022	Is there a market for upcycled pet food?	*Journal of Cleaner Production*	Online Experiment	281 US Participants	Fresh pet food.	Pet food	Purchase Intention; Perceived Quality; Perceived Sustainability	Yes
Findings Pet owners perceived upcycled pet foods as superior in quality and sustainability compared to conventional pet foods at an inexpensive price point but not at an expensive price point.								

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Table 1 continued

2023	Upcycled food choice motives and their association with hesitancy towards consumption of this type of food: a Swedish study	*British Food Journal*	Online Survey	682 Swedish Participants	Only showed definition of upcycled foods and general examples.	NA	Willingness to Consume	Yes
Findings 1) Ethical concerns had the most impact on consumers' motive to choose upcycled foods; 2) Naturalness perceptions and sensory appeal, compared to price perceptions and healthiness perceptions, had a greater influence on consumers' motive to choose upcycled foods.								
2023	Consumer attitudes to upcycled foods in US and China	*Food Quality and Preference*	Online Survey	714 Participants from US and China	Only showed definition of upcycled foods and general examples.	NA	Attitudes; Liking; Willingness to Try; Price Perceptions; Purchase Intention	Yes
Findings 1) More participants in China had previously heard of upcycled foods than in the US, but familiarity was low in both countries; 2) Overall, liking towards upcycled foods was higher in the USA than in China; 3) In the US, the most popular combinations were snack foods with upcycled spent grains and upcycled vegetables in soups, followed by upcycled fruit in snacks. In China, the most popular combinations were fruit in snacks, breakfast foods, and drinks; 4) The preferred byproducts in both countries were plant-based, but dairy was the third preferred choice in China.								

Note: P. D. = Practice-Driven; T. U. F. = Type(s) of Upcycled Food

For instance, because the nature of upcycled foods is to use foods that would otherwise be discarded, upcycled foods may be placed in the "inferior product" category (e.g., imperfect products, clearance products, recycled products). In this case, the upcycled - inferior association may reduce consumers' willingness to try or buy upcycled foods, as they may associate "imperfection" with compromised taste and nutritional value (Mookerjee et al., 2021). The recent launch of the upcycled food certification program adds another layer to how consumers may classify upcycled food products. With this certification, consumers might start drawing parallels between upcycled foods and other food types that also feature established certification programs, such as organic and non-GMO foods. It is also probable that consumers may simultaneously associate upcycled foods with multiple existing categories (e.g., "green", "inferior", "trendy", "certified"), which could potentially lead to varying expectations from consumers (Moreau et al., 2001). Understanding consumer categorization of upcycled foods is crucial, as it serves as the foundation for further exploration. Existing research on consumer expectations and decision-making mechanisms across the mentioned product categories can inform inquiries into upcycled food.

Also driven by a desire to minimize cognitive expenditure, consumers often rely on salient cues in their environment when forming product evaluations, extending beyond the initial categorization stage (Ozanne et al., 1992; Park & Hastak, 1994). A central topic in prior cue utilization research has been on understanding consumer preferences for intrinsic versus extrinsic cues in new product evaluation. Among the first to investigate this matter were Rao and Monroe (1988), who found that the use of price cues (extrinsic) and product cues (intrinsic) for product quality assessment depended on prior knowledge. Specifically, their findings suggested that consumers unfamiliar with the products would more likely rely on extrinsic cues such as price for product quality assessments. Such a preference occurred due to the difficulty in retrieving intrinsic product information from consumers' memory. Recent food research has tended to emphasize the assessment of extrinsic cues, such as package design. Schnurr (2019) , for example, investigated the influence of "cuteness" in food packaging and reported that cute packaging prompts consumers to perceive food products as tastier, albeit less healthy.

In the context of upcycled food, several studies have incorporated the theory of cue utilization into their conceptual frameworks. For instance, Bhatt et al. (2018) examined the impact of three extrinsic product cues (product descriptions, labels, and benefits) on product evaluation, while Bhatt et al. (2021) explored the influence of logos as another extrinsic cue. Asioli and Grasso (2021) investigated both extrinsic (environmental benefits) and intrinsic (nutritional benefits) cues, and Yang et al. (2021) examined mental simulation as an internal cue. Although these studies adopted cue utilization theory, they primarily focused on assessing the impact of the proposed cues. Key areas remain unexplored, including the extent to which consumers rely on cues when evaluating upcycled foods, the reasons behind this reliance, and the types of cues consumers are more likely to depend on, and why. It might be logical to expect consumers to rely more on extrinsic cues due to the novelty of upcycled food products. However, in the realm of food decision making, intrinsic cues, such as nutritional value, sensory experiences, and perceived healthiness, play crucial roles in consumer decision making (Block, 2013; Chakravarti & Janiszewski, 2004; Elder & Krishna, 2010; Finkelstein & Fishbach, 2010; Haws et al., 2017; Hoegg & Alba, 2007; Keller, 1987; Krishna et al., 2014; Krishna & Morrin, 2008). This complexity calls for a deeper understanding of consumer preferences in cue utilization when evaluating upcycled foods.

