Heating Up the Market: A Case Analysis on KAISO Pepper Sauce

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Abstract

The study was conducted for a locally based company that wished to expand their consumer base and market reach. The relationship between consumer attitudes and brand perception was examined to identify potential marketing approaches. Results were gathered through a questionnaire (n=136) in order to model consumer profiles and analyse their effect on product perception. The resulting multivariate regression model indicated that the difference in receptiveness to KAISO's branding between the Black/African demographic and the Caucasian demographic was significant. The average Black/African participant perceived the product more negatively than the average Caucasian participant. The same observation applied to South Asian demographics. Consumers' self-reported likelihood to purchase was positively correlated with an increase in consumption rate across all participant profiles. Notably, aspects that provide opportunities to improve in the peer sauce industry are associated with traditional spicy cuisine, which is a trait correlated with the desire for perceived authenticity over other product attributes.

Introduction

Company Overview

This manuscript is the result of a community-engaged research project with KAISO Pepper Sauce, which is a local startup that specializes in Caribbean-style hot pepper sauce. The tagline "It's KAISoOOo Good" is used to describe how they have balanced the heat of the primary pepper, the scotch bonnet, with the flavour of a premium hot pepper sauce. All products are 100% Natural, GMO-free, and use no artificial preservatives or colouring. KAISO is privately owned and operated by Paul and Andrea Thorne, who are local to the Edmonton market and are familiar with Caribbean cuisine. The company launched their product in the Edmonton Downtown Farmers' Market. In their first summer of operations, over 700 bottles sold for an estimated revenue of \$10,000.00.

KAISO currently supplies its products through both online and physical sales channels. Customers can place order through their online store, or through the local retailer Eat Jamaican Grocery Store. KAISO also distributes its products at seasonal events like the Edmonton Heritage Festival and various farmers' markets in the area. Paul and Andrea are interested in expanding their business operations, which requires enough demand to sustain the desired shift in business strategy. The company's goal was to explore potential marketing strategies that would allow it to capitalize on profitable consumer segments within its current operating scope, and to identify potential segments to enter in the future.

KAISO identified that their goal is to build a wider consumer base, which they defined as "going from selling 700 bottles a month to 7,000 bottles a month". They are searching for new

segments to market towards and ways to reach more consumers within their current segments. Part of this objective is for the company to find a strong brand identity that communicates its message effectively to its customers. The company has limited marketing resources, so optimizing its message to consumers must be an important part of the finalized strategy.

Research Problem

To grow KAISO's consumer base, the appropriate consumer segments must be identified. Our first step was to define the attributes consumers were looking for in spicy foods, and the extent to which KAISO's offering met those expectations. From our communications with KAISO, the company believes that their hot sauce offers something unique to the local food scene. They especially emphasized their usage of scotch bonnet peppers, which have a smoother flavour profile than habanero-based sauces, and their KAISO Herb sauce, which is like a Caribbean-style *sofrito* (Romanbaur, 2006). It was necessary to evaluate what KAISO had to offer, what consumers were looking for, and how consumers were looking for those attributes. The research problem is to define what attributes consumers are looking for in spicy foods, and the extent to which KAISO's offering meets those expectations, which in turn affect consumer purchase decisions. With this in mind, we proceeded to review the relevant literature, presented below.

Literature Review

A full summary of our literature review can be found in Appendix A, Table A.1. Recently, the North American market has experienced a prominent rise in food consumption culture (Kwon et al., 2021). Demand for ethnic food rose during this time, although this was not the universal experience across foods of all ethnic origins. Notably, Jamaican and other Caribbean cuisines experienced very little growth in comparison to East Asian foods. This was attributed partly to the lack of identifiable "flagship" dishes made for Western palettes, like butter chicken or the California roll.

A number of studies on food consumption patterns and culture explained the potential influences on consumer behavior. A 2021 meta-analysis of existing studies found a link between certain personality traits and food preferences, suggesting a strong genetic component (Spence, 2021). An earlier causal study divided participants into two groups to study the effect of individual attitudes on food: neophobic referred to those who are less open to new experiences, and neophilic referred to those who are more open. The study found that an individual's personality and attitude towards food did not necessarily bias them towards a specific flavour. Instead, it influenced their disposition toward familiar or unfamiliar flavours based on their personal experiences (Choe & Cho, 2011). Willingness to try new foods may be influenced by the food's preparation method, familiarity, and perceived authenticity. Those who are already familiar with the particular dish or cuisine generally favour authentic-tasting dishes or dishes that use authentic ingredients, while those who are seeking new experiences tended to favour products that they believed were authentic, regardless of if they were or not.

Analytical Framework

Component 1: What needs drive consumer demand for hot sauce?

Qualitative research in the form of focus groups provided consumer insight for this guestion (Appendix B provides details of our qualitative research performed to get an initial understanding of the problem). The goal was to get feedback from consumers on what attributes they generally look for in hot sauce. Two focus groups of 8 participants were moderated by two researchers. The same discussion prompts were used to standardize the setup. From there, the participants were allowed to guide the flow of conversation. The findings from the qualitative study were used to inform the contents of the market survey. Many of the key attributes identified by participants were subjective in nature. Traits like "good balance of flavour," "not too hot," and "good spice level" were important, but the same spice level could be too spicy or not spicy enough for different individuals. When discussing other hot sauce brands, participants often characterized similar attributes differently. For example, some participants expressed a general sense of fondness for Frank's Red Hot as a classic option, while others characterized it as basic or boring. Objective attributes like "Gluten Free", "Keto-friendly", and "locally made" were also considered desirable, but participants represented these as complementary traits rather than key attributes (with the exception of personal dietary restrictions).

Component 3: What is the demographic profile of the market segment of interest?

