COMP3350

Assignment 2 – Dataware House and Design

Semester 1, 2021

Tasty’n’Yummy Pizzas

Group Formation Form

**GROUP NO:** \_16\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (TO BE FILLED BY LECTURER)

**GROUP MEMBERS:**

I agree to participate in the mentioned group for COMP3350 Assignment 2

|  |  |  |
| --- | --- | --- |
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# Section 1: Datawarehouse Design

## Assumptions

* + 1. Yummy pizza has been selling pizza and related items for a few years hence last 2-3 data is already available in OLTP systems, which can be extracted, transformed and loaded into our datawarehouse
    2. Yummy pizza has a mechanism to record customer age group
    3. Yummy pizza currently has only one outlet and may be considering expanding to other cities or areas with new outlets

## Fact and Dimension table for each business process of Tasty and Yummy Pizza

1. Business processes:

|  |  |  |
| --- | --- | --- |
| Business Process | Fact Table | Dimension Table |
| Item Sales | ItemSales | Ingredients, Time, Order, Discount, Payment, ItemForSale, Employee |
| Customer Preferences | Customer | CustomerType (Phone, Online,walkin) , Time, Order, Discount, Payment, ItemForSale, Employee, DeliveryMode (delivery or pickup) |
| Ingredient Suppliers | Ingredients | IngredientsSupplied, SupplierDtls, SupplierOrder, Time, Employee |

1. Dimension model:



# 1.3 Subject areas

we decided to focus in our data warehouse is the Item sales and customer preferences as it would help to boost sales for Tasty and Yummy Pizza. The dimension model is designed keeping in-view the following information analysis required inorder to address the objective:

1. Items with highest sales for the past 2year as focusing on these products is expected to boost the sales (e.g. bring in more variants of popular pizza)
   1. 3 Items with highest sales during special events like Christmas, Easter etc.
   2. Items with highest sales during summer and winter months
   3. Ingredients used for these items, so that the supply of these ingredients can be secured so that the sales is not impacted incase of adverse circumstances.
2. Items with lowest sales for the past 1year as investment on low selling product can be presented to management for reconsideration of scrapping these products or giving some support to boost the sales. (e.g. designing a discount program for pushing-up the sales)
   1. Items with consistently low sale across the year
   2. Items with low sale in winter months (e.g. Ice-cream)
3. Items preferred by a particular age group of customer.
4. Items generally ordered together, like Pizza and garlic bread, so that customized discount campaign program can be worked out to boost the sale.
5. Payment mode for most orders. If its observed that most users are buying it using a particular credit card, a marketing campaign can be designed along with the credit card company for a win-win scenario for both credit card and Yummy Pizza.
6. Highest Items sold under a particular discount program to assess the popular discount preferred by customer. This information would help to assess which discounts should be continued to boost sales for a particular item.
7. 3 Items contributing the highest value to revenue. This would help to focus on enhancing the sale further of these products.
8. 5 highest consumed ingredients so that the supply of these ingredients can be secured to ensure the sales of these items and revenue is not impacted.
9. Consumer patterns
   1. Delivery – Suburbs from where most delivery request were recorded in last 1year as it would help to support decisions like opening of new branch or staffing for delivery member’s familiar with a particular suburb or partnering with a delivery partner like uber-fooddelivery with network in this suburb
   2. Payment mode – Payment mode used the most i.e. debit or credit card, so that marketing campaign can be designed to promote the sales in conjunction with most popular payment mechanism.
   3. Identify regular customers, customers who ordered most number of times or more than 20 times in a year. Given that these customers are part of the loyal customer group for the Yummy Pizza, a marketing campaign / discount program can be customized to encourage these members to bring in their friends or references.
   4. Which city most customers belong to, so that management decision on opening of new branch in this city can be supported, or running a marketing campaign in this city can give a boost to sales of yummy pizza.
   5. Customer Age group preferences for an Item example if double cheese pizza is popular amongst younger age group, then a marketing campaign can be designed to promote the cheese pizza sale for college student.