

Part B: Data Models for Starbucks

1. Employee Management System (EMS)

The Employee Management System (EMS) is a critical component of Starbucks' operations, designed to manage and streamline the handling of employee-related information and their association with various projects. This system ensures the smooth functioning of internal operations by centralizing data related to employees, their roles, compensation, and project participation.

Components of the EMS:

a. Employees Table:

- The core repository of employee information. It contains key details for every Starbucks employee, including:
 - **EmployeeID (Primary Key):** A unique identifier for each employee.
 - **FirstName and LastName:** Personal identification details.
 - **Position:** The role or designation of the employee (e.g., Barista, Manager, Project Lead).
 - **HireDate:** The date when the employee joined Starbucks.
 - **Salary:** The compensation details of the employee.

b. Project Table:

- The project table holds details about various projects Starbucks undertakes, such as store launches, renovations, marketing campaigns, or system upgrades. Key fields include:
 - **ProjectID (Primary Key):** A unique identifier for each project.
 - **ProjectName:** The title or purpose of the project.
 - **Budget:** The allocated financial resources for the project.

c. Employee Projects Table:

- This intermediate table resolves the *many-to-many* relationship between employees and projects. It tracks which employees are assigned to which projects and includes:
 - **EmployeeProjectID (Primary Key):** A unique identifier for each assignment.
 - **EmployeeID (Foreign Key):** Links to the employee assigned to a project.
 - **ProjectID (Foreign Key):** Links to the corresponding project.
 - **StartDate and EndDate:** Tracks the duration of the employee's involvement in the project.

How the EMS Works:

The EMS integrates the three tables to ensure seamless tracking of employees and their contributions to Starbucks' operations. For example:

- When a new project is initiated (e.g., opening a new store), it is logged into the Project Table.
- Relevant employees are assigned to this project by creating entries in the Employee Projects Table. Their start and end dates are recorded, providing visibility into resource allocation.
- Managers can track which employees are working on which projects, their roles, and the financial or temporal impact of their contributions.

Use Cases of the EMS at Starbucks:

1. Project Resource Allocation:

- If Starbucks plans to open a new store, the EMS ensures that the right employees (e.g., managers, project leads) are assigned based on their expertise and availability.

2. Employee Performance Tracking:

- By linking employees to specific projects, Starbucks can evaluate their contributions, assess performance, and provide rewards or promotions.

3. Workforce Planning:

- The EMS helps in workforce planning by identifying gaps in employee roles or under-utilized staff, enabling Starbucks to optimize its human resources.

Relationships in the EMS:

• One-to-Many Relationship:

- A single project may involve multiple employees (from the Employee Projects Table).
- Similarly, an employee may participate in multiple projects over time.

• Many-to-Many Relationship (Resolved):

- Employees and projects inherently have a many-to-many relationship. This is resolved by the Employee Projects Table, which acts as a bridge.

Why the EMS is Crucial for Starbucks:

