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SPECIALTY SECTION

This article was submitted to
Nutrition and Sustainable Diets,
a section of the journal
Frontiers in Sustainable Food Systems

RECEIVED 14 December 2022

ACCEPTED 13 February 2023

PUBLISHED 28 February 2023

CITATION

Meeptom S, Jaratmetakul P and Boonkum W
(2023) Examining the effect of consumer
experience on co-creation and loyalty for
healthy meat consumption.
Front. Sustain. Food Syst. 7:1123984.
doi: 10.3389/fsufs.2023.1123984

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Examining the effect of consumer experience on co-creation and loyalty for healthy meat consumption

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Introduction: The eating behavior of consumers throughout the world is changing rapidly due to increasing recognition of healthy food consumption. This study attempted to examine the role of perceived experience consumption responses in the context of healthy food consumption. In archiving the objectives of the study, this research investigates the relationship among the perception of customer sensory experience, customer co-creation, and customer loyalty (e.g., spreading positive word of mouth and recommending the food) of KCU1 premium chicken. This study also examines the moderating role of health consciousness in consumers' decision-making processes.

Methods: A purposive sampling survey of 487 customers who had consumed healthy chicken meat products, namely, KCU1 premium chicken in Thailand were collected. Multi-group analyses of the consumption experience (e.g., first-time and repurchase consumers) were examined. A structural equation model (SEM) was used to test the proposed hypotheses.

Results: The study found that customer co-creation has a significant positive effect on customer loyalty. In addition, the relationship between customer sensory experience and customer co-creation was moderated by health consciousness. This suggests that sensory experiences and health conscious customers are more prone to indulge in co-creation behavior. Moreover, there are different levels of customer co-creation behavior and loyalty among different prior consumption experiences.

Discussion: Based on these findings, including the contingency role of health consciousness in consumers' decision-making processes can be more effectiveness. These findings can provide an important reference for the producer of a healthy food-marketing strategy.

KEYWORDS

KKU1 premium chicken, health consciousness, multi-group SEM, customer experience, customer co-creation

Introduction

Recently, consumers' food purchases and consumption patterns have changed due to concerns about their health and nutrition (Lim et al., 2021). Specifically, many people realize that consuming unhealthy food may increase the rates of certain diseases, such as diabetes, heart disease, and some types of cancer (Thomsen and Hansen, 2015). Therefore, consumers are more discerning in their food preferences and demands to improve their health and

wellbeing (Lima et al., 2021; Lim et al., 2021). Chen (2013) also stated that good health is a primary reason that motivates consumers while making their food choices. According to Raine et al. (2018), “healthy foods” involve a nutritional standard that emphasizes the reduction of unhealthy fats. In contrast, “unhealthy food” consumption is an increasingly proven risk factor for a variety of chronic diseases and can be characterized by, for example, consuming too many calories, ultra-processed food, and food high in fat (Sandoval-Insausti et al., 2020; Lim et al., 2021; Pagliai et al., 2021). Because unhealthy food provides people with few health benefits, consumers prefer to purchase healthier items and ingredients (e.g., selecting healthy meat choices, brown rice, and organic vegetables; Wongtangintharn et al., 2021).

With the growing awareness of healthy consumption behavior, previous studies have been dedicated to researching insightful knowledge about nutritional information on menus, the quality of healthy food menus, and nutritional labeling (Sharma et al., 2011; Kim et al., 2013; Zhong and Moon, 2020). However, research that incorporates the concept of customer perception in examining issues in consumers’ responses to sensory experience consumption evaluations of healthy food is still lacking. Customers may perceive the value of healthy food by referring to sensations related to the consumption experience, consisting of sight, sound, touch, taste, and smell (Krishna and Elder, 2021). For a more precise understanding of the way a consumer experiences healthy food, it is necessary to investigate how the senses interact as part of a healthy food tasting experience itself, and how it potentially affects purchase intention and/or willingness to pay for a food product (Campo et al., 2021).

Furthermore, the post-consumption evaluation of food experiences may contribute emotional meaning that incorporates a whole range of emotions that can be acquired value for customers (Poullsson and Kale, 2004). Previous research suggests that with a high level of symbolic and experiential elements of purchasing and consuming a certain product, customers may co-create value through their experience, which is related to their interaction with the products (Ramaswamy, 2008). Specifically, experience is not a material or immaterial product to be sold and transferred from company to customer; rather, it is co-created through the customer’s involvement and engagement with a sensory and emotional response (Cova and Salle, 2007; Spina et al., 2012). Based on this logic, with a high level of customer interaction or involvement with products, customers increase their experience, which results in co-creating the value of the experience with a company or producer.

With respect to the perceived sensory experience of products, the point of sale is where the experiential quality of the products (e.g., food) may facilitate the value of the co-creation mechanism. At the point of sale, experiences that include sensory stimuli, information, and the quality of a product are created by combining numerous elements (Lemon and Verhoef, 2016). This research focuses on sensory stimuli that reflect product quality at the point of sale and which may trigger value co-creation processes through the development of a customer experience. In addition, it is necessary to understand the driving mechanism of health consciousness in increasing or decreasing customer decision-making processes. The consumption experience route may contribute to customer loyalty to a

product. This study adopts a multi-group structural equation model (SEM) to examine (1) the customer sensory experience route that can enhance the customer co-creation and loyalty of Thai consumers to healthy food and (2) whether there are significant differences in the impact of sensory experience on different consumption experiences (such as between first-time and repurchase customers).

