

Part B: Data Models for Starbucks

2. Customer Relationship System (CRS)

The Customer Relationship System (CRS) is a critical component of Starbucks' operations, designed to manage customer data, track interactions, and optimize customer experiences. This system not only helps Starbucks improve customer satisfaction and loyalty but also serves as a foundation for personalized marketing, product recommendations, and data-driven decision-making.

Components of the CRS:

a. Customer Table:

- This table stores detailed information about Starbucks' customers and acts as the primary data source for managing customer relationships. Key fields include:
 - **CustomerID (Primary Key):** A unique identifier for each customer.
 - **FirstName and LastName:** Basic personal identification.
 - **Email:** Used for communication, digital receipts, and marketing.
 - **PhoneNumber:** For contact and mobile app integrations.
 - **Address:** To manage customer demographics and facilitate potential delivery services.

b. Order Table:

- This table captures information about the orders placed by customers. It provides insights into purchase behavior and trends. Key fields include:
 - **OrderID (Primary Key):** A unique identifier for each order.
 - **CustomerID (Foreign Key):** Links the order to a specific customer.
 - **OrderDate:** Tracks when the order was placed.
 - **TotalAmount:** The total value of the order.
 - **EmployeeID:** Indicates which employee assisted with the order, useful for tracking employee-customer interactions.

c. Order Details Table:

- This table provides detailed information about the items in each order. It supports item-level analysis, which is vital for understanding product popularity. Fields are:
 - **OrderDetailID (Primary Key):** A unique identifier for each order detail.
 - **OrderID (Foreign Key):** Links to the corresponding order.
 - **ProductID:** Identifies the product in the order.
 - **Quantity:** The number of units purchased.
 - **Price:** The price per unit of the product.

How the CRS Works:

The CRS integrates these tables to provide a comprehensive view of customer interactions. For instance:

- When a customer places an order, their details are retrieved from the Customer Table.
- The order is logged in the Order Table with a record of the total amount, order date, and associated employee.
- Detailed information about the products purchased is stored in the Order Details Table, allowing Starbucks to analyze which items are most popular among different customer segments.

Use Cases of the CRS at Starbucks:

1. Personalized Marketing:

By analyzing customer data, Starbucks can design personalized offers and recommendations. For example, if a customer frequently buys lattes, the system can suggest seasonal variations or discounts on similar beverages.

2. Loyalty Program Integration:

Starbucks' loyalty program, Starbucks Rewards, is tightly integrated with the CRS. It tracks customer spending, awards points, and notifies customers about rewards or promotions.

3. Customer Feedback and Support:

The CRS helps track customer orders and interactions, enabling Starbucks to respond effectively to complaints or inquiries. For instance, if a customer reports an issue with an order, the system can quickly retrieve the relevant details.

4. Sales Analysis:

Starbucks uses the CRS to monitor purchase patterns, such as peak purchasing times or popular product combinations, allowing them to adjust inventory and promotions accordingly.

Relationships in the CRS:

1. One-to-Many Relationship:

- A single customer can place multiple orders (one-to-many relationship between the Customer Table and the Order Table).
- Each order may consist of multiple products (one-to-many relationship between the Order Table and the Order Details Table).

2. Many-to-One Relationship:

- Multiple orders can be linked to a single employee (many-to-one relationship between the Order Table and employees, though employees are not detailed in this ERD).

Why the CRS is Crucial for Starbucks:

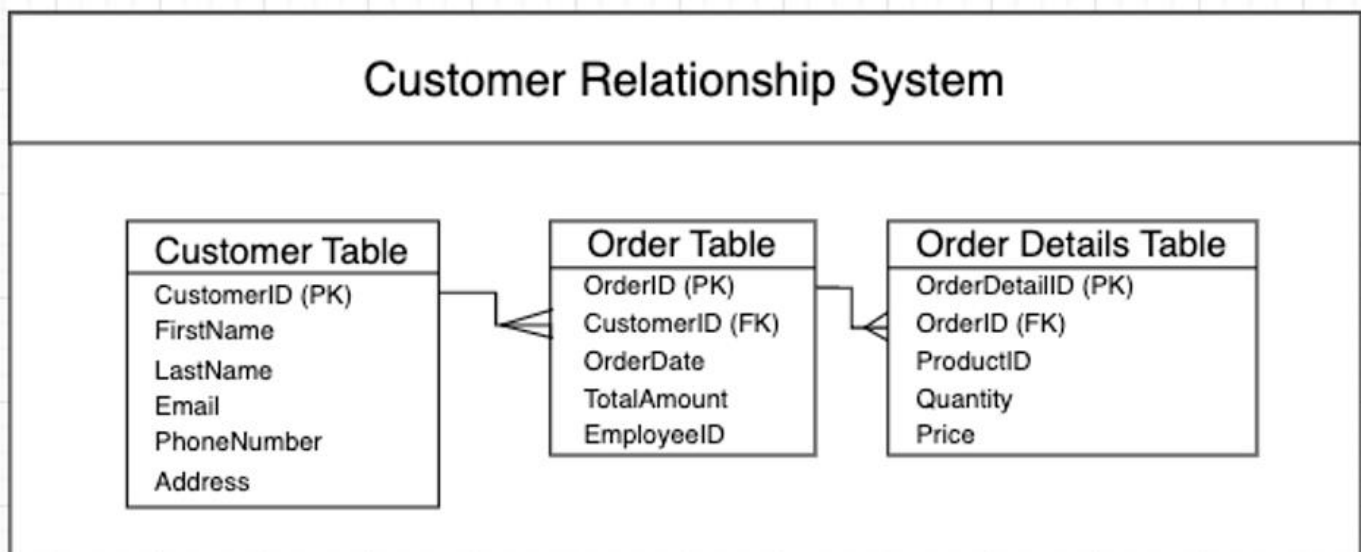
The CRS is essential for Starbucks because it directly impacts customer experience and business outcomes. It provides the following benefits:

1. **Improved Customer Satisfaction:** By understanding customer preferences and purchase behavior, Starbucks can tailor its offerings and services to meet individual needs.
2. **Increased Revenue:** Personalized promotions and upselling opportunities drive repeat purchases and higher transaction values.
3. **Enhanced Operational Insights:** Tracking orders and product performance allows Starbucks to optimize its inventory and supply chain.
4. **Customer Retention:** By maintaining strong relationships through loyalty programs and personalized interactions, Starbucks fosters long-term customer loyalty.

Challenges Without an Effective CRS:

Without a robust CRS, Starbucks would struggle to:

- Deliver personalized experiences.
- Track customer purchase behavior accurately.
- Integrate loyalty programs effectively.
- Respond efficiently to customer issues.



BIGQUERY:

Google Cloud

My First Project

Search (/) for resources, docs, products, and more

Search

Explorer

Search BigQuery resources

Viewing resources.
SHOW STARRED ONLY

External connections

customer

customers

orderdetails

orders

employee

master

supplier

SUMMARY

customers

stellar-lock-437017-s8.customer

Last modified Nov 25, 2024, 5:51:29 AM UTC-6

Data location us-south1

customers

QUERY

SHARE

COPY

SNAPSHOT

DELETE

EXPORT

REFRESH

SCHEMA

DETAILS

PREVIEW

TABLE EXPLORER

PREVIEW

INSIGHTS

LINEAGE

DATA PROFILE

DATA QUALITY

Row	CustomerID	FirstName	LastName	Email	PhoneNumber	Address
1	CUST089	Bob	Davis	bob.davis@gmail.com	583-925-1117	202 Cedar Boulk
2	CUST020	Bob	Davis	bob.davis@hotmail.com	823-432-3841	123 Elm Street
3	CUST098	Bob	Jones	bob.jones@starbucks.com	625-296-4889	505 Spruce Way
4	CUST066	Bob	Moore	bob.moore@starbucks.com	919-616-5342	456 Oak Avenue
5	CUST062	Bob	Smith	bob.smith@gmail.com	761-985-4173	404 Cherry Cour
6	CUST070	Bob	Garcia	bob.garcia@starbucks.com	519-320-9261	303 Birch Road
7	CUST079	Bob	Garcia	bob.garcia@starbucks.com	994-376-2754	202 Cedar Boulk
8	CUST013	Bob	Garcia	bob.garcia@yahoo.com	743-174-4769	202 Cedar Boulk
9	CUST091	Bob	Miller	bob.miller@hotmail.com	345-243-3885	101 Maple Drive
10	CUST045	Bob	Miller	bob.miller@hotmail.com	342-370-1402	505 Spruce Way
11	CUST028	Bob	Williams	bob.williams@starbucks.com	299-792-3211	123 Elm Street
12	CUST099	Bob	Williams	bob.williams@starbucks.com	658-787-4072	789 Pine Lane
13	CUST041	Emma	Davis	emma.davis@hotmail.com	563-458-5963	789 Pine Lane
14	CUST092	Emma	Jones	emma.jones@gmail.com	685-815-7312	456 Oak Avenue
15	CUST096	Emma	Jones	emma.jones@starbucks.com	635-996-8660	404 Cherry Cour
16	CUST081	Emma	Moore	emma.moore@hotmail.com	657-962-5806	505 Spruce Way

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Job history

REFRESH