3.2. Consumer Identities

Shifting our focus from the cognitive processes of product evaluation, we now turn our attention to an equally important facet - consumer identities. Identity-driven factors can significantly impact product evaluation and purchase decisions, as they often serve as vehicles for consumers to express or form their self and social identities (Belk, 1988; Berger & Heath, 2007; Reed

et al., 2012; Stuppy et al., 2019). In the domain of sustainable consumer behavior, Trudel (2018) provided an in-depth review of existing literature, highlighting the importance of self and social identification as they are fundamentally intertwined with sustainable behavior. The process of consumption often serves as a medium for individuals to form and reinforce their identities, predisposing them to favor products that align with their self-concept (Ahuvia, 2005; Escalas & Bettman, 2005).

Although there is no direct research on how making decisions regarding upcycled food products impacts self-identity evaluation, past research on sustainable product consumption suggests that this area warrants further investigation. For instance, Brough et al. (2016) studied the phenomenon of men being less likely than women to purchase sustainable products, finding that consumers may perceive themselves as more feminine after adopting green behaviors due to the association between green behavior and femininity. However, since upcycled food products possess attributes beyond simply being "green," consuming such products may break the green-feminine stereotype. For example, consumers might feel differently about regular flours, conventional sustainable flours (made from grains grown sustainably), and upcycled flours (made from used beer grains). Due to the association between beer products and masculinity (Lynch & Schuler, 1994), compared to conventional sustainable flours, consumers may associate upcycled flours with masculinity more.

In a similar vein, Grewal et al. (2019) studied the decision-making mechanism related to the purchase of unattractive produce and demonstrated that there was a connection between self-perception and the evaluation of unattractive products. Grewal et al. (2019) further suggested that altering self-diagnostic signals and boosting consumers' self-esteem can help reduce the discrepancy in willingness to pay for unattractive versus attractive produce. Intriguingly, this phenomenon of imperfect produce, which represents a category of upcycled foods, carries characteristics that differentiate it from other upcycled items. Consider the difference between an 'ugly' carrot and carrot chips made from such unattractive carrots - one is evaluated in its raw, unprocessed form, while the other is judged in a processed form. This distinction might lead to varying consumer evaluations, raising the question of whether the findings from Grewal et al. (2019) generalize across other upcycled food products.

Besides associating upcycled food products with "imperfect products", consumers may also perceive upcycled foods as "trendy foods" and/or "sustainable foods". Those seeking to differentiate themselves from the majority may choose upcycled foods for their novelty (Berger & Heath, 2007; Lynn & Harris, 1997). In contrast, consumers valuing sustainability as part of their identity may prefer upcycled food for its environmental benefits. As the upcycled food industry evolves, these products will eventually lose their novelty. Hence, when assessing consumer acceptance of upcycled food, it is vital to determine whether high willingness to try or pay is attributed to the products' novelty or sustainability value.

In line with this, consumers may also use consumption or purchase decisions to restore their self-identities. For example, a consumer experiencing moral conflict after purchasing meat might subsequently buy vegan products to restore their self-view as an ethical person (Bublitz et al., 2023). This aligns with findings from Peschel and Aschemann-Witzel (2020) reporting higher willingness to purchase upcycled vice products, such as cookies.

In addition to self-identity, social identity can also influence sustainable behavior (Trudel, 2018). Pinto et al. (2016) found that when individual identity is salient, green consumption is primarily driven by self-transcendent intentions rather than self-enhancing ones. In contrast, when social identity is prevalent, both types of intentions similarly influence green consumption. Yan et al. (2020) explored social class effects on green consumption, concluding that the middle class shows a greater propensity for such consumption due to the fluctuating tension between assimilation and differentiation within this segment's identity. The findings from these identity-based inquiries set the stage for further exploration in upcycled food research. For example, Zhang et al. (2021)

identified generational differences in preferences for upcycled food, particularly, Gen X's significantly lower interest in adopting these products. This calls for an exploration into whether generational identity (Van Rossem, 2019) affects how Gen X processes product information and promotional messages.

3.3. Consumption Occasions

Apart from identity-based factors, consumption occasions - such as self-consumption, sharing, gifting, and donating - can also impact the evaluation and purchase decisions surrounding upcycled foods. Ye et al. (2022) surveyed pet owners and found that they perceived upcycled pet foods as superior in quality and sustainability compared to conventional pet foods at an inexpensive price point, but not at an expensive price point. Pets, not their humans, are the ultimate consumers of pet products. Given this nature, pet owners make purchasing decisions but cannot personally assess the product quality themselves. Consequently, they are likely to infer quality from the price. Findings from Ye et al. (2022) suggest that pet owners expect higher quality at a higher price point, and would be hesitant to purchase upcycled pet foods or have their pets try upcycled pet foods for quality concerns. Besides offering practical guidance for upcycled pet food developers, the research angle of Ye et al. (2022) highlights opportunities to examine the role of consumption occasions in upcycled food research. To the best of our knowledge, all existing upcycled food research, except for (Ye et al., 2022), has focused on upcycled foods for self-consumption. In these cases, the consumers purchase and consume the products themselves, essentially making choices for their own. However, the question arises: how do consumers evaluate upcycled foods when they are not just making choices for themselves?