Demographic information was collected during the questionnaire phase to determine if there were any groups that exhibited more interest (See Table 1 for collected data). The study was not designed to be proportionally representative; the results only demonstrated average tendencies towards or against the product. Participants of the focus group indicated that ethnic origin and traditional cooking styles would impact what types of hot sauce they would seek out or be willing to try. Age was also an area of interest to us. Previous literature suggested that current food trends are driven by younger demographics and their use of social media. The goal was to identify any market segments that were particularly likely to try the product, or market segments that KAISO may be alienating.

Component 4: How do consumer attitudes affect purchasing decisions of new hot pepper sauces?

Consumer attitudes were measured and quantified at the questionnaire phase of the report. They would be measured against the participants' attitudes towards KAISO's products. Participants were asked to rate their level of agreement/disagreement with a series of statements regarding preferences to new food experiences. The sample was heavily represented by neophilic individuals. Our qualitative analysis indicated that openness to new foods would likely be linked to willingness to purchase, since the product itself is new to the market. Even those familiar with the cuisine would still be trying a new product.

Modelling components 1 to 4

The questionnaire was designed to answer the following research question: How do (1) branding perception, (2) taste, and (3) consumer attitudes towards food affect purchase decisions? We built a Multivariate Multiple Regression Model following ordinary least squares (OLS), $Y = X\beta + u$, estimated by Y = Xb + e, such that:

 $\hat{Y} = Xb$, $e = Y - \hat{Y}$, i = # of variables + 1, n = # of valid useable responses. Using multivariate analysis of variance (MANOVA) we can determine the OLS Pillai statistics and produce relative p-values for the variable in question, thus:

 H_0 : any $\beta = 0$, represented by: $p > \alpha$

*H*₄: any $\beta > 0$, represented by: $p < \alpha$

Following this MANOVA we can remove those variables that are insignificant and retest. Due to the likelihood of multicollinearity, some variables initially insignificant were tested multiple times to determine significance within more focused models. This presented the same hypotheses for the subsequently deduced model.

Thus, our final hypothesis becomes:

$$H_0: F > F_{\alpha}$$
, represented by: $p > \alpha$
 $H_A: F > F_{\alpha}$, represented by: $p < \alpha$

The results are expected to give KAISO a better idea of how their product should be positioned to communicate across these segments more effectively.

Methodology

Questionnaire Design

A copy of the survey is available for reference (see Form C.1 in Appendix C). The sections were split up to give participants a sense of progression. The first two sections included consent and qualification questions. Section 3 used Likert Scales to index consumer attitudes based on neophilic and neophobic traits. Section 4 was meant to measure spice tolerance, although the data collected was not used (See Limitations). Section 5 gathered non-identifying demographic information on the participant's age and ethnic background. Multiple-choice questions about hot sauce consumption rate, purchasing habits and usage were distributed throughout the questionnaire. The responding variables, consumer perceptions of different brands, were measured by asking participants to rank their willingness to buy hot sauces based on packaging. The questionnaire was disseminated as a link, or through a QR code.

Pre-test

The pre-test included more open-ended questions for feedback. Most other questions were designed to be used on the actual questionnaire. The goal was to provide an opportunity for participants to indicate any source of confusion in the questions. As a result of our pre-test, we changed the following items (See Appendix C, Table C.1 for pre-test results):

- Added "South Asian" as an ethnicity to the demographics section.
- Household income was removed as a mandatory question because many pre-test respondents could not accurately estimate it.
- Clarified that the terms "hot sauce" and "hot pepper sauce" are interchangeable.

Sampling Design and Data Collection

Originally, our research was designed to create a blind comparison between customer attitudes related to branding and customer attitudes related to taste perception. Unfortunately, all three researchers got sick with COVID-19 while conducting the first survey. We decided not to continue with tastings, to avoid putting participants at risk. The questionnaire was completed after our recovery. Our target demographic included anyone over the age of eighteen who consumed hot sauce or other spicy foods.

The requirement for statistical validity was at least 100 participants. Originally, we planned to combine the mall-intercept method with emails from the EPL database, and to fill out our sample by random sampling from convenience responses. We used a separate response sheet for convenience samples. We were unable to reconnect with the EPL. The results were from three rounds of non-convenience surveying, one at West Edmonton Mall and two at MacEwan University. Participants were systematically selected at every other table in busy locations like the library and food courts, and asked individuals at every one to three tables, depending on how busy the location was.

Contrary to our original design, we included our convenience sample in the dataset for several reasons. Firstly, after cleaning the data, 136 responses provided more statistical validity than a smaller sample. Secondly, we anticipated that our convenience sample would bias the results by underrepresenting certain demographics. This proved to be untrue, as an overwhelming majority of the people willing to be surveyed in public were Caucasian individuals under the age of 25. Random surveying had the potential to limit our data collection for consumer attitudes, since there is a possible correlation between those who are open to new food experiences and those who are open to spontaneous surveys from strangers or spending time in public places. The convenience sample was disseminated through many social groups and was more diverse in age and ethnicity. Combining the convenience data created a sample that was more representative of the Canadian population.

Statistical Data Analysis and Results

Overview

In total, 151 responses were recorded from participants, all within the Edmonton area. 59 responses were collected through convenience sampling, while 92 were collected during random sampling. This met our requirement for a 90% confidence level, as calculated with the following formula:

$$n = \frac{(z_{\alpha/2})^2 p^* (1-p^*)}{E^2}$$

Table 1 below summarizes the results of the survey.