Hypothesis development

The concept of consumer experience

Consumer experience plays an significant role in creating holistic customer value and a sustainable competitive advantage (Jain et al., 2017; Mylan, 2018). Crosby and Johnson (2007) found that providing a pleasurable customer experience increases the level of customer loyalty. Based on a review of the literature on customer experience, Holbrook and Hirschman (1982) firstly conceptualize experience and believed that experience can explain customer behavior through the overall consumption experience. Furthermore, Carbone and Haeckel (1994) define consumer experience as the cumulation of customer perception during consuming, acquiring, using, and feeling from their interaction with a product or goods. Some scholars suggest that experience is considered highly multi-dimensional and sensory, including a dynamic interplay between the brain and each of the five senses, consisting of visual and auditory cues, smells, tastes, and tactile sensations (Crofton et al., 2021). Although there is no consensus about the definition and concept of consumer experience, scholars also agree that during the entire process of decision-making and consumption chain involving an integrated series of interactions with objects that influence cognitive, affective, sensorial and behavioral responses form the cumulative feelings, perceptions and attitudes which defined as customer experience (Lemon and Verhoef, 2016; Jain et al., 2017).

Understanding how customer experience influences consumer behavior is key, as it is an indicator of actual customer responses and consumption behavior. Customer perception of positive experience toward a product or service can prove vital for building long-term relationship (Bilgihan et al., 2016), such as by influencing customer engagement and repurchase intention (Brodie et al., 2013; Zhang et al., 2019). In doing so, the concept of customer experience has received increasing attention in various disciplines, including marketing and food consumption. Specifically, in the context of food consumption, consumers’ decision-making processes regarding food consumption have changed because they may feel guilty of eating unhealthy food from the marketplace and increasing epidemic and non-nutritious ingredients (Howlett et al., 2012; Hur and Jang, 2015). For example, Oakes (2005) suggests that eating unhealthy foods is considered to be both highly caloric and rich in fat. Furthermore, some scholars state that eating behavior and food choices affect health-related behavior. Some people may eat unhealthy food products, which increases the risk of chronic diseases and health problems (Adler and Matthews, 1994; Leow et al., 2018). Therefore, consumers’ decision-making processes in food consumption affect the experience of eating, which may become an individual’s memory along with other

cues such as feeling, personal interest in health concerns, and consumption behavior.

Previous research on food consumption suggests that the consumption experience of food products may consider sensory experiences such as taste, smell, and appearance. Specifically, sensory experience with selecting food usually occurs only after the food has been bought and prepared (Grunert et al., 2004). For example, Torrico (2021) reveals that the evaluation of sensory experience related to food choice plays an important role in generating the hedonic and emotional responses of consumers toward products. Moreover, consumers also seek a food product with new ingredients that relate to the sustainability of food production systems and improved health (Torrico, 2021). In other words, the perceived quality of food products, such as tenderness, juiciness, and flavor, may increase the level of positive experience of eating behavior (Miller et al., 1995) and contribute to the behavioral intention of consumers, such as repurchase intention and advocacy behavior. For these reasons, to improve the quality of food consumption, food producers should understand the trend of consumer behavior related to food consumption. Filieri (2013) suggests that receiving constructive feedback from a certain customer can assist food producers or firms to improve their products and also express customer's needs and desires. Providing feedback or information about food consumption for improvement is identified as a resourceful co-creation behavior. When customers experienced equivalent positive, negative and ambivalent, they tend to share feedback and ideas for product improvement (Wu and Gao, 2019). Therefore, understanding customer sensory experiences may help determine how they perceived actual experiences related to food consumption, which generates their emotions, feelings, and behavior.

Customer co-creation behavior

Previous research has suggested that customer experience can lead to customer behavioral responses. When customers perceive positive emotions toward a product (i.e., food items), they are motivated to engage in prosocial behaviors, such as cooperation, helping, and referral (Cavanaugh et al., 2015). In contrast, if customers perceive negative emotions toward a product, they will engage in behaviors such as switching, avoidance, and destruction (De Hooge et al., 2017). Therefore, scholars suggest that when customers feel delight with a product, they may engage positively in co-creation activities. Specifically, positive feelings increase customers' tendencies to engage in advocacy, feedback, and referrals, while complaints lead to negative emotions (Filieri, 2013; Wen et al., 2018). Therefore, customer experience plays a critical role in fostering customer co-creation.

Füller and Bilgram (2017) define co-creation as product development resulting from customer participation. This refers to at all stages of the service or product development process; customers can actively participate in the generation and evaluation of ideas. In the innovation process, for example, market information is actively integrated with this form of co-creation. Co-creation is not limited to the interplay between companies and consumers in formal innovation processes, but also includes the mutual development of value in daily consumption situations.

However, from a customer's perspective, there is no fixed or clear boundary between these forms of co-creation (Nysveen and Pedersen, 2014).

One characteristic of co-creation is the degree to which consumers actively participate with companies in improving existing solutions or exploring new solutions to gain more value for both the consumer and the company. Through developing the interaction and dialogue elements of co-creation, mutual knowledge, and understanding, both a company's ability to provide what the consumers want and the consumers' ability to choose or adapt services that fit their needs are improved.