Will consumers consider purchasing upcycled food products to share with others? Sharing is a fundamental consumer behavior distinct from commodity exchange and gift-giving (Belk, 2009). As a nonreciprocal prosocial behavior, sharing involves distributing one's possessions to others for their use or receiving something from others for personal use. Although nonreciprocal, sharing is a communal act that connects people. Many food products tested in existing upcycled food research are items typically shared with others, such as cookies (Grasso & Asioli, 2020), granola bars (Bhatt et al., 2020), and ice cream (Yang et al., 2021). It is worth exploring whether consumers utilize cues differently when evaluating upcycled food products intended for sharing rather than self-consumption, and if individuals who receive shared upcycled food products evaluate them in the same way as they would evaluate conventional alternatives.

Another consumption occasion to consider is gift giving. Recent research on consumer choices for others has been growing (see Liu et al. , 2019, and Givi et al., 2022, for reviews). The experience of trying unconventional or new products often elicits a sense of excitement among consumers (Min & Schwarz, 2022; Pham & Sun, 2020). These products are considered more hedonic (Babin et al., 1994; Hirschman & Holbrook, 1982), making them desirable options in some gift-giving contexts (see Liu et al., 2019 for a review). In contrast, used products may be less preferred by both gift givers and recipients (Teigen et al., 2005). In this context, it would be interesting to investigate how gift givers evaluate upcycled food products given that upcycled food products can be seen as both "novel" and "used". Additionally, gift-giving research indicates that consumers generally aim to choose products that will be appreciated by the recipients (Belk, 1976; Liu et al., 2019; Otnes et al., 1993; Sherry, 1983; Ward & Broniarczyk, 2016), and that the giver-recipient mismatches may lead to value reduction of the gifts (Givi et al., 2022). The categorization of upcycled foods into various classifications (e.g., "novel," "used," "sustainable," "imperfect", "certified") may augment the divergence in how gift givers and recipients evaluate these products, opening up additional avenues for inquiries.

Lastly, consumers may choose to donate the upcycled foods they have purchased. Similar to buying upcycled foods, donations can be seen as an act of promoting sustainability. However, due to potential quality concerns associated with upcycled food products, it is worth investigating whether donees feel the same way about receiving upcycled food donations as they do when receiving conventional alternatives. This question is crucial because one way to prevent food waste

for conventional food products is to donate them. If donees' acceptance of upcycled food products is low, unused upcycled food products may eventually contribute to waste, defeating their purpose.

3.4. Word-of-mouth

Beyond the act of evaluation and purchasing, an equally important consideration lies in the post-purchase behavior, particularly the power of word-of-mouth. Word-of-mouth (WOM) is a phenomenon in which a consumer's interest in a product is reflected in their own dialogues. WOM generally occurs post-purchase and has been a well-researched topic in new product marketing for decades. Early scholars, such as Brooks (1957) and Engel et al. (1969), recognized the crucial value of word-of-mouth in promoting and selling novel products. By receiving information about products from those who have experienced them firsthand, potential consumers can feel less uncertain about trying new products.

In the past decade, WOM has been found to help form communities (Trusov et al., 2009). Within communities, Kozinets et al. (2010) identified four communication strategies in WOM: evaluation, embracing, endorsement, and explanation. Meanwhile, Berger and Schwartz (2011) found that although WOM affects product diffusion and sales, certain products are discussed more than others. Their research revealed that more interesting products generate more immediate WOM but do not receive more ongoing WOM in the long run. Cheema and Kaikati (2010) examined the psychosocial costs associated with positive WOM and found that it can decrease the uniqueness of possessions. Consequently, compared to those who do not value uniqueness as much, consumers seeking uniqueness may be less willing to engage in positive WOM for products they own and publicly consume.