Table 1.	Survey	Results.
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Ethnicity	1	
	Number of Participants	Proportion of Sample
Black/African	13	10%
Caucasian/European	66	49%
First Nations/Inuit/Metis	7	5%
Mixed/Other	13	10%
Prefer not to say	4	3%
South Asian	14	10%
Asian	19	14%
Total	136	100%
Age Groups		
	Number of Participants	Proportion of Sample
18-27	91	67%
28-37	14	10%
38-47	24	18%
48-57	5	4%
58-67	2	1%
Total	136	100%

Consumption Effort						
	Number of Participants	Proportion of Sample				
Very Low	19	14%				
Low	32	24%				
Moderate	34	25%				
High	40	29%				
Very High	11	8%				
Total	136	100%				
Factors Influencing De	cision					
Health	4	4				
Locally Owned	6	1				
Diet-Friendly	3	1				
Organic	1	7				
Non-GMO	1	7				
None/Other	3	5				
	I					
Openness to New Food	ls					
Very Open	4	2				
Open	5	9				
Neutral	3	31				
Not Open		3				

-	-	-	-	
	n	1	-	
-	v	-	-	

Very Not Open	3	
Likelihood of Purchase v Branding/D	esign	
Would Not Purchase	14	
Very Unlikely	14	
Unlikely	30	
No Impact	35	
Likely	33	
Very Likely	10	
Hot Sauce Usage		
Wing Sauce	107	
Marinades	107 72	
Marinades	72	
Marinades Beef	72 54	
Marinades Beef Chicken	72 54 100	

Ethnicity was well-represented in our sample, and the majority of participants were fairly young. More participants consider hot sauce a high-effort purchase than a low-effort purchase. The response may not represent all hot sauce consumers, especially because people who are willing to respond to a hot sauce survey are likely to be more invested consumers. That being said, the volume of responses we received indicates that there is a market for novelty hot sauces in the Edmonton area. The participants' self-ranked spice tolerance was not used for the multivariate model, as we determined that we could not ensure valid relative comparisons due to each individual's different levels of exposure. KAISO's range of products with multiple spice

levels is highly beneficial for addressing different needs for spice level, and we believe that it is not necessary to expand the spice level to include extremely mild or spicy options.

Model Building

To prepare the data for quantitative analysis, we converted all categorical data into dummy variables. Categories that were too narrow (like some responses for ethnic identities) were either combined into one overarching category or sorted into "other/mixed". The quantitative model was used to build multivariate regression.

Variable	Degrees of freedom (Df)	Test Stat	Approx. F	Num Df	Den Df	Pr (>F)	Significance
Spice Tolerance	1	0.030684	0.71540	5	113	0.61313	
Index	1	0.097476	2.44088	5	113	0.03851	*
Consumption Rate	1	0.104985	2.65096	5	113	0.02639	*
Thought	1	0.029326	0.68278	5	113	0.63740	
Health	1	0.050485	1.20162	5	113	0.31301	
Locally owned	1	0.064678	1.56279	5	113	0.17631	
Diet-Friendly	1	0.029250	0.68096	5	113	0.63877	
Organic	1	0.068586	1.66419	5	113	0.14899	
Non-GMO	1	0.015221	0.34932	5	113	0.88176	
Age	1	0.077134	1.88893	5	113	0.10173	
Caucasian	1	0.019121	0.44055	5	113	0.81934	
Black/African	1	0.072401	1.76398	5	113	0.12594	
Asian	1	0.022017	0.50878	5	113	0.76912	
South Asian	1	0.039558	0.93082	5	113	0.46388	
Indigenous	1	0.018855	0.43432	5	113	0.82381	
Other/Mixed	1	0.029057	0.67634	5	113	0.64223	
Female	1	0.004956	0.11255	5	113	0.98939	
Male	1	0.006336	0.14411	5	113	0.98141	

Table 2. Type II MANOVA Tests: Pillai Test Statistic for Full Model.

Note: level of significance by asterisk '***' 0.001, '**' 0.01, '*' 0.05

The variables that were chosen for the model are statistically significant indicators. These responses included: Black/African, South Asian, frequency of consumption, the consumer attitude index, and age.

Table 3. Type II MANOVA Tests: Pillai test statistic for Final Model.

Variable	Df	test-stat	approx-F	num-Df	den-Df	Pr(>F)	Significance
Index	1	0.118569	3.3899	5	126	0.0065953	**

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ConRate	1	0.180138	5.5369	5	126	0.0001210	***
Age	1	0.121594	3.4883	5	126	0.0054901	**
BA	1	0.157364	4.7061	5	126	0.0005651	***
SA	1	0.090197	2.4983	5	126	0.0341023	*

Note: level of significance by asterisk '***' 0.001, '**' 0.01, '*' 0.05

Black/African and South Asian were chosen because the effect they had on the model was significant when compared to the influence of other ethnicity responses.

The model analyses the effect of any combination of these variables on the participant's response to "likelihood of purchase" for any of the five hot sauce brands. Analysing how these variables affect the perception of other hot sauce brands is useful because it allows us to compare different reactions to different styles of branding. For example, we found that consumption rate had a very significant positive relationship with both Cholula and KAISO, which indicates that there are specific brand designs that are preferred by more frequent consumers. Using this model, we can identify what traits are impactful to consumer perceptions of different hot sauce branding styles. It is also possible to suggest different branding strategies that align more closely with what target consumers are looking for.

We also looked at how the effects of key high-demand elements correlated with KAISO Heat's brand image (see Figure 1).



It was determined that these elements are not correlated with respondents' views on the brand imaging. This indicates either a likelihood that these factors are unimportant to hot pepper sauce purchasing decisions, or it indicates a lack of explicit and clear definition of these factors from KAISO's current branding.

The Residuals vs Leverage plots show a limited impact from outliers and a lack of high-leverage data points, which would otherwise upset the results (plots are available upon request). The Scale-Location plots and Fitted vs Residuals plots show slight non-linear trending, and a non-linear trend in the homoscedasticity. These indicate the potential presence of a parabolic, hyper-parabolic, or Poisson trend in the data. This would require significant further analysis but may increase the predictive qualities of the model.