Recent literature on creation views co-creation only from the perspective of the production process. An understanding of creation within the context of the customer's purchasing and consumption is also necessary (Strandvik et al., 2012). Consistent with Strandvik et al. (2012) and Saarijärvi et al. (2013) suggest that customers are not passive objects of marketing actions, but rather are resources actively participating in the process.

Drawing on a service-dominant logic perspective, customer co-creation is considered a fundamental unit of exchange between the customer and a product or service. Customers' skills and knowledge affect the process of creation (Vargo and Lusch, 2004). Thus, co-creation can be defined as a business concept that strives to capture this critically important and topical evolution, where the boundaries between firms and customers become more blurred owing to the continuous redefinition of their roles. Thus, we hypothesized the following:

H1: Customer sensory experience has a significantly positive impact on co-creation.

Customer loyalty

Due to the different coexisting perspectives in its conceptualization, customer loyalty is a complex construct (Majumdar, 2005). Generally, loyalty is defined as a commitment to repurchase a preferred product or service in such a way as to promote its repeated purchase. Loyal customer behavior consists of repurchase actions toward the same service brands whenever possible and also recommending those brands and maintaining a positive attitude about them (Kandampully and Suhartanto, 2000).

According to the literature, the concept of customer loyalty considers two perspectives: a behavioral view and an attitudinal view (Kumar et al., 2006). From a behavioral perspective, loyalty is expressed in actions. Repeated purchasing is an indicator of customer loyalty. Under an attitudinal approach, loyalty is composed of different positive personal emotions of consumers toward a product, service, or retailer. For example, although customers may not repeat the purchase of a product or service, recommending the services of their favorite brands to other potential customers is an expression of attitudinal loyalty (Kursunluoglu, 2014).

Attitudes can refer to a customer's preferences for a brand, their intentions to purchase, and their recommendations to third parties. Attitudinal loyalty does not guarantee that customers will buy products or services. However, word of mouth contributes to others gaining a positive image of a business.

Behavioral loyalty is “a substantial element,” whereas attitudinal loyalty is “a psychological construct” (Cheng, 2011). Previous research has identified a positive relationship between attitudinal loyalty and behavioral loyalty. When customers experience a strong experience in the delivery of a product, they tend to use it in their feedback or advocacy (Beatty et al., 1988). Therefore, customer co-creation may act as a kind of switching barrier that influences customers’ loyalty. Thus, we hypothesized the following:

H2: Customer co-creation behavior has a significantly positive impact on customer loyalty.

Health consciousness

Engaging in healthy behaviors and being self-conscious about health motivate people to improve or maintain their health and quality of life and prevent illness (Newsom et al., 2005). Health consciousness is a motivational component that stimulates consumers to undertake health actions (Michaelidou and Hassan, 2008). Health-conscious consumers are concerned about their health. They strive to enhance or sustain their states of wellbeing by engaging in healthy behaviors, such as consuming healthy food. Therefore, taking heed of an individual’s health consciousness is important in the co-creation of health interventions and in segmenting the target public, because it determines their responses to health information and sources of health information. Thus, we hypothesized the following:

H3: Health consciousness has a significantly positive impact on customer co-creation.

Previous research has found that health consciousness encourages preventive health care (Jayanti and Burns, 1998), affects attitudes toward customer loyalty (Lockie et al., 2002), and is significantly correlated with the need for functional foods (Kapoor and Munjal, 2017). Additionally, consumers interested in health consciousness have an ever-increasing awareness of the value of gaining knowledge (Roddy et al., 1996). Moreover, Huang (2014) suggests that health consciousness changes consumer preferences, thus influencing food purchasing decisions. Evidence from existing studies illustrates that health consciousness affects consumption, attitudes, behaviors (Royne et al., 2014), and word of mouth (WOM) (DiPietro et al., 2016). Thus, we hypothesized the following:

H4: Health consciousness moderates the relationship between customer experience and customer co-creation.

Differences between first-time and repurchase customers

Whether an individual is a first-time or repeat customer when purchasing a product (i.e., a food item) is of particular importance

when evaluating perceptions of product (food) consumption. An assumption of this perspective is that customers with past experience of a food product will have more familiarity with it. In addition, Marks and Olson (1981) posit that because customers with more experience related to a product have more familiarity than those with no experience or limited experience, cognitive evaluations of the product may differ between the two groups. Therefore, the expectations of individuals who regularly use a product may differ from those who do not. In contrast, first-time customers with less familiarity of products likely have fewer core cues for assessing quality than repurchase customers, as the former lack this previous experience (Badu-Baiden et al., 2022). Therefore, previous experience is a crucial factor in identifying customer experiences in terms of drivers and consequences.

First-time and prior experience with a product affects customer responses, such as feelings and emotional responses, as well as individual motivation. In the case of food products, for example, product labels, information, and reviews are significant sources of motivation for first-time customers; positive experiences toward a product can be higher for repurchase customers (Bentsen and Pedersen, 2021).

Furthermore, the assessment of product experience includes a high level of subjectivity based on the customers’ own personalities and beliefs, such as health concerns (Apaolaza et al., 2018). Customers may create their conceptual understanding based on their subjective perceptual states and previous experiences. A food product, especially a healthy food product, creates a new experience for customers who are not familiar with it and contributes differently to the development of long-term relationships with those customers who repurchase the experience of consuming the product (Cossío-Silva et al., 2016).