In today's digital world, researchers have shifted their attention to electronic word-of-mouth (eWOM), which, like traditional WOM, significantly affects the way consumers make purchase decisions (Rosario et al., 2016). In recent years, influencer marketing has attracted considerable attention. Social media influencers can use narratives to create eWOM (Zhou et al., 2021). Unlike traditional advertising, the success of influencer marketing relies on authenticity and relatability of the influencers (Chung et al., 2023). However, the power of influencer marketing can be a double-edged sword. For large, renowned companies, partnering with influencers may serve as a strategy to cultivate or uphold consumer trust, infusing their branding efforts with a touch of personal appeal. Even so, these high-profile brands may struggle to convey authenticity in influencer endorsements, as audiences are well aware that companies typically pay for these recommendations. Conversely, influencer advocacy for smaller, less-known brands can often be perceived as more genuine, enhancing their credibility (What is influencer marketing?, 2023) . Within the upcycled food industry, companies vary greatly in size and stages of development - from established brands such as Del Monte Foods, emerging entities like Imperfect Foods, to startups like Matriark Foods. As such, it would be of value to explore the effectiveness of influencer marketing across companies of diverse scales.

Surprisingly, to the best of our knowledge, there is no existing research on WOM, eWOM, or influencer marketing in the context of upcycled food. This gap presents opportunities for researchers to explore the potential impact of WOM and eWOM on upcycled foods:

1) Explore the impact of eWOM on consumer perceptions of upcycled food. Analyzing online reviews, social media posts, and discussions about upcycled food products can help researchers understand the role of eWOM in shaping consumer opinions.

2) Study influencer marketing's effectiveness in promoting upcycled food. Investigating the role of social media influencers in upcycled food promotion can reveal the potential impact of influencer marketing on consumer awareness and acceptance of these products.

3) Analyze the impact of online communities on upcycled food adoption. Studying the role of online communities in sharing information and experiences about upcycled food products can shed light on how group dynamics and peer influence affect consumer behavior.

By examining the role of traditional WOM, eWOM, and influencer marketing, researchers can gain insights into effective strategies for raising consumer awareness and acceptance of upcycled food products. Furthermore, understanding the unique dynamics of WOM and eWOM in the upcycled food context can help marketers and manufacturers design targeted communication campaigns that foster a positive perception of these sustainable products.

4. Conclusion

As food loss and waste represent a major global challenge, marketing scholars, alongside other industry practitioners such as retailers, can play a crucial role in addressing its extensive economic, social, and environmental effects (Zhang et al., 2022). One promising solution to the food waste crisis is upcycled food. As this product category continues to gain traction, understanding consumer behavior and attitudes towards upcycled food products is vital for marketing researchers. While existing research has provided valuable insights into consumer perceptions and acceptance of upcycled food, there is still much to explore, particularly in the context of consumer behavior theories such as categorization, cue utilization, consumer identities, consumption occasions, and word-of-mouth (WOM).

Categorization theory can offer a deeper understanding of how consumers mentally process and classify upcycled food products. By identifying the categories in which consumers place upcycled foods, researchers can better understand the factors influencing consumer evaluations, preferences, and ultimately, their decision-making processes. This knowledge can help develop targeted communication and marketing strategies that address potential misconceptions or concerns about upcycled food products.

Cue utilization theory provides a framework for examining the extrinsic and intrinsic cues that consumers rely on when evaluating upcycled foods. By investigating how consumers use different cues depending on their categorization of upcycled food products, researchers can gain insights into the factors that drive consumer preferences and choices. This information can guide the design of product packaging, labeling, and promotional materials that effectively communicate the unique benefits of upcycled foods.

Self- and social identity topics present opportunities to examine how consumers perceive themselves and others in relation to upcycled food products. Examining how consumers' self-identity and social context influence their decisions to purchase and consume upcycled food products can enhance our understanding of the complex factors driving consumer behavior. This knowledge can inform the development of communication and marketing strategies that resonate with consumers' identities and cultural values, ultimately supporting the adoption of upcycled food products.

Consumption occasion is another crucial aspect of consumer behavior that has yet to be fully explored in upcycled food research. By examining how consumers approach upcycled food products in different purchase contexts, such as self-use, sharing, gift-giving, or donation, researchers can identify the factors that drive or inhibit consumer acceptance of upcycled foods in various situations. This understanding can help develop targeted strategies that cater to the specific needs and preferences of consumers in different purchase contexts.

Word-of-mouth (WOM), both traditional and electronic (eWOM), is an influential factor in the adoption and diffusion of new products, including upcycled food. Investigating the role of WOM, eWOM, and influencer marketing in shaping consumer perceptions of upcycled food products can provide insights into the most effective communication strategies for promoting these products. By examining the factors that drive positive or negative WOM, researchers can develop strategies to foster more positive discussions and facilitate the spread of upcycled food products.

In summary, the theories of categorization, cue utilization, consumer identities, consumption occasions, and word-of-mouth can serve as valuable lenses through which to advance upcycled food research. By incorporating these theories into future studies, researchers can gain a deeper understanding of the factors that drive consumer behavior towards upcycled

food products and identify the most effective ways to promote their adoption. Ultimately, this research can contribute to the development of targeted communication and marketing strategies that resonate with consumers, drive the growth of the upcycled food industry, and support global efforts to reduce food waste and promote sustainable consumption.

