To: John Doe, Chief Executive Officer, Awesome Sauce Pizza.

From: Krishna.R, Consultant.

Date: 29th January 2020.

Subject: Business Outlook and Influential Factors.

Summary:

This memo has been specifically prepared to outline parameters needed to study the business model, its efficacy, outlook/projections and areas of improvement. We start by categorizing the three facets of the business:

- Dine-in: percentage of business serving customers who dine-in on premises.
- Delivery: percentage of business serving clients using web and phone methods for door delivery.
- Pickup: percentage of clients that would prefer to pick up after ordering in advance.

We'll look to create projections independently for each business area to understand the efficacy and options to improve upon the level of service, if any, in each.

Our study will comprise of recorded data, identification of variable under study, identification of factors that relate the data to the variable under study and scenario analysis. To this end, we will, for the scope of this study (with options to expand later as need may arise) keep our study specific to:

- Customer Preference for Dining vs Delivery vs Pickup.
- Preferred method of ordering (web vs. phone vs. in Person)
- Speed of Service.
- Level of Service.
- Available Menu (Toppings) and most popular Options.
- Returns due to inadequate customer satisfaction.
- Market Share and expansions.

Data required for each study item, the variables we can infer and the scientific tools we explore is tabulated below and the specific methods can be found in more detail under "References"

Variable	Data Needed	Method of Analysis	Resulting Analysis	Inferential Stats
Customer Preference	Method of Order Order Quantity $ Amount	Multivariate Regression	Mode of business by share, order quantity and $ amount.	Mean, SD and Forecast
Preferred Mode of Order	Method of Order Order time stamp	Clustering Methods	Cluster of business categories by time of day	Plot of delivery mode by time of day.
Speed of Service	Time of Order Method of Order Order update Order Quantity	Multivariate Regression	Measure of order delivery speed as a function of delivery method, order quantity and amount.	Mean, SD and Forecast
Level of Service	Customer survey Online ratings	Classifier Methods	Classifying ratings on a predefined scale of say 5 and proportion of negative reviews.	Visual plot of reviews by ratings score.
Available and most popular Options.	Sale by each topping Category of each topping	Descriptive stats	Toppings by category and highest grossing.	Plot of categories, Options and Frequency
Returns	Order Toppings Sent back to Kitchen- Y/N Time of Day Mode of Order	Logistic Regression, Plot	Order most rejected and likely to be rejected.	Order Bucketed by Yes/No and plot of most frequently rejected menu items.
Market Share/Expansions.	Mode of Order If delivery, radius New Product Sales Competitors in 5 mile radius	Plot	New Product Sales by mode of order, max radius currently served vs max potential radius	Plot of variables

References :

- MultiVariate Regression
- Logistic Regression
- Classifiers
- Clustering Methods