Results

Table 4 summarizes the results of testing for the removed betas being greater than zero. With Pillai, Wilks, and Hotelling-Lawley returning substantially insignificant p-values we can conclude that there is not enough evidence to suggest that the Full Model provides an increase in predictive value over the Final Model. Roy was the only significant test; however, that is likely due to the limited sample size creating a very small value for degrees of freedom relative to the other tests.

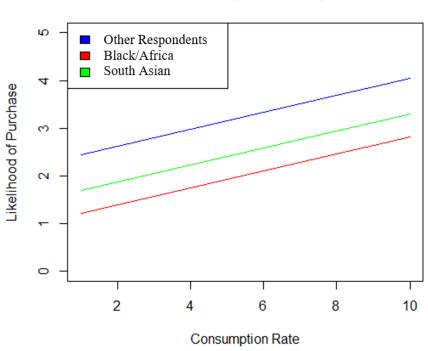
Test	Df	test-stat	approxF	num-Df	den-Df	Pr(>F)	Significance
Pillai	13	0.4576286	0.9067197	65	585.0000	0.681773	
Wilks	13	0.6141590	0.8993511	65	537.9608	0.696364	
Hotelling-	13	0.5207143	0.8924242	65	557.0000	0.710588	
Lawley							
Roy	13	0.2225195	2.0026759	13	117.0000	0.026178	*

Table 4. Multivariate Tests of Model Significance.

Therefore, the model is summarily predictive. Customer profiles can be built based on the traits provided. Then, the corresponding coefficients are used to predict how positively an average person with those traits would respond to each of the hot sauce brands. We found that those who selected the Black/African ethnicity option had a negative addition to their intercept when rating how positively the branding was perceived, while those who chose other ethnicities had more positive correlations. Our results are consistent with a 2015 study, which found that perception of authenticity had a significant influence on consumers who were familiar with the cuisine (Lu et al, 2015). KAISO's sleek and modern packaging design is very distinct. Those who are familiar with the more dated label designs of other brands may not associate KAISO's label with their idea of authenticity. For new consumers of Caribbean-style hot pepper sauce, the design is better received because perceived authenticity generally is less impactful than their perception of quality. This can be seen in Figure 2 below.

Figure 2. KAISO Heat Response for Consumers Aged 30 Based on Consumption Rate.

MUSe



Kaiso Heat Response at Age = 30

Here we see that Black/African consumers have a much lower rating on average than even South Asian consumers for KAISO Heat's brand image; this is even more significant when comparing it to the responses from all respondents, excluding these two demographics' ratings for KAISO Heat. Traditional staple spicy foods are commonly attributed to both ethnic groups and their variety of cuisines (Sietsema, 2015). KAISO's modern aesthetic alone may be less appealing to those who seek authenticity in their cooking ingredients. The Black/African and South Asian demographic were only less likely to purchase relative to the rest of the sample. Participants generally responded somewhat positively to KAISO, indicating that the branding was not alienating any specific groups of consumers.

Recommendations

It is difficult to establish authenticity as an attribute for a new product, especially since consumer perception and brand image are much more influential than claims of authenticity from the brand itself (Lu et al., 2015). For the authentic experience-seeking demographic, KAISO should continue to participate in community events like the Heritage Days Festival, and in local farmers' markets. Paul and Andrea have a close connection with the local Caribbean community. Personal involvement would allow the brand to build trust with a loyal consumer segment who are more likely to be repeat consumers than novelty-seeking buyers.

Younger consumers seeking exciting new food to try was the most promising segment for KAISO to quickly grow their consumer base. Growing the company this way will also allow KAISO to sustain more involved efforts to gain community recognition for the hot sauce. The company should focus on advertising and expanding in Edmonton first, since brand image will be easier to control in a distribution center that the company is familiar with. KAISO can also use their status as a local company to more effect if they are truly local to the market. The company's products exhibit many attributes that consumers in this segment find attractive, like being organic and diet-friendly. KAISO should take advantage of its minimalistic branding by appealing to the specific desired attributes of different segments through targeted marketing endeavours, while allowing the neutral branding to serve as a receptacle for the perceptions that they build.

Most participants use hot sauce on chicken, and many expressed that the purchase decision process was a lot more involved than we initially predicted. One potential marketing campaign we recommend is a social media campaign based on new and inventive ways of using hot sauce, in recipes, pictures or video clips. If the company gains a significant following, they can also ask consumers to share their hot sauce innovations to encourage engagement. The number of consumers who actively think about hot sauce is a market segment that would most likely react to the idea of gifting hot sauce very well. This was one of the questions posed to us in the initial stages of the study. The product matches the profile of products that are small and acceptable indulgences, so we see no reason for it to not be marketable as a gift item. KAISO's sauce is more focused on delivering new flavours than painful experiences, which we believe is an asset.

The goal to make KAISO a household staple is a long-term objective, and the company will probably have to readjust its strategy multiple times as it grows in that direction. It is very difficult to predict household staple status. It requires a certain level of familiarity, which requires building over a long period of time. The company must work on not only new customer acquisition, but on retaining customers as well. KAISO should revisit the marketing strategy once they have achieved their short-term growth goals. The company should consider conducting further market research, potentially on their own consumers, to find the optimal time to establish customer retention strategies. Although the label is not seen as overly recognizable, we do not believe that it should be changed on this basis. We do not have sufficient information to know if recognizable brands became distinct based on their aesthetic, or if their aesthetic became distinct due to their popularity. KAISO's current minimalistic design is differentiable from many other hot sauce bottle designs. We believe that this will be an asset once KAISO gains enough exposure to be recognized by a larger customer base.