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References

Ahuvia, A.C. (2005). Beyond the extended self: loved objects and consumers' identity narratives. *Journal of Consumer Research*, *32*(1), 171-184. https://doi.org/10.1086/429607

Altintzoglou, T., Honkanen, P., & Whitaker, R.D. (2021). Influence of the involvement in food waste reduction on attitudes towards sustainable products containing seafood by-products. *Journal of Cleaner Production*, *285*, 125487-125487.

Aschemann-Witzel, J., Asioli, D., Banovic, M., Perito, M.A., & Peschel, A.O. (2022). Communicating upcycled foods: Frugality framing supports acceptance of sustainable product innovations. *Food Quality and Preference*, *100*, 104596. https://doi.org/10.1016/j.foodqual.2022.104596

Aschemann-Witzel, J., & Peschel, A.O. (2019). How circular will you eat? The sustainability challenge in food and consumer reaction to either waste-to-value or yet underused novel ingredients in food. *Food Quality and Preference*, *77*, 15-20. https://doi.org/10.1016/j.foodqual.2019.04.012

Asioli, D., & Grasso, S. (2021). Do consumers value food products containing upcycled ingredients? The effect of nutritional and environmental information. *Food Quality and Preference*, *91*. https://doi.org/10.1016/j.foodqual.2021.104194

Babin, B.J., Darden, W.R., & Griffin, M. (1994). Work and/or fun: measuring hedonic and utilitarian shopping value. *Journal of Consumer Research*, *20*(4), 644-656. https://doi.org/10.1086/209376

Barry, C. (2022), Op-Ed: Upcycled Food Is on the Rise. Retrieved from https://foodtank.com/news/2022/07/op-ed-upcycled-food-is-on-the-rise/

Belk, R. (2009). Sharing. *Journal of Consumer Research*, *36*(5), 715-734. https://doi.org/10.1086/612649

Belk, R.W. (1976). It's the thought that counts: a signed digraph analysis of gift-giving. *Journal of Consumer Research*, *3*(3), 155-162. https://doi.org/10.1086/208662

Belk, R.W. (1988). Possessions and the Extended Self. *Journal of Consumer Research*, *15*(2), 139-168. https://doi.org/10.1086/209154

Berger, J., & Heath, C. (2007). Where consumers diverge from others: identity signaling and product domains. *Journal of Consumer Research*, *34*(2), 121-134. https://doi.org/10.1086/519142

Berger, J., & Schwartz, E.M. (2011). What drives immediate and ongoing word of mouth. *Journal of Marketing Research*, *48*(5), 869-880. https://doi.org/10.1509/jmkr.48.5.869

Bhatt, S., Deutsch, J., & Suri, R. (2021). Differentiating price sensitivity from willingness to pay: role of pricing in consumer acceptance of upcycled foods. *Journal of Food Products Marketing*, *27*(7), 331-339.

Bhatt, S., Lee, J., Deutsch, J., & Ayaz, H. (2018). From food waste to value-added surplus products (VASP): Consumer acceptance of a novel food product category. *Journal of Consumer Behaviour*, *17*(1), 57-63. https://doi.org/10.1002/cb.1689

Bhatt, S., Ye, H., Deutsch, J., Ayaz, H., & Suri, R. (2020). Consumers' willingness to pay for upcycled foods. *Food Quality and Preference*, *86*, 104035. https://doi.org/10.1016/j.foodqual.2020.104035

Block, L. (2013). Food decision making. *Journal of Consumer Research*, *39*(5), iv-iv. https://doi.org/10.1086/669343

Boz, Z., & Robinson, J. (2021). Moving toward a more cir-

cular food system via upcycling. *Food Technology*, *75*(9), 53-55.

Brooks, R.C. (1957). Word-of-Mouth" advertising in selling new products. *Journal of Marketing*, *22*(2), 154-161. https://doi.org/10.2307/1247212

Brough, A.R., Wilkie, J.E.B., Ma, J., Isaac, M.S., & Gal, D. (2016). Is eco-friendly unmanly? the green-feminine stereotype and its effect on sustainable consumption. *Journal of Consumer Research*, *43*(4), 567-582. https://doi.org/10.1093/jcr/ucw044

Bublitz, M.G., Catlin, J.R., Jones, A.C., Lteif, L., & Peracchio, L.A. (2023). Plant power: seeding our future with plant-based eating. *Journal of Consumer Psychology*, *33*(1), 167-196. https://doi.org/10.1002/jcpy.1328

Chakravarti, A., & Janiszewski, C. (2004). The influence of generic advertising on brand preferences. *Journal of consumer research*, *30*(4), 487-502. https://doi.org/10.1086/380284

Cheema, A., & Kaikati, A.M. (2010). The effect of need for uniqueness on word of mouth. *Journal of Marketing Research*, *47*(3), 553-563. https://doi.org/10.1509/jmkr.47.3.553

Chung, J., Ding, Y., & Kalra, A. (2023). I really know you: how influencers can increase audience engagement by referencing their close social ties. *Journal of Consumer Research*, (pp. 19-19). https://doi.org/10.1093/jcr/ucad019

Elder, R.S., & Krishna, A. (2010). The effects of advertising copy on sensory thoughts and perceived taste. *Journal of consumer research*, *36*(5), 748-756. https://doi.org/10.1086/605327

Ellen Macarthur Foundation (2019), Cities and Circular Economy for Food. Retrieved from https://ellenmacarthurfoundation.org/cities-and-circular-economy-for-food, accessed date 2023-04-15.