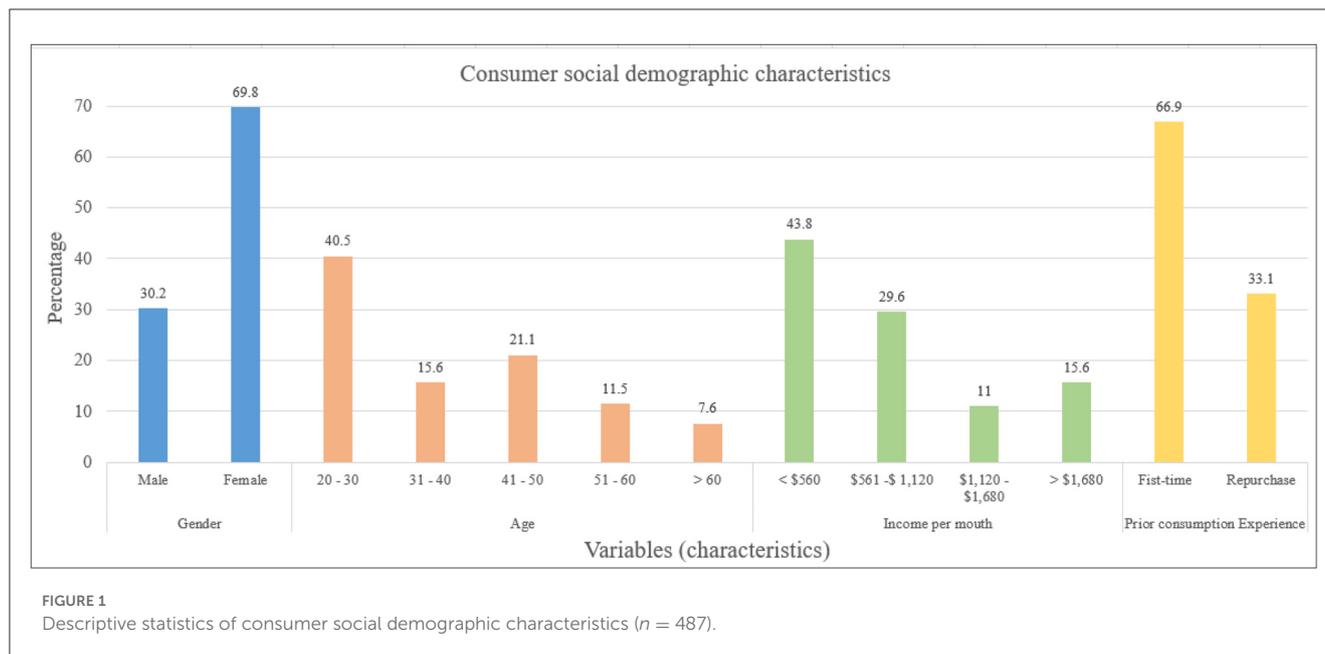
Concerning the outcomes of customer experiences in the analysis of customer co-creation, first-time customers have different ideas from those with more knowledgeability. Repurchase customers tend toward more quality product experiences (Al-Weqaiyan, 2005). Moreover, there are also differences in loyalty linked to co-creation between first-time and repurchase customers. Although it has not been shown that these variations are always in the same direction, loyalty depends on expectations. Therefore, the following hypothesis was proposed:

H5: Past consumption experience moderates the relationships analyzed in the conceptual model; that is, there are significant differences in the relationships analyzed between first-time and repurchase customers.

Methods

Questionnaire design

The measures used in this study were drawn from the literature and adapted as appropriate for the context of the study. The use of existing measurement items helped to ensure the reliability and validity of the survey instrument. The respondents were asked to respond regarding their sensory experience, co-creation behavior, health consciousness and loyalty on a 5-point Likert-type scale (1



= strongly disagree, 5 = strongly agree). To measure customer sensory experience, four items were adapted from Schmitt et al. (2015). Five items were adapted from Nysveen and Pedersen (2014) to measure customer co-creation behavior. This study used six items from Troy and Kerry (2010) to measure health consciousness. Finally, from Harrigan et al. (2018), the study adapted five items for measuring customer loyalty. Demographic profiles included age, gender, income, and previous experience with premium chicken consumption. The questionnaire instrument was examined for logic, relevance, and validity by marketing academics. A few wording issues called for minor revisions, and the relevant material was slightly altered and improved. No major issues were reported. After receiving feedback from the academics, the measurement items were assessed in terms of their readability, comprehension, logic and relevance. A pilot test was conducted with a sample of 30 to determine item comprehension and readability. As a result, no major concerns were reported.

Data collection

Consuming healthy and nutritional food and maintaining a healthy lifestyle are growing trends worldwide (Sun-Waterhouse, 2011). Developing and providing healthy food plays an important role in preventing chronic diseases and obesity and improving people's health and wellbeing (Kasikorn, 2017).

Purposive sampling and a self-administered survey were used to collect data due to the research-specific target population. The target population consisted of customers who had consumed healthy chicken meat products, namely, KCU1 Premium Chicken in Thailand. KCU1 Premium Chicken is a new product developed by the Faculty of Agriculture at Khon Kaen University, Thailand. The distinct characteristics of this type of chicken meat are that it is low in uric acid, low fat, and low cholesterol (Boonkum et al., 2020). KCU1 Premium Chicken is considered a healthy food product. A total of 487 responses to the survey were collected.

