Project 2: Starbucks' New Fall Line Up

Market Overview

Starbucks Corporation is an American multinational chain of coffeehouses and roastery reserves headquartered in Seattle, Washington. It was founded in 1971 and is currently the world's largest coffeehouse chain. As of 12/31/2023, Starbucks has a revenue of $36,687m and its net income is $4,294m. Starbucks's main competitors in the US market are Mcdonald's Corporation and Dunkin' Brands Group Inc., Dunkin's financials consist of a revenue of $1,308m and a net income of $220m, while Mcdonald's revenues are $ 25,494m, and net income of $8,469m. Starbucks remains the leading company in the coffee industry with $29.1 billion in annual sales in 2021.

- Starbucks operates over 34,000 stores and is embarking on aggressive measures to reduce waste and product efficiency.
- Dunkin' Donuts was acquired by Inspire Brands in 2020 and now has the ability to leverage economies of scale.
- McDonald's now offers 23 different beverage products as part of its McCafe line and generated over $23 billion of company-wide sales in 2021.

The Starbucks brand effectively differentiates itself from its main competitors by offering a third-home" value proposition. The company strives to have a welcoming, warm environment in its locations for customers to consume their products, showcasing the brand as a premium brand where customers can expect quality products in a comfortable setting. Alternatively, competitors like McDonald's and Dunkin' Donuts strive for lower prices for goods more likely to be consumed offsite.

The use of mobile apps is significantly influencing the coffee market by enhancing customer experience and expanding business operations. Coffee shops are increasingly integrating mobile apps for ordering, payment, and loyalty programs, which not only streamline operations but also cater to the convenience and personalization preferences of customers. Starbucks itself has adopted a digital-first strategy, offering options like pick-up stores and collaborations with platforms like Amazon Go for cashier-less purchases

Research indicates that online advertising and consumers' intent to use social media for socialization leads to certain expectations from their frequented coffee retailers with respect to their social media presence. The more engaging and interactive the content the more loyalty can be expected. How a brand makes someone feel is the driver for loyalty or loyalty. The Experiences that customers are exposed to through products/services are key success factors for further interaction. With social media content marketing coffee retailers can create an effective strategy that focuses on targeted and intriguing content, building a positive and rewarding relationship that leads to loyalty.

The broader coffee market shows a significant shift towards health-focused products, with consumers seeking coffee options that offer health benefits. The increase in popularity of coffee products enhanced with health-promoting additives such as adaptogens and nootropics, which cater to consumer interests in stress reduction and cognitive enhancement are part of a larger movement where physical and mental wellness are becoming priorities for consumers.

Additionally, transparency about caffeine content in coffee is becoming crucial, along with the demand for options with reduced sugar levels and healthier ingredients. This aligns with the broader consumer demand for transparency and health-conscious choices in their diet.

The market for organic coffee has seen substantial growth due to its environmental and health advantages. Produced without the use of synthetic pesticides and fertilizers, organic coffee appeals to eco-conscious consumers, aligning with the growing preference for sustainable and environmentally friendly production methods.

These trends indicate a shift toward a more health-conscious and informed consumer base, seeking products that not only satisfy their taste but also contribute positively to their health and the environment.

Pre-empting this shift Starbucks has been attempting to incorporate a stronger image as a brand that caters to the health-conscious. Starbucks has actively expanded its range of healthy offerings, including more nutritious snacks and customizable beverage options, to align with customer preferences for healthier choices such as fresh fruits and vegetables and snack options that cater to dietary restrictions, such as gluten-free and vegan choices

Data Analysis

Conjoint analysis on a set of beverage attributes has highlighted various consumer preferences and the impact of different product attributes on overall utility. This analysis interprets the significant drivers behind consumer choices and how they perceive the essential value of different combinations of product features.

Significant Influence on Consumer Preferences

Exhibit 1

Attribute	Level	Utility
Temperature	Hot	0
Temperature	Cold	-0.853968655
Milk	Skim	1.932070708
Milk	Whole	1.021798949
Milk	Alt	0
Flavor	Caramel	0
Flavor	Chocolate	-0.881471772
Flavor	Pumpkin	1.064829623
Toppings	Whipped Cream	-1.934145629
Toppings	Whipped Cream & Drizzle	-1.073862075
Toppings	Drizzle	0
Price	$3.99	0
Price	$4.99	0.804421864
Price	$5.99	-1.051740623

The results of the conjoint analysis as can be seen in exhibit 1 indicate that certain combinations of attributes notably influence consumer preferences. A notable preference for **hot drinks** indicates that temperature plays a critical role, with cold drinks reducing utility by approximately 0.85 points. The type of **milk** used also shows a substantial impact on preferences; **skim milk** is highly favored, improving utility by about 1.93 points, this suggests a strong consumer inclination towards healthier options. **Whole milk** also increases utility but to a lesser extent (approximately 1.02 points), indicating a preference but not as robust as skim milk.