Engel, J.F., Kegerreis, R.J., & Blackwell, R.D. (1969). Word-of-mouth Communication by the Innovator. *Journal of Marketing*, *33*(3), 15-19. https://doi.org/10.1093/obo/9780199756841-0267

Escalas, J.E., & Bettman, J.R. (2005). Self-construal, reference groups, and brand meaning. *Journal of Consumer Research*, *32*(3), 378-389. https://doi.org/10.1086/497549

Finkelstein, S.R., & Fishbach, A. (2010). When healthy food makes you hungry. *Journal of Consumer Research*, *37*(3), 357-367. https://doi.org/10.1086/652248

Givi, J., Birg, L., Lowrey, T.M., & Galak, J. (2022). An integrative review of gift-giving research in consumer behavior and marketing. *Journal of Consumer Psychology*. https://doi.org/10.1002/jcpy.1318

Goodman-Smith, F., Bhatt, S., Moore, R., Mirosa, M., Ye, H., Deutsch, J., & Suri, R. (2021). Retail Potential for Upcycled Foods: Evidence from New Zealand. *Sustainability*, *13*(5), 2624-2624. https://doi.org/10.3390/su13052624

Grasso, S., & Asioli, D. (2020). Consumer preferences for upcycled ingredients: A case study with biscuits. *Food Quality and Preference*, *84*, 103951. https://doi.org/10.1016/j.foodqual.2020.103951

Grasso, S., Fu, R., Goodman-Smith, F., Lalor, F., & Crofton, E. (2023). Consumer attitudes to upcycled foods in US and China. *Journal of Cleaner Production*, *388*, 135919-135919. https://doi.org/10.1016/j.jclepro.2023.135919

Grewal, L., Hmurovic, J., Lamberton, C., & Reczek, R.W. (2019). The self-perception connection: why consumers devalue unattractive produce. *Journal of Marketing*, *83*(1), 89-107. https://doi.org/10.1177/0022242918816319

Haws, K.L., Reczek, R.W., & Sample, K.L. (2017). Healthy diets make empty wallets: The healthy= expensive intuition. *Journal of Consumer Research*, *43*(6), 992-1007. https://doi.org/10.1093/jcr/ucw078

Hirschman, E.C., & Holbrook, M.B. (1982). Hedonic consumption: emerging concepts, methods and propositions. *Journal of Marketing*, *46*(3), 92-101. https://doi.org/10.2307/1251707

Hoegg, J., & Alba, J.W. (2007). Taste perception: More than meets the tongue. *Journal of Consumer Research*, *33*(4), 490-498. https://doi.org/10.1086/510222

Hutcheon, M. (2021). Consumers expect brands to address climate change. *The Wall Street Journal*.

Keller, K.L. (1987). Memory factors in advertising: The effect of advertising retrieval cues on brand evaluations. *Journal of Consumer Research*, *14*(3), 316-333. https://doi.org/10.1086/209116

Kozinets, R.V., De Valck, K., Wojnicki, A.C., & Wilner, S.J.S. (2010). Networked narratives: understanding word-of-mouth marketing in online communities. *Journal of Marketing*, *74*(2), 71-89. https://doi.org/10.1509/jmkg.74.2.71

Krishna, A., & Morrin, M. (2008). Does touch affect taste? The perceptual transfer of product container haptic cues. *Journal of Consumer Research*, *34*(6), 807-818. https://doi.org/10.1086/523286

Krishna, A., Morrin, M., & Sayin, E. (2014). Smellizing cookies and salivating: A focus on olfactory imagery. *Journal of Consumer Research*, *41*(1), 18-34. https://doi.org/10.1086/674664

Liu, P.J., Dallas, S.K., & Fitzsimons, G.J. (2019). A framework for understanding consumer choices for others. *Journal of Consumer Research*, *46*(3), 407-434. https://doi.org/

10.1093/jcr/ucz009

Loken, B., Barsalou, L.W., & Joiner, C. (2008). Categorization theory and research in consumer psychology: Category representation and category-based inference.Handbook of Consumer Psychology. In C. P. Haugtvedt, P. M. Herr, F. R. Kardes, ... (Eds.), *Handbook of consumer psychology* (pp. 133-163). Taylor & Francis Group.