Furthermore, one common latent factor was created to ensure that the measurement items were not impacted by a common method bias. The relationships with the observed variables were then examined. The results of this procedure suggest that none of the measures was influenced by a common method bias.

Research methods

The data analysis in this study was divided into three steps. First, the reliability and validity of the variables were tested to ensure the goodness of fit of the structural model. Second, the proposed hypotheses of the study were tested using SEM to verify the relationship between customer sensory experience, customer co-creation behavior, health consciousness and customer loyalty. Finally, a multi-group SEM was used to analyse the regulation of different consumption experiences (first-time and repurchase customers) of KCU1 premium meat chicken. Multi-group SEM analysis can explore whether the route model suitable for one sample is also suitable for other samples.

Results

Descriptive statistics analysis

As shown in Figure 1, the number of female samples (69.8%) is greater than that of male samples (30.2%), which is consistent with previous research results in which women were the main buyers of healthy food and ingredients (Moore et al., 2022). The respondents aged around 20–30 years old accounted for the largest proportion, which means that consumers prefer searching for healthy food and ingredient consumption. This result is consistent with Sultan et al. (2020). The monthly income was around \$560 US. Of these, 69.2% of the sample were first-time purchases of KCU1 premium meat chicken, and 33.1% had repurchased the KCU1 premium meat chicken at least two times. Overall, the

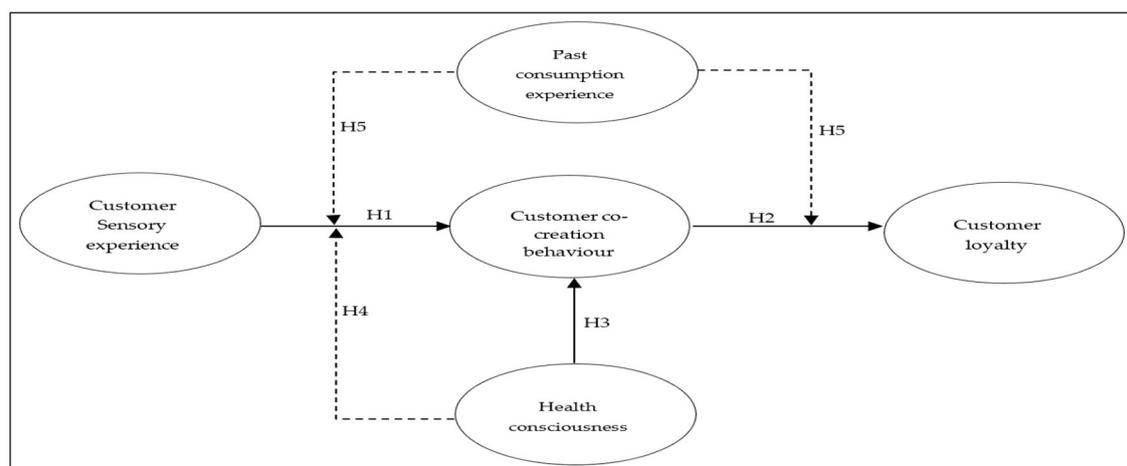


FIGURE 2
The conceptual framework.

survey samples in this study are more consistent with actual health food consumption in the marketing and food literature and can contribute to further analysis.

Reliability and validity test of the samples

This study used the Amos 22 software to test the conceptual model proposed in Figure 2. First, an exploratory factor analysis (EFA) was conducted using a maximum likelihood model with a promax rotation to determine whether all constructs' items were correctly loaded. Items that were incorrectly loaded or loaded across multiple factors were removed to ensure the data's unidimensionality (Meeprom and Chancharat, 2022). The data were then subjected to a two-step analysis method, with the first step consisting of confirmatory factor analysis (CFA). This was done to calculate the validity and reliability of the constructs. The convergent validity results are shown in Table 1. As shown in Table 1, the Cronbach's alpha (α), composite reliability (CR), and average variance extracted (AVE) values were all above the accepted minimum thresholds (0.7 for α and CR and 0.5 for AVE), while the factor loadings ranged from 0.636 to 0.868 (Hair et al., 2018). The model further displayed good discriminant validity as shown in Table 2, as all the squared AVE values were larger than their shared correlations, and the maximum shared squared variance MSV values were lower than their construct's AVE (Fornell and Larcker, 1981). The measurement model displayed a satisfactory fit [$\chi^2/df = 1.957$, goodness of fit (GFI) = 0.963, comparative fit index (CFI) = 0.988, root mean square residual (RMR) = 0.023, root mean square error of approximation (RMSEA) = 0.44].

Test of the measurement model

Because the model was deemed appropriate and fit the data well, the next step was to check the structural model and test the study's hypotheses. The model displayed a good fit ($\chi^2/df = 1.957$, GFI = 0.963, CFI = 0.988, RMR = 0.023, RMSEA =

0.44). The model was thus used to test the direct effect hypotheses; the results are presented in Table 3. H1 and H3 were found to be significant, whereas H1 and H4 were not. Co-creation had a statistically significant direct effect on loyalty; thus, H2 was supported. Consumer perception experience had a negative effect on co-creation; therefore, H1 was rejected. The moderate effect of consumer perception experience and health consciousness had a statistically significant effect on co-creation; thus, H3 was supported. In the model, 35.8% of the variance was explained by co-creation ($R^2 = 0.358$), and 89.2% of the variance was explained by loyalty ($R^2 = 0.892$). This shows that the structural model had strong explanatory power of consumer loyalty's relationship with KKU1 Premium Chicken.