Conclusion

The attributes that consumers desire in hot sauce are variable, and no single set of traits are universally loved or disliked. The most effective strategy for consumer requisition, based on the results of this study, was to target promotional campaigns and brand messages to specific segments. This would allow KAISO to directly communicate desirable attributes to consumer

segments with the most interest.

Limitations

The biggest limitations were time and resource constraints. Our team was ill throughout most of the window for data collection, which limited the time available. It also prevented us from collecting data on taste perception for different hot sauces. Data collected in relation to taste was consequently removed from the statistical analysis. Whether people could accurately report their perceptions based on memory was dubious, especially since there was no way to control when each participant last consumed the products. Information on household income was also removed, since participants often indicated that they could not remember, or entered highly improbable figures.

As students, we did not have the resources, nor the credibility, to incentivize more cautious individuals to participate in our survey. For statistical validity, a sample of 400-500 participants is usually required to generate data that is representative of the population. Our model is significant because it is based on means rather than population proportions, which only required about 80-100 participants. The demographic information is not sufficient to be representative of the population, so population proportions should not be assumed. The sample was not statistically representative of the Canadian population. Individuals identifying themselves as Asian or Black/African were overrepresented. Younger people responded significantly more positively during random sampling. This resulted in significant bias in age representation. Overrepresentation did not cause significant problems for those demographics since the study was not proportional. However, conclusions cannot be drawn for groups with less data collected. Attitudes towards hot sauce and spicy foods may also be biased, since several survey participants indicated that their incentive to provide a response was their greater-than-average fondness for hot sauce. Furthermore, it is possible that willingness to respond to surveys may be correlated with specific personalities, consumer patterns and attitudes. These limitations were not expected to significantly impact the validity of the results, but they limited the conclusions that could be drawn from the results.

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Appendix A: Summary of Secondary Data Collection

Table A.1. Summary of Secondary Data Collection.

	Author (Year)	Country		Methods and Sample Size	Techniques	Key Variables	Results	
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Ally, T. R. & Burrows , W. J. (2010).	United States	Investigati ng potential sex difference s in preferenc e for spicy food.	Descriptive data was collected through questionnaires regarding recent food consumption and personal preferences were used. The sample size was 14 participants, 66 men and 80 women.	A t-test was applied to the responses to unusual foods, which was categorized with a 5-point scale for attractiveness of the food and a 4-point scale for familiarity.	Sex of participants, participant usage to hot peppers, familiarity with foods, and openness to unfamiliar foods.	Men are more likely than women to seek new or unusual flavours.
Bègue, L., Bricout, V., Boudess eul, J., Shankla nd, R. & Duke, A. A. (2015)	France	Analysing the relationshi p between testostero ne and hot sauce consumpti on.	Exploratory research, then a causal analysis was conducted with a sample of 114 men between the ages of 18-45. They were asked to taste hot foods and their responses were recorded.	A correlation analysis was used on the responses to the hot sauce, as well as the responses to a control substance in relation to testosterone.	Testosterone level, response to hot sauce, response to control substance.	There is a positive correlation between hot sauce consumptio n and testosteron e
Bezawa da, R. & Pauwels , K. (2013).	United States	Analysing the impact of promoting organic products on retailer performan ce.	Gathered descriptive data from market trends to model the impact of organic marketing. Data was obtained from a large retail chain.	A persistent modelling approach was used to analyse data, which accounted for potential market endogeneity.	The availability of organic goods, consumer purchase decisions, consumer price sensitivity, and pricing of organic goods.	The presence of organic goods hurts competitive goods, and many core- organic consumers are not as price-sensit ive as other customers.

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Choe, J. & Cho, M. (2011)	China, Korea	Describe the tendency towards food neophobi a in Korea.	Gathered descriptive data through a questionnaire to gather the general trends in the Korean population, with a sample size of 416 people from an urban area in Korea.	Cross-tabulatio n and Chi-Squared analysis of quantitative data to predict qualitative outcomes. Provided F and P scores for all tests and included the level of significance of each finding.	Familiarity with foreign food, willingness to try foreign food, gender, age, type of food, cost of food, household income, number of foreign countries visited.	Neophilic cultures are more likely to like foreign foods when they are described as such. Neophobic cultures are more likely to like foreign foods when they appear like the home culture's foods.
Clemes, M.D., Gan, C. & Sriwong rat, C. (2013)	New Zealand	Identifying the decision factors that specificall y influence consumer s to select an upscale ethnic restaurant	Used a consumption function model to inform the data collection, which occurred in a 1300 household survey pool of which only 402 were usable responses.	Logit model, Cronbach coefficient, varimax and oblimin factor rotation, Polynomial regression, t-test, and chi-squared test.	Service quality, food quality, dining experience, social status, marketing communicatio ns, religious food options, value, gender, age, ethnicity, education, occupation, and household composition.	Ethnic restaurant patrons select places that prepare tasty, high-quality food using fresh ingredients. Patrons prefer choice and authenticity with clarity for newcomers
Contois, E. (2018)	United States	Exploring the gender dynamics of enjoying	Exploratory research analysing rising social media trends and attitudes associated with spicy foods.	Language coding, grouping and theme creation of public responses to	Reactions to spice and spice challenges from celebrities,	Non-conclu sive but notes a difference in the reaction to the hot wing trend