Lynch, J., & Schuler, D. (1994). The matchup effect of spokesperson and product congruency: A schema theory interpretation. *Psychology & Marketing*, *11*(5), 417-445. https://doi.org/10.1002/mar.4220110502

Lynch, J.G., Marmorstein, H., & Weigold, M.F. (1988). Choices from sets including remembered brands: use of recalled attributes and prior overall evaluations. *Journal of Consumer Research*, *15*(2), 169-184. https://doi.org/10.1086/209155

Lynn, M., & Harris, J. (1997). Individual differences in the pursuit of self-uniqueness through consumption. *Journal of Applied Social Psychology*, *27*(21), 1861-1883. https://doi.org/10.1111/j.1559-1816.1997.tb01629.x

Malmqvist, T. (2022), More consumers are serious about climate change. Are business and government listening?GreenBiz. Retrieved from https://www.greenbiz.com/article/more-consumers-are-serious-about-climate-change-are-business-and-government-listening

Min, B., & Schwarz, N. (2022). Novelty as opportunity and risk: a situated cognition analysis of psychological control and novelty seeking. *Journal of Consumer Psychology*, *32*(3), 425-444. https://doi.org/10.1002/jcpy.1264

Mookerjee, S., Cornil, Y., & Hoegg, J. (2021). From waste to taste: how "ugly" labels can increase purchase of unattractive produce. *Journal of Marketing*, *85*(3), 62-77. https://doi.org/10.1177/0022242920988656

Moreau, C.P., Markman, A.B., & Lehmann, D.R. (2001). What Is It?" categorization flexibility and consumers' responses to really new products. *Journal of Consumer Research*, *27*(4), 489-498. https://doi.org/10.1086/319623

Moshtaghian, H., Bolton, K., & Rousta, K. (2021). Challenges for upcycled foods: definition, inclusion in the food waste management hierarchy and public acceptability. *Foods*, *10*(11), 10-10. https://doi.org/10.3390/foods10112874

Moshtaghian, H., Bolton, K., & Rousta, K. (2023). Upcycled food choice motives and their association with hesitancy towards consumption of this type of food: a Swedish study. *British Food Journal*. https://doi.org/10.1108/BFJ-09-2022-0757

Mukherjee, A., & Hoyer, W.D. (2001). The effect of novel attributes on product evaluation. *Journal of Consumer Research*, *28*(3), 462-472. https://doi.org/10.1086/323733

Otnes, C., Lowrey, T.M., & Kim, Y.C. (1993). Gift selection for easy and difficult recipients: a social roles interpretation. *The Journal of Consumer Research*, *20*(2), 229-244. https://doi.org/10.1086/209345

Ozanne, J.L., Brucks, M., & Grewal, D. (1992). A Study of information search behavior during the categorization of new products. *Journal of Consumer Research*, *18*(4), 452-463. https://doi.org/10.1086/209273

Park, J.W., & Hastak, M. (1994). Memory-based product judgments: effects of involvement at encoding and retrieval. *Journal of Consumer Research*, *21*(3), 534-547. https://doi.org/10.1086/209416

Perito, M.A., Coderoni, S., & Russo, C. (2020). Consumer attitudes towards local and organic food with upcycled ingredients: an italian case study for olive leaves. *Foods*, *9*(9), 1-17. https://doi.org/10.3390/foods9091325

Peschel, A.O., & Aschemann-Witzel, J. (2020). Sell more for less or less for more? The role of transparency in consumer response to upcycled food products. *Journal of Cleaner Production*, *273*, 122884. https://doi.org/10.1016/j.jclepro.2020.122884

Pham, M.T., & Sun, J.J. (2020). On the experience and engineering of consumer pride, consumer excitement, and consumer relaxation in the marketplace. *Journal of Retailing*, *96*(1), 101-127. https://doi.org/10.2139/ssrn.3487170

Pinto, C., Nique, D., Herter, W.M.M., Borges, M., & A (2016). Green consumers and their identities: how identities change the motivation for green consumption. *International Journal of Consumer Studies*, *40*(6), 742-753. https://doi.org/10.1111/ijcs.12282

Rao, A.R., & Monroe, K.B. (1988). The moderating effect of prior knowledge on cue utilization in product evaluations. *Journal of Consumer Research*, *15*(2), 253-264.