A multi-group analysis (MGA) uses categorical variables to test whether they potentially affect and react to the model differently (Hair et al., 2018). This research used multi-group analysis to aid academics and managers in understanding the differences between premium chicken consumption and loyalty. To test the differences between *ever-* and *never-*consumed premium chicken, the structural models were run with all paths equally constrained to determine the chi-square difference between the groups. If there was statistical significance, individual hypothetical paths were then constrained to be equal to determine the differences between these groups (Thaichon et al., 2018). The results indicated that there was a statistically significant difference between *never-* and *ever-*consumed [$\Delta\chi^2(16) = 733.967$, $p < 0.001$]. Hence, H5 was supported. Consequently, for these groups, the individual paths were constrained, but there were no significantly different individual paths for the consumption experience groups. The effects of co-creation on loyalty were significantly different [$\Delta\chi^2(4) = 1.160$, $p = 0.885$] (Table 4). These paths exhibited differences between *never-* and *ever-*consumed. A particular focus was on the significant differences in how co-creation affects loyalty for consumption experience groups.

Moreover, the model's explanatory power of co-creation and loyalty was first-time consumption of KKU1 premium chicken (explaining 35.8 and 46.6% of the variance, $R^2 = 0.358$ and 0.466), and for repurchase consumption of KKU1 premium

TABLE 1 Results of measurement model analysis (n = 487).

Construct and Item	FL	α	CR	AVE
Customer sensory experience (CSE)		0.804	0.874	0.793
CPE1: The mellowness of taste	0.802			
CPE2: The meat from tasting	0.884			
CPE3: Intention to buy	0.851			
CPE4: Recognizing that it is a healthy chicken	0.636			
Customer co-creation behavior (CCB)		0.909	0.933	0.857
Co1: I told the producers how to better meet my needs.	0.868			
Co2: I will notify producers if the product is difficult to find.	0.863			
Co3: I will let the producers know when the quality of the product is not the same.	0.833			
Co4: I will recommend this product to other consumers if needed.	0.877			
Co5: Can I explain to other consumers what kind of products the producers' offers?	0.844			
Health Consciousness (HC)		0.872	0.906	0.783
HC1: I choose my food carefully to ensure good health.	0.782			
HC2: I consider myself a health-conscious person.	0.848			
HC3: I often think about health issues.	0.863			
HC4: My daily meals are balanced nutrition.	0.798			
HC5: I try to avoid eating foods high in cholesterol.	0.762			
HC6: I try to avoid stressful situations.	0.646			
Customer loyalty (CL)		0.863	0.904	0.807
Lo1: When the opportunity arises, I will recommend others to purchase this product.	0.736			
Lo2: I enjoy discussing this product with others.	0.821			
Lo3: I post pictures of food made from this product on my social media.	0.848			
Lo4: I made more people buy this product through social media.	0.827			
Lo5: I try to help spread the word about this product in the best possible way.	0.804			

FL, factor loadings; α , Cronbach's Alpha; AVE, average variance extracted; CR, composite reliability.

TABLE 2 Results of the discriminant validity test (n = 487).

	CR	AVE	MSV	CSE	CCB	HC	CL
Customer sensory experience (CSE)	0.874	0.793	0.516	0.629			
Customer co-creation behavior (CCB)	0.933	0.857	0.543	0.523***	0.734		
Health consciousness (HC)	0.906	0.783	0.575	0.582***	0.499***	0.613	
Customer loyalty (CL)	0.904	0.807	0.521	0.567***	0.757***	0.568***	0.651

CR, Composite Reliability; AVE, Average Variance Extracted; MSV, Maximum Shared Variance. AVE square roots are shown in bold with correlations below. ***All correlations significant at the 0.001 level (2-tailed).

TABLE 3 Results of the hypothesis test (n = 487).

Hypotheses	Estimates	CR	p-value	Hypothesis support	
H ₁	CSE → CCB	-0.385	-7.183	***	Rejected
H ₂	CCB → CL	0.737	14.846	***	Supported
H ₃	CSExHC → CCB	0.159	10.703	***	Supported
H ₄	HC → CCB	0.018	0.305	0.761	Rejected

***p < 0.001; CSE, customer sensory experience; CCB, customer co-creation behavior; HC, health consciousness; CL, customer loyalty.

TABLE 4 MGA test results.

Paths	First-time consumption (n = 326)			Repeat consumption (n = 161)		
	DF	CMIN	p-value	DF	CMIN	p-value
CSE → CCB	4	1.305	0.192	4	0.946	0.344
CCB → CL	4	15.877	0.000	4	10.351	0.000
CSExHC → CCB	4	0.423	0.672	4	0.594	0.552
HC → CCB	4	0.948	0.343	4	0.235	0.814

Bolded p-values are significant at the 95% level (p < 0.05); CSE, customer sensory experience; CCB, customer co-creation behavior; HC, health consciousness; CL, customer loyalty.

TABLE 5 Adjusted squared correlations of significantly different groups.