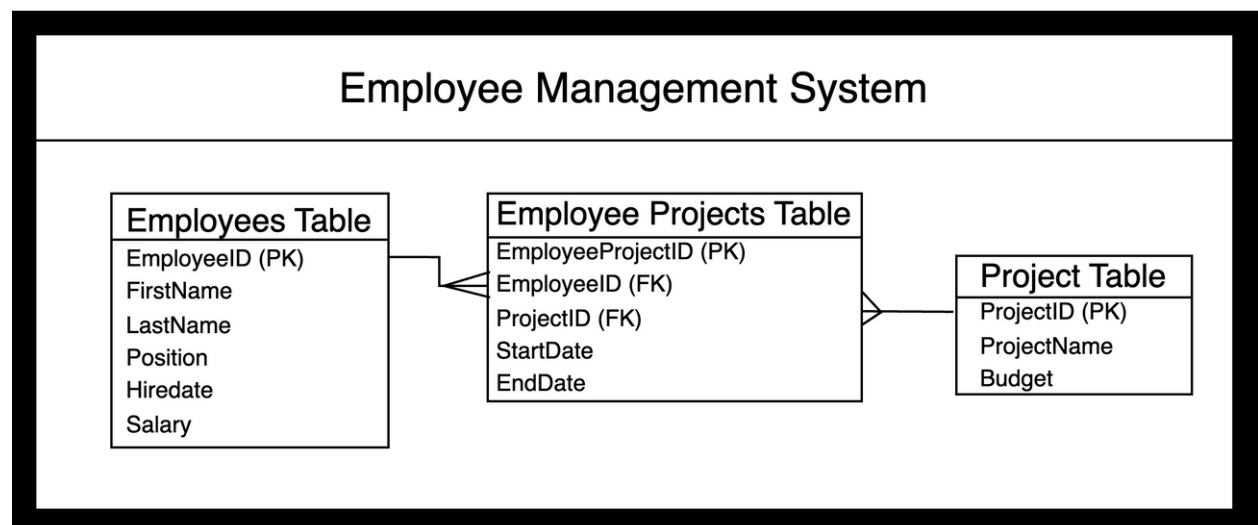
The EMS is essential for Starbucks to efficiently manage its workforce and ensure that employee resources are aligned with the company's goals. Proper functioning of this system provides:

1. **Enhanced Operational Efficiency:** By ensuring employees are correctly allocated to projects and roles.
2. **Improved Decision-Making:** Managers can make data-driven decisions regarding resource allocation and project planning.
3. **Employee Accountability:** Tracking project involvement ensures employees are aligned with organizational objectives.
4. **Cost Control:** By optimizing resource allocation, the system helps Starbucks control project budgets and reduce overhead.

Challenges Without an Effective EMS:

Without a robust EMS, Starbucks would face difficulties such as:

- Inefficient allocation of employees to projects.
- Overlaps or gaps in project staffing.
- Lack of visibility into employee contributions, leading to inaccurate performance assessments.
- Budget overruns due to poor tracking of resources.



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Viewing resources.

SHOW STARRED ONLY

➔ External connections

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⌵ projects

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SUMMARY

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employees

stellar-lock-437017-s8.employee

Last modified Nov 25, 2024, 5:51:37 AM UTC-6

Data location us-south1

employees

QUERY

SHARE

COPY

SNAPSHOT

DELETE

EXPORT

REFRESH

SCHEMA

DETAILS

PREVIEW

TABLE EXPLORER

PREVIEW

INSIGHTS

LINEAGE

DATA PROFILE

DATA QUALITY

Row	EmployeeID	FirstName	LastName	Position	HireDate	Salary	
1	5	FirstName5	LastName5	Tester	2012-07-02	111466.62	
2	15	FirstName15	LastName15	Tester	2023-07-08	83709.61	
3	8	FirstName8	LastName8	Tester	2017-05-01	91647.27	
4	27	FirstName27	LastName27	Tester	2013-10-14	110729.68	
5	2	FirstName2	LastName2	Tester	2019-01-18	116705.03	
6	16	FirstName16	LastName16	Tester	2023-12-30	116291.98	
7	13	FirstName13	LastName13	Tester	2011-08-08	71681.89	
8	3	FirstName3	LastName3	Tester	2024-09-04	70332.25	
9	21	FirstName21	LastName21	Tester	2019-02-08	90037.47	
10	26	FirstName26	LastName26	Analyst	2022-10-26	112039.88	
11	14	FirstName14	LastName14	Analyst	2023-02-02	66938.81	
12	37	FirstName37	LastName37	Analyst	2013-08-11	113330.22	
13	35	FirstName35	LastName35	Analyst	2011-10-13	50565.2	
14	36	FirstName36	LastName36	Analyst	2024-10-31	76954.71	
15	4	FirstName4	LastName4	Analyst	2022-04-29	60182.84	
16	12	FirstName12	LastName12	Analyst	2022-04-21	97463.6	
17	17	FirstName17	LastName17	Analyst	2024-11-09	60777.47	

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Job history

REFRESH

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