When considering **flavors**, **pumpkin** stands out by increasing utility by approximately 1.06 points, marking it as a particularly favored option during the season, possibly due to its association with autumnal themes. In contrast, **chocolate** decreases utility by about 0.88 points, implying a lesser preference relative to caramel which is the baseline flavor.

In the side of **toppings**, consumers show strong unpopularity towards **whipped cream** and combinations involving it. Just whipped cream lowers utility dramatically by about 1.93 points,

and even when combined with drizzle, it decreases utility by about 1.07 points. This suggests that simpler toppings like drizzle alone are preferred.

Utility Results Based on Product Profiles

The utility values assigned to different price points reveal very important and interesting insights into pricing strategies. The baseline price of **$3.99** holds neutral utility, while **$4.99** increases utility by approximately 0.80 points, indicating that consumers perceive added value for this price. On the other side, a price point of **$5.99** significantly deters consumer interest, reducing utility by about 1.05 points. This pricing sensitivity points out the importance of setting prices that reflect perceived value without crossing levels that consumers find unappealing.

Conclusion

The conjoint analysis demonstrates that consumer preferences are heavily influenced by health trends (preference for skim milk), seasonal flavors (favoring pumpkin), and simplicity in enhancements (favoring plain drizzle over more elaborate toppings). These insights can guide product development and marketing strategies, ensuring alignment with consumer preferences to maximize satisfaction and market success.

Recommendations

As shown by the conjoint analysis, there is a preference for hot drinks, particularly those flavored with pumpkin as well as a consumer shift towards healthier options such as skim milk. Additionally there is a perception among customers that charging at a price point near $4.99 offers perceived value over lower priced options, whereas going above $4.99 brings down overall happiness of customers These insights can be used to not only meet but exceed customer expectations by tailoring Starbucks' fall menu in ways that resonate with consumer preferences from both the data in the conjoint analysis as well as the market trends being seen in the broader coffee market.

The following are specific recommendations that leverage these insights to craft a compelling and customer-centric fall menu lineup.

1. Highlight hot drinks featuring pumpkin spice flavor. Develop a campaign around the return of classics like the Pumpkin Spice Latte (PSL) and introduce new hot pumpkin spice variations.
2. Offer a sugar-free pumpkin spice syrup option to cater to health-conscious consumers who still want the pumpkin flavor.
3. Set skim milk as the default milk option for Fall beverages. This aligns with the strong consumer preference and reduces the need for customization.
4. Remove the use of whipped cream as a standard topping for Fall beverages. Make this available, but only on an opt-in basis
5. Consider a price point of $4.99 for all Fall beverages. This aligns with the increased utility consumers perceive at this price point compared to the baseline.

6. Take inspiration from customer favorites like the Caramel Macchiato and create a Pumpkin Spice Macchiato. This offers a familiar base with a seasonal twist.
7. Encourage customers to share their favorite fall drink combinations or create a contest for the best user-generated Fall drink recipe using Starbucks ingredients. This creates a buzz and fosters customer engagement.
8. Utilize Starbucks app or in-store signage to display weather-based recommendations. On cooler days, promote hot pumpkin spice drinks.
9. Introduce a "Fall Flavor Challenge" where customers can try a variety of new fall drinks and earn rewards or badges within the Starbucks app. This gamifies the experience and encourages exploration.

The introduction of new drinks like the Pumpkin Spice Macchiato, alongside interactive social media engagement strategies, ensure that Starbucks not only meets the current market demands but also leads the way forward. Using the strategies discussed, Starbucks will be positioned to enhance its market presence, encourage customer loyalty, and deliver an exceptional fall experience that delights both new and returning customers.

Appendix

Market Research Sources

https://www.worldcoffeeportal.com/Latest/InsightAnalysis/2022/November/Coffee-2-0-innovation-and-the-future-of-coffee
https://homebrewacademy.com/coffee-trends/
https://stories.starbucks.com/stories/2016/customers-influence-health-and-wellness-options-at-starbucks/
https://www.foodbeverageinsider.com/market-trends-analysis/2022-health-and-wellness-trends-for-conscious-consumers
https://www-mergentonline-com.proxy.library.nd.edu/companydetail.php?compnumber=73271&pagetype=synopsis

https://www.investopedia.com/articles/markets/101315/who-are-starbucks-main-competitors.asp

https://www.researchgate.net/publication/342892843_Impact_of_Social_Media_in_Coffee_Retail_Business

https://www.yourdigitalresource.com/post/franchises-nailed-social-media-marketing