	Groups	Adjusted R2	
		Co-creation	Loyalty
Previous consumption experience	First-time (n = 326)	0.358	0.466
	Repurchase (n = 161)	0.284	0.405

chicken (28.4 and 40.5% of the variance, $R^2 = 0.284$ and 0.405), thus indicating co-creation and loyalty differences based on consumption experience, as presented in Table 5.

Furthermore, the Friedman test was used to explore the differences between males and females in terms of sensory attributes. The results revealed that there were statistically significant differences in both the sensorial and behavioral dimensions, except for recognizing that it was a healthy chicken (act dimension) and intention to buy (act dimension) and behavioral dimension (Table 6).

Discussion

Interest in healthy food consumption has steadily risen around the world during the past few decades. Academic and practitioner interest in a comprehensive understanding of the different motives underlying healthy food consumption has also increased. Therefore, the search for marketing strategies and goals to enhance the customer experience and build long-term customer connections for their consumption products is paramount. This study focused primarily on the effects of customer sensory experience, customer co-creation behavior, health consciousness, and customer loyalty. In addition, this study investigated the role of health consciousness as a moderator of the relationship between customer sensory experience and customer co-creation behavior. To examine the proposed hypotheses, a total of 487 valid samples were collected from customers who had experienced consuming KKU1 premium meat chicken and were analyzed using the SEM approach.

The findings of this study show that customer sensory experience services have a significantly negative effect on customer co-creation behavior. Surprisingly, previous studies have recognized experience as a crucial building block for positively fostering customer behavioral responses, such as co-creation

behavior or engagement behavior with a company or product producer (Spena et al., 2012; Han et al., 2022). However, the results of the current study were not consistent with this prior research that indicated customer experience directly influenced building customer co-creation to provide feedback or their experience to the company or producer. This unexpected finding suggests that the nature of the meat was not well known in the consumer market and therefore unrelatable to current consumers. For example, the meat was not yet on the market, which makes its story a bit unrelatable. However, the meat may be good for the future (Han et al., 2022). In addition, we considered the customer experience to be a customer perception of meat that was unclear regarding taste and smell between the market chicken meat and the healthy chicken meat (i.e., the KKU1 Premium Chicken). Therefore, to increase customer co-creation in healthy chicken meat, considering customer experience solely from the view of meat consumption behavior of the product and product information was not clear. It is important to establish a deeper understanding of the customer's sensory experience in terms of strengthening the customers' emotional and cognitive bonds with the meat product. Therefore, this study offers an essential explanation for how the customer sensory experience influences customer co-creation in healthy chicken meat (i.e., the KKU1 Premium Chicken).

Drawing on the value of the co-creation perspective, the results of the research show that customer co-creation behavior positively and significantly contributes to increasing the level of customer loyalty, such as advocacy and referral of the product to other people. Interestingly, customer co-creation behavior represents an especially great opportunity for the product, as it can assist them in translating their product perception and experience into increasing the level of customer loyalty. The reason is that eating behavior can help them select different types of chicken meat. This type of consumer engaged or purchased more KKU1 Premium Chicken and demonstrated a higher sensory perception of meat and products; they will typically know the taste, smell, and nutrition of the product and will actively co-create in developing the product to address their needs and desires. When they became involved in improving products, these consumers believed that engaging in value co-creation behavior was more helpful and satisfying, thereby generating advocacy and referral behavior and considerably elevating their loyalty to the KKU1 Premium Chicken. In advancing the literature, the findings show that customer co-creation behavior contributes to fostering favorable attitudes toward a product, and the customer needs to actively engage with a product to attain higher levels of

TABLE 6 Friedman test of sensory attributes difference between males and females.

Male (n = 147)				Female (n = 340)				Mann-Whitney
Sensory attribute	Rank sum	Mean rank	Sig.	Sensory attribute	Rank sum	Mean rank	Sig.	
The mellowness of taste (Sens)	33180	225.71	<0.001	The mellowness of taste (Sens)	85648	251.91	<0.001	0.050
The meat from tasting (Feel)	34109	232.03	<0.001	The meat from tasting (Feel)	84720	249.18	<0.001	0.214
Recognizing that it is a healthy chicken (Act)	33383	227.09	<0.001	Recognizing that it is a healthy chicken (Act)	85446	251.31	<0.001	0.072
Intention to buy (Behave)	31494	214.24	<0.001	Intention to buy (Behave)	87334	256.86	<0.001	0.002
Friedman test = 70.154 Kendall coefficient of Concordance = 0.159 ^a				Friedman test = 25.727 Kendall coefficient of Concordance = 0.025 ^a				

^aProbability is 0.000 assuming chi-square distribution with 3 df.

loyalty. This supports prior studies that conceptualize customer co-creation in a product as a driver of customer loyalty for both new and existing customers (Lee Y. L. et al., 2018; Cheung and To, 2021).

In addition, this study found that health-conscious people respond to the provision of healthy food options, such as the KCU1 Premium Chicken. When healthy food options are provided, people who are concerned about them are likely to have a perception of food consumption related to good taste. Regarding the customer sensory experience, when consumers perceive the product as highly health conscious, it will increase the level of their sensory experience. In addition, when exposed to the sensory experience, such as the smell and taste of the food, customers co-create their value with the company or producer, regardless of their level of health consciousness. For this result, the research assumes that health-conscious customers are sensitive to being able to assess healthful foods, regardless of whether nutrition information is provided. The results of this study were not consistent with prior empirical studies showing that health consciousness increases the level of customer behavioral response to a company (Mai and Hoffmann, 2015). Therefore, the producer and company need to consider the sensory experience and perception of their product as a healthful food option by receiving feedback from healthy food consumers, which is an effective marketing tool to sustain existing customers and attract new ones.