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2023

Focused on a hot wing men, and between spicy food. celebrity interview challenges. women. men and show named Hot women. Ones. Forouhi, United Secondary Mortality rate Further Investigati Summarizing N. G. Kingdo ng the and dietary research of a and analysing research is (2015) health the article and habits. m previous article needed. benefits of exploring the pointing out ingesting correlation other potential capsaicin. between a lower factors that mortality rate and were not eating spicy food addressed. in a study done in China. Jang, S. United Examinati Literature review ANOVA and Food Acceptance & Kim, States on of to build regression neophobia, of ethnic D. food-exter hypotheses, analysis with familiarity with foods is (2015) followed by a Cronbach's Korean nal factors induced by that survey of 409 tests for culture, and popular moderate company panel internal perceived risk media and members. consistency. of new foods. information or attenuate framing, not food-inter just by the food itself. nal traits "Learned to safety" increase consumer helps willingnes food-neoph s to try obic Korean consumers food. try new foods. Kim, H., United Researchi Causal research Multiple-variabl Ethnicity, People tend to find et al. States, was conducted e correlation reaction to ng among university (2018) Netherla cross-cult was studied, spice, reaction ethnic nds & ural students in 3 using a survey to ethnic spices South the sample compatibil different countries flavours. more Korea ity of to measure filled out over personal "foreign" spicy responses to the course of relation to when used flavour different spicy the experiment. on base spice. compositi sauces/seasoning foods used on a variety ons. perceived of foods. as foreign. Different ethnicities

						had different combinatio n preferences
Kim, JH. (2017)	United States	Customer responses to foods in ethnic restaurant	Begins with a meta-analysis of previous research, followed by an experiment.	2x2 between-subje cts experimental design, using unique vs general language and familiar vs unfamiliar ingredients.	Unique vs general language x familiar vs unfamiliar ingredients, and the responses recorded.	In regard to ethnic cuisine, lack of familiarity and unique language was often related to authenticity, which generated more positive perceptions
Kim, Y., Kim S. & Arora, N. (2021)	United States	Exploring GMO labelling and purchase decision.	Experimental research, asked respondents to react to different goods with different styles of GMO labelling.	Correlations between GMO labelling techniques and price sensitivity were studied.	GMO labelling techniques, consumer response, price sensitivity.	Price sensitivity is lower for non-GMO goods, and they were perceived as more healthful.
Kwon, E., Baek, J. & Dahm, M. J. (2021)	United States	Investigati ng the relative lack of popularity of certain ethnic foods.	Exploratory and descriptive research on the popularity of different ethnic cuisines, specifically Caribbean foods.	Exploratory and secondary research were conducted, as well as surveys.	Exposure to ethnic cuisines, willingness to try new foods, demographics of sample.	Ethnic cuisines that are less popular now have less well-identifi ed characterist ic.

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Lee, S.M. et al (2016)	United States	Study on flavour familiarity effect on consumer hot sauce perceptio ns, particularl y with gochujang	Participants were asked to describe sensory discrepancies among products and their responses to taste dimensions were measured.	Perceived flavour differences among participants, type of spice consumed.	Descriptive PCA analysis was used on the results.	Familiarity can not only influence taste preferences , it can also influence how spicy someone finds a food.
Lu, A. et al (2015)	United States	Examines consumer perceptio n of authenticit y with brand equity.	Consumer perspectives on authenticity of specific brands were measured with brand equity, to determine their joint effect on the marketability of certain restaurant chains.	Brand equity, authenticity of ingredients and flavours, perceived authenticity of the product.	Authenticity, perceived authenticity, and its effect on brand equity.	Perceived authenticity tends to influence higher enjoyment and perceived value for certain goods.
Meixner, O. et al, (2021)	United States	Exploring the effect of organic labelling on price sensitivity and competitio n.	Descriptive research was conducted on secondary data, which was provided by a local grocery retailer.	Sales data was analysed for trends in sales for both organic and inorganic goods.	Goods sales, organic status, customer reception, and effect on inorganic competition.	Organic foods tended to cause problems for inorganic competitors regardless of price point.

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Spence, C. (2021)	United Kingdo m	Investigati ng the effects of personalit y traits upon food taste preferenc e.	Meta-analysis of existing literature. Descriptive research was conducted on secondary data collected in other studies.	Breakdowns and investigations of the methods, results, and conclusions drawn from previous studies as well as tying them together through the use of established psychological, and food science.	Personality, food preference, palette breadth, neurotransmitt er levels, validity of previous research.	Sensation seeking has been linked to spicy food preferences . Novelty seeking is likewise tied to salty foods. Anxiety is linked to a smaller palette range. These have been linked to neurotrans mitter levels, indicating a more fundamenta l connection between food taste, personality, and genetics.

Appendix B: Focus Group Data

Form B.1. Discussion Guide used for Focus Groups.

Introduction:

Good day everyone, I would like to start by thanking you all for participating in our focus group. For those who don't know who I am ... (introduce yourself)

The purpose of this group will be to explore a wonderful new Caribbean hot pepper sauce. We will ask a few questions about your habits and preferences when it comes to pepper sauce. This information will be used by our client to understand you, their potential customer. This information will not be used for any other purpose or shared with anyone other than myself and my client. I would like to use audio recording for this session, does everyone agree to me recording this discussion?

I want you to feel comfortable sharing any perspective you may have. There are no wrong answers, and we will be respectful of each other. Please do not interrupt or disagree with anyone. In respect for everyone's time, I may ask that we move along if I feel we are discussing a single topic or point in too much detail.

Let's have a taste while we go around the room and have each of you tell us who you are.

Warm up questions

1. What characteristics do you like in a hot pepper sauce, and how does this sauce stack up?

2. Who do you think hot pepper sauce appeals to? What demographic?

Core discussion

- 1. When shopping for a hot pepper sauce, where do you typically go to make the purchase?
 - a. How often do you purchase hot sauce?
 - b. Any particular time/season that prompts hot sauce purchase?
 - c. Do you look for any specific attributes?
- 2. What type of product do you consider hot pepper sauce (luxury, convenience, impulse, etc.)
- 3. What are you willing to pay for a premium hot pepper sauce?
- 4. What are your opinions on hot sauce as a gift?
 - a. Would you like to receive it?
 - b. Would you ever buy it for someone else?
- 5. What would you use this hot sauce for?
 - a. Cooking, marinating, dip, topping, etc.
- 6. What are your general impressions of the company?
- 7. What style of cuisine do you usually eat?