Reed, A., Forehand, M.R., Puntoni, S., & Warlop, L. (2012). Identity-based consumer behavior. *International Journal of Research in Marketing*, *29*(4), 310-321. https://doi.org/10.2139/ssrn.2176665

Rosario, A.B., Sotgiu, F., De Valck, K., & Bijmolt, T.H.A. (2016). The Effect of Electronic Word of Mouth on Sales: A Meta-Analytic Review of Platform, Product, and Metric Factors. *Journal of Marketing Research*, *53*(3), 297-318. https://doi.org/10.1509/jmr.14.0380

Schnurr, B. (2019). Too cute to be healthy: How cute packaging designs affect judgments of product tastiness and healthiness. *Journal of the Association for Consumer Research*, *4*(4), 363-375. https://doi.org/10.1086/

705029

Sherry, J.F. (1983). Gift giving in anthropological perspective. *Journal of Consumer Research*, *10*(2), 157-168. https://doi.org/10.1086/208956

Shirvell, B. (2019), The upcycled food industry is worth $46.7 billion; here are 11 products you can try at home.Forbes Magazine. Retrieved from https://www.forbes.com/sites/bridgetshirvell/2019/12/19/the-upcycled-food-industry-is-worth-467b-here-are-11-products-you-can-try-at-home/

Spratt, O., Suri, R., & Deutsch, J. (2021). Defining upcycled food products. *Journal of Culinary Science & Technology*, *19*(6), 485-496. https://doi.org/10.1080/15428052.2020.1790074

Stayman, D.M., Alden, D.L., & Smith, K.H. (1992). Some effects of schematic processing on consumer expectations and disconfirmation judgments. *Journal of Consumer Research*, *19*(2), 240-255. https://doi.org/10.1086/209299

Stelick, A., Sogari, G., Rodolfi, M., Dando, R., & Paciulli, M. (2021). Impact of sustainability and nutritional messaging on Italian consumers' purchase intent of cereal bars made with brewery spent grains. *Journal of Food Science*, *86*(2), 531-539. https://doi.org/10.1111/1750-3841.15601

Stuppy, A., Mead, N.L., & Van Osselaer, S.M.J. (2019). I am, therefore i buy: low self-esteem and the pursuit of self-verifying consumption. *Journal of Consumer Research*, *46*(5), 956-973. https://doi.org/10.1093/jcr/ucz029

Taufik, D., Rood, R., Dagevos, H., Bouwman, E.P., & Reinders, M.J. (2023). Effects of abstract and concrete communication on moral signalling and purchase intention of upcycled food products.Cleaner and Responsible Consumption. *Cleaner and Responsible Consumption*, *8*, 100110-100110. https://doi.org/10.1016/j.clrc.2023.100110

Teigen, K.H., Olsen, M.V.G., & Solås, O.E. (2005). Giver-receiver asymmetries in gift preferences. *British Journal of Social Psychology*, *44*, 125-144. https://doi.org/10.1348/014466604x23428

Trudel, R. (2018). Sustainable consumer behavio. *Consumer Psychology Review*, *2*(1), 85-96. https://doi.org/10.1002/arcp.1045

Trusov, M., Bucklin, R.E., & Pauwels, K. (2009). Effects of word-of-mouth versus traditional marketing: findings from an internet social networking site. *Journal of Marketing*, *73*(5), 90-102.

Van Rossem, A.H.D. (2019). Generations as social categories: An exploratory cognitive study of generational identity and generational stereotypes in a multigenerational workforce. *Journal of Organizational Behavior*, *40*(4), 434-455. https://doi.org/10.1002/job.2341

Ward, M.K., & Broniarczyk, S.M. (2016). Ask and you shall (not) receive: close friends prioritize relational signaling over recipient preferences in their gift choices. *Journal of Marketing Research*, *53*(6), 1001-1018. https://doi.org/10.1509/jmr.13.0537

What is influencer marketing? (2023). Retrieved from https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-influencer-marketing

Yan, L., Keh, H.T., & Chen, J. (2020). Assimilating and differentiating: the curvilinear effect of social class on green consumption. *Journal of Consumer Research*, *47*(6), 914-936. https://doi.org/10.1093/jcr/ucaa058

Yang, X., Huang, Y., Cai, X., Song, Y., Jiang, H., Chen, Q., & Chen, Q. (2021). Using imagination to overcome fear: how mental simulation nudges consumers' purchase intentions for upcycled food. *Sustainability*, *13*(3), 1130. https://doi.org/10.3390/su13031130

Ye, H., Bhatt, S., Deutsch, J., & Suri, R. (2022). Is there a market for upcycled pet food. *Journal of Cleaner Production*, *343*, 130960. https://doi.org/10.1016/j.jclepro.2022.130960

Zhang, J., Wedel, M., & Bloem, M.W. (2022). Mitigating food waste in the retail supply chain: Marketing solutions. *Journal of Sustainable Marketing*, (pp. 1-11).

Zhang, J., Ye, H., Bhatt, S., Jeong, H., Deutsch, J., Ayaz, H., & Suri, R. (2021). Addressing food waste: How to position upcycled foods to different generations. *Journal of Consumer Behaviour*, *20*(2), 242-250. https://doi.org/10.1002/cb.1844

Zhou, S., Barnes, L., Mccormick, H., & Cano, M. (2021). Social media influencers' narrative strategies to create eWOM: A theoretical contribution. *International Journal of Information Management*, *59*, 102293. https://doi.org/10.1016/j.ijinfomgt.2020.102293