Finally, the moderating effect of previous consumption experiences on the relationships among customer sensory experience, customer co-creation experience, and customer loyalty was also investigated in this study. Accordingly, the impact of customer co-creation behavior on customer loyalty was seen to be different in terms of first-time and repeat consumption of the KCU1 Premium Chicken. Clearly, customer co-creation behavior was a more influential factor on customer loyalty for the first-time consumption of the KCU1 Premium Chicken. Interestingly, these findings were not similar to those of previous studies. For example, Thanki et al. (2022) argue that repeat consumption experience is the foundation for a behavioral response to decision-making. Positive associations with a product are related to fostering behavioral intention or loyalty and generating word of mouth and repurchase intention (Michaelidou and Hassan,

2008). When customers gain a positive product experience, they may be willing to increase their level of loyalty to a product, which is influenced by factors such as their attitude toward the product's value, quality, and price (Smith and Paladino, 2010). Furthermore, studies have shown that one's experience may have a secondary impact on one's willingness to buy healthy foods (Thanki et al., 2022). Consequently, the results indicate that it is reasonable to suggest that improving product quality and providing information related to food nutrients should be devoted to serving first-time customers, as they are easier to satisfy than repurchase customers, even if they have been given the same level of product consumption. It is proposed that this may be due to the novelty of the KCU1 Premium Chicken on offer in the focal chicken meat.

Conclusions

Research implications

This study contributes to adopting a benefit value evaluation of the concept of customer experience and a co-creation perspective in order to understand the relationship links of customer sensory experience, customer co-creation behavior, customer loyalty, health consciousness, and previous consumption experience of healthy food consumption. The motivation for focusing on this theoretical view was to respond to an issue raised by previous research in the post-consumption evaluation of healthy food due to a lack of research connecting experience and post-consumption evaluation, such as customer co-creation and multi-group analysis (e.g., first-time and repurchase consumers). This is contrary to existing empirical studies that portray customer experience as an effective factor in enhancing customer satisfaction and loyalty (e.g., Lee S. M. et al., 2018; Chang et al., 2021).

In addition, existing research has predominantly focused on single healthy food consumption (Wang and Shen, 2021). This research contributes to the literature on the healthy food consumption experience and customer co-creation by providing a major enhancement of customer loyalty, which results from its effectiveness in affecting customer co-creation in KCU1 Premium Chicken consumption. Furthermore, health consciousness was

considered to play a moderating role in the relationship between customer sensory experiences and customer co-creation behavior. It was found that health consciousness moderates the effect of customer sensory experience on customer co-creation behavior. This means that customers prefer food that is safe for consumption, and they concluded that the KKU1 Premium Chicken was a good food for this reason, increasing the level of co-creation value for addressing their needs and desires.

Moreover, customers who prefer healthy food consider it healthier than their other options and are willing to take healthy actions. This shapes their co-creation value toward healthy foods and thus influences their behavioral intentions, such as word-of-mouth behavior. Moreover, this study contributes to the literature by providing an understanding of the different perceptions and behaviors of KKU1 Premium Chicken for first-time and repurchase customers. For example, customer co-creation led to a higher level of loyalty for first-time customers than for repurchase customers. This may be because repurchase customers might be acquainted with the KKU1 Premium Chicken and thus were a little more forgiving when they were less responsive and co-creating value. Moreover, repurchase customers were likely to appreciate the quality of the KKU1 Premium Chicken more than the first-time customers.

Limitations and recommendations

This study focused on customer loyalty related to healthy food, such as the KKU1 premium chicken. Longitudinal research would be better for understanding the perspectives of experience and co-creation in relation to pre- and post-healthy food consumption experiences and would reflect the impact of multiple moments of customer co-creation and loyalty, such as word of mouth or advocacy behavior with the product over a longer period. Therefore, it is recommended that further research employ a longitudinal approach to capturing healthy food-related outcomes that are maintained and sustained in the long term. Second, because the research was limited to evidence for producers, marketers, and the federal government to make strategic decisions regarding the growth of the healthy food market, this study showed that more research must be conducted from this perspective. This study focused on different consumer experiences as a multi-group analysis to understand consumption behavior in the influence route of the customer co-creation experience and customer loyalty to the KKU1 premium chicken. Future research should investigate the two kinds of chicken meat products (e.g., KKU1 premium chicken vs. boiler chicken) in reflecting different consumer psychological and behavioral responses.

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Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Ethics statement

The studies involving human participants were reviewed and approved for this study. The study has followed the survey method and includes the responses from the survey participants from Thailand. The survey measurement was approved by Khon Kaen University Ethics Committee for Human Research, Khon Kaen University, Thailand. The approval number is HE633133. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

Author contributions

SM: conceptualization, data curation, formal analysis, and writing—original draft. PJ: data curation, investigation, and methodology. WB: administration, review, and editing. All authors contributed to the article and approved the submitted version.

Funding

This research was funded by the Thailand Science Research and Innovation, which under the Fundamental Fund Project 2021.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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