Wrap-up

Again, I want to thank you for your time. You have provided some valuable insights on the purchasing habits of hot pepper sauce.

	Age	Gender	Ethnicity	Occupation	Hot Sauce Consumption Rate
Focus Group 1					
Respondent 1	35	Male	Indian	QA Coordinator	Frequent
Respondent 2	45	Male	Caucasian	Salesperson	Almost Never
Respondent 3	32	Male	South Asian	Engineer	Frequent
Respondent 4	38	Male	Chinese	Engineer	Almost Never
Respondent 5	55	Male	Caucasian	Sales Manager	Frequent
Focus Group 2					
Subject 1	32	Male	Caucasian	Teacher	Frequent
Subject 2	31	Male	Caucasian	Teacher	Frequent
Subject 3	29	Female	Caucasian	Teacher	Almost Never
Subject 4	40	Male	Chinese	Teacher	Frequent
Subject 5	49	Female	Caucasian	Teacher	Sometimes

Table B.2. Summary of Moderators.

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Focus Group	Age	Gender	Ethnicity	Occupation	Hot Sauce Consumption Rate
Group 1	39	Male	Caucasian	Sales Manager	Frequent
Group 2	22	Male	Caucasian	Student	Frequent

Appendix C: Questionnaire

Form C.1: Sample Final Questionnaire

The purpose of this re	hasing Decisions
	esearch is to help a local start-up company (KAISO) understand the responses will be analyzed to help build a target market and
identify effective marketing s	strategies. Should you agree to proceed, this questionnaire should
,	s. Your answers will be kept confidential and will be used only for You have the right to withdraw at any time and may contact us to
	removed from the records. If you would like to access a full copy
This project is designed and o University.	conducted independently from KAISO, by students from MacEw
*Note: The terms "hot peppe	r sauce" and "hot sauce" are interchangeable
**Note: Answering affirmati summarized above and outling	vely to the following question is indicative of accepting the term ned in the <u>form provided</u> .
Consent	
You must be able to consent your consent to participation.	to participate in this study. Please select the option below to cont
I Consent	
Familiarity with Spice	
Do You Consume Hot Sauce Ves	and/or Spicy Food? No
	10

General Food Opinions

This section intends to capture your opinions regarding new foods. Select the response that best describes how much you agree or disagree with each statement. Possible answers may be obscured by the size of your device. You can scroll side-to-side to find hidden responses.

Statements	Agree Extrem ely	Agree Moderat ely	Agree Slight ly	Neither Agree nor Disagree	Disagr ee Slightl y	Disagree Moderat ely	Disagre e Extrem ely
I am regularly trying new an different foods	d 🗆						
I do not trust new foods							
If I do not know what is in a food, I will not eat it							
I like foods from different countries							
I find ethnic foods too weird to eat							
At dinner parties, I would try new foods	′ 🗆						
I am afraid to eat things I have never had before							
I am very particular about th foods I will eat	e 🗆						
I will eat almost anything							
I like to try new ethnic restaurants							
Hot Pepper Sauce This section gauges your How much thought do yo Please select very little if Very Little	ou put into bu You do not p 4	uying hot pe ourchase ho	pper sau t pepper	ice? sauce. □ [7 8		Ve	ry ich
Which of the following o Check all that apply. Locally	ptions is imp	actful to yo	our purch	ase decision	?	Other:	
Owned/Produc Diet- ed friend	uy~	althy	Organi		-GMO	Please sta	te
*Diet-friendly includes K			ie, Gluter	n Free, Halal	, etc.		
How would you use hot p Check all that apply.	pepper sauce	?					