Conjunction Analysis Modeling

Data Setup

```
# Load necessary packages
if (!("tidyverse" %in% names(installed.packages()[,"Package"])))
{install.packages("tidyverse")}
if (!("broom" %in% names(installed.packages()[,"Package"]))) {install.packages("broom")}
if (!("openxlsx" %in% names(installed.packages()[,"Package"])))
{install.packages("openxlsx")}

library(tidyverse)
library(broom)
library(openxlsx)
```

```r
# Read in the data
data <- read.csv("starbucks_fall_survey.csv")
```

Build the conjoint model

This part is structured to first prepare the data for analysis by creating a model matrix appropriate for conjoint analysis, then fits a linear model to the prepared data, and finally extracts and tidies the model's coefficients for easier interpretation and presentation.

```r
# 1. Prepare the data set for conjoint analysis & Remove the 'Rating' column
# as it is the dependent variable and should not be part of the model matrix
# 2. Convert all remaining columns in the data set to factor type as conjoint analysis treats all
# inputs as categorical (factorial) even if they are originally numeric or character
# 3. Create a model matrix for the conjoint analysis. The '~ . + 0' formula means to use all
available
# variables in the data frame (denoted by '.') and '0' excludes the intercept from the model,
# which ensures that the design matrix is only composed of the factors and their levels
# 4. Convert the matrix back to a data frame for easier handling in further analysis
data_conjoint <- data %>%
  select(-Rating) %>%
  mutate_all(as.factor) %>%
  model.matrix(~ . + 0, data = .) %>%
  as.data.frame()
```

```r
# 1. Create a new data frame on the fly for the linear model function 'lm()'.
# 'Rating = data$Rating' pulls the dependent variable 'Rating' from the original dataset
# 'data_conjoint' is used as the independent variables for the model
# 2. Extract and tidy the model's coefficients, it then converts the summary
# results of the linear model into a tidy data frame
# This data frame will contain the estimates of the part-worths (coefficients)
# for each level of each factor, making it easier to interpret and report
model <- lm(Rating ~ ., data = data.frame(Rating = data$Rating, data_conjoint))
coefficients <- broom::tidy(model)
```

Attributes and Levels Mapping

Below we organize and process the results of the conjoint analysis, making them easier to interpret.

```
# Create a table, that is easy to read and write in code, to manually specify the mapping
# between the model matrix terms (as they appear in the output of a regression model)
# and their corresponding attribute names and levels.
# This helps in translating the regression output back into a more interpretable format.
attributes_and_levels <- tribble(
  ~term, ~Attribute, ~Level,
  "TemperatureHot", "Temperature", "Hot",
  "TemperatureCold", "Temperature", "Cold",
  "MilkSkim", "Milk", "Skim",
  "MilkWhole", "Milk", "Whole",
  "MilkAlt", "Milk", "Alt",
  "FlavorCaramel", "Flavor", "Caramel",
  "FlavorChocolate", "Flavor", "Chocolate",
  "FlavorPumpkin", "Flavor", "Pumpkin",
  "ToppingsWhipped.Cream", "Toppings", "Whipped Cream",
  "ToppingsWhipped.Cream...Drizzle", "Toppings", "Whipped Cream & Drizzle",
  "ToppingsDrizzle", "Toppings", "Drizzle",
  "Price.3.99", "Price", "$3.99",
  "Price.4.99", "Price", "$4.99",
  "Price.5.99", "Price", "$5.99"
)

# Use the 'left_join' function to merge the attribute and level data frame
# with the coefficients extracted from the conjoint analysis model.
# The merge is based on the 'term' column, which matches the regression model
# terms with their descriptive labels. This integration allows
# the actual regression output to be associated with meaningful attribute names
# and levels for clearer interpretation.
attribute_utility <- left_join(attributes_and_levels, coefficients, by = "term")
```

```
# It is common in regression output for baseline levels (reference categories)
# not to appear, leading to NA values in the joined data.
# These NAs are replaced with 0 to reflect that these levels have a baseline
# utility (no effect relative to themselves).
attribute_utility$estimate[is.na(attribute_utility$estimate)] <- 0

# For better readability and to facilitate further analysis or reporting,
# rename the 'estimate' column to 'Utility'.
# Then, select only the essential columns: Attribute, Level, and Utility,
# ensuring the data frame is concise and focused on these key variables.
attribute_utility <- attribute_utility %>% rename(Utility = estimate) %>%
  select(Attribute, Level, Utility)
```