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Sauce	Marinad	les Be	eef	Chie	cken	Fish	Dips	Co: ng	ndime	nt/10p	pı	Other:_	
												_ □	
How important is	is flavo	ur to yo	ou, in	a hot	peppe	r sauc	e?						
Not		-											Very
Important	1			2	3	4	5	6	7	8	9	10	Impor
Please rank the s	spicine	ss of the	ese pr					<u> </u>	,			10	
With 1 being "no							y."						
										Not			
		1	2		3		4	5		App Trie		le/Neve	r
Frank's Red Ho	ot												
Sriracha													
Tabasco													
Louisiana Hot Sauce													
Cholula													
Cayenne Peppe	er												
Jalapeño Peppe	er												
			_							<u> </u>			
Habanero Pepp	ber												
Ghost Pepper Branding Please rate how t	the ima	 age, bra	nding	, and	bottle						urcha	sing	
Ghost Pepper Branding	the ima ling the	age, bra	nding ing ho	, and ot pep	bottle	uces.	n would	influ	ence y	our pi		-	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or	the ima ling the	age, bra	nding ing ho orm, h	, and ot pep iigh-d	bottle per sa efiniti	uces. on im	n would ages of e	influ ach l	ence y 10t pej	our pu	uce':	s bottle	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or	the ima ling the	age, bra follow urvey fo Would Not	nding ing ho orm, h	, and ot pep iigh-d Ver	bottle per sa efiniti	uces. on im	n would ages of e Unlikel	influ ach ł	ence y 10t pep	our pu oper sa	uce's	s bottle : Very	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or provided.	the ima ling the	age, bra follow: urvey fo Would Not Purch	nding ing ho orm, h	, and ot pep ligh-d Very Unli	bottle per sa efiniti	uces. on im	n would ages of e Unlikel y	influ ach ł No Imj	ence y 10t pej	our pu oper sa Lik y	iuce': :el	s bottle : Very Likely	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or provided. Frank's	the ima ling the	age, bra follow: urvey fo Would Not Purch	nding ing ho orm, h	, and ot pep iigh-d Ver Unli	bottle per sa efiniti	uces. on im	n would ages of e Unlikel y	influ ach l Imj	ence y 10t pep	our pu oper sa	iuce': iel	s bottle : Very Likely	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or provided. Frank's Sriracha	the ima ling the nline st	age, bra follow: urvey fo Would Not Purch	nding ing ho orm, h	, and ot pep iigh-d Ver Unli	bottle per sa efiniti	uces. on im	n would ages of e Unlikel y	influ ach l Imj	ence y 10t pep	our pu oper sa Lik y	el	s bottle : Very Likely	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or provided. Frank's Sriracha Louisiana Hot S	the ima ling the nline st	age, bra follow: urvey fo Not Purch	nding ing ho orm, h	, and ot pep nigh-d Unli	bottle per sa efiniti	uces. on im	n would ages of e Unlikel y 	influach l ach l Imp	ence y 10t pep	our pu oper sa Lik y	el	s bottle : Very Likely	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or provided. Frank's Sriracha Louisiana Hot S Cholula	the ima ling the nline st	age, bra follow: urvey fo Would Not Purch	nding ing ho orm, h	, and ot pep iigh-d Ver Unli	bottle per sa efiniti	uces. on im	n would ages of e Unlikel y	influ ach l Imj	ence y 10t pep	our pu oper sa Lik y	el	s bottle : Very Likely	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or provided. Frank's Sriracha Louisiana Hot S	the ima ling the nline st	age, bra follow: urvey fo Not Purch	nding ing ho orm, h	, and ot pep nigh-d Unli	bottle per sa efiniti	uces. on im	n would ages of e Unlikel y 	influach l ach l Imp	ence y 10t pep	our pu oper sa Lik y	el	s bottle : Very Likely	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or provided. Frank's Sriracha Louisiana Hot S Cholula	the ima ling the nline st Sauce	age, bra follow: urvey fo Would Not Purch D	nding ing ho orm, h d ase	, and ot pep iigh-d Unli	bottle per sa efiniti	uces. on im	n would ages of e Unlikel y 	influ ach l Imj	ence y 10t pep	our pu oper sa	el	s bottle : Very Likely	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or provided. Frank's Sriracha Louisiana Hot S Cholula Kaiso Heat Demographic Inf	the ima ling the nline st Sauce	age, bra follow: urvey fo Would Not Purch D	nding ing ho orm, h d ase	, and ot pep iigh-d Unli	bottle per sa efiniti	uces. on im	n would ages of e Unlikel y 	influ ach l Imj	ence y 10t pep	our pu oper sa	el	s bottle : Very Likely	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or provided. Frank's Sriracha Louisiana Hot S Cholula Kaiso Heat Demographic Inf How often do yo	the ima ling the nline st Sauce	age, bra follow: urvey fo Would Not Purch D	nding ing ho orm, h d ase	, and ot pep iigh-d Unli	bottle per sa efiniti	uces. on im	n would ages of e Unlikel y 	influ ach l Imj	ence y 10t pep	our pu oper sa	el	s bottle : Very Likely	are
Ghost Pepper Branding Please rate how t decisions regardi * Note: on the or provided. Frank's Sriracha Louisiana Hot S Cholula Kaiso Heat Demographic Int How often do yo Almost Never	the ima ling the nline st Sauce formation cons	age, bra follow: nrvey fo Would Not Purch D	nding ing ho orm, h d ase	, and ot pep iigh-d Unli	bottle per sa efiniti	uces. on im	n would ages of e Unlikel y 	influ ach l Imj	ence y 10t pep	our pu oper sa Lik y 	el	s bottle : Very Likely	are

MUSe	2023

What	is your e	thnicity?						
Caucasian/	Black/	East	Southeast	South	First Nations/	Latin	Prefer	Other:
European	African	Asian	Asian	Asian	Inuit/ Metis	American	not to say	
What is your biological sex?								
Male 🗆		Female 🗆 Prefer not to say 🗆						
What is your estimated household income before tax in Canadian dollars:								
If you have any questions or comments regarding the survey, or the research being								
conducted, please indicate them here:								

Thank you so much for your participation in our research!!!!!

Table C.1: Coded Pre-Test Results

	Feedback
Section 1	 "In the intro statement, 'The purpose of this research' should maybe be 'the purpose of this survey'?" "Consent form does not give access"*
Section 2	The term "Spicy food" might be too subjective?
Section 3	 "May want to increase the form size if there's an option to increase the width of the survey"
Section 4	 "Is there an option for flavour?" "Why isn't there one for spiciness?" "I'm putting how spicy it is" Respondents added "Spice-level", "How spicy it is" and "General flavour"
Section 5	 "I could not say Frank's does not count as a hot sauce" "For the images used in the questionnaire; those brands are too common. Could be valuable to find other, lesser known brands that are similar to get a more 'blind survey' type response, or photoshop out the brand names. My responses there were more based on history and knowledge than the 'look' of the sauces."
Section 6	 "I don't know my household income, feel free to disregard" "Also there's no south Asia option" Respondents added "Indian" and "South Asian/Indian" under other options "Wait I accidentally just put my income, is that okay?"
Section 7	N/A
General	 "When I tried to do survey on Facebook messenger, it did not take me to a web browser and the page kept disappearing and I had to start over again. I was finally able to finish it through email." "Is hot pepper sauce the same as hot sauce?" "I don't know what hot pepper sauce is, unless if it's just hot sauce" "Why does it say hot <i>pepper</i> sauce?" "I've had hot sauce before, but not hot pepper sauce"

*Fixed during Pre-test