Creating a Database Schema and Table Relationships for a Logistic Company's Data

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ABSTRACT

Logistics is the support function of an organization and it means having the right object, at the right place, in the right time. Logistics deals with various kinds of methods to control the flow of resources from one place to another. One of the major and the most important factors that is costing is being dealt with utmost attention. The project is being designed keeping in mind the details of the various requirements of logistics such as keeping records of the goods; i.e. their details and the kind of content that is stored in the shipment which is to be delivered.

A Relational Database Management System (RDBMS) is similar to DBMS. The difference is that in RDBMS, the entities and values in tables are related to one another. Also the tables are related to each other. Thus, it is called "Relational".

PROBLEM DESCRIPTION

The logistics company provides services in both the international and domestic sectors. The logistics management takes into consideration every facility that has an impact on cost. It plays an important role in making the product confirm to customer requirements. Also, it involves efficient integration of suppliers, manufacturers, Import & export and other activities at many levels; from the strategic level through the tactical to the operational level.

Customers can send different types of shipping contents. Payment is to be done at the same time the product is delivered to the client. Delivery boy and centre head can update the status of the shipment. Create a database schema and table relationships that can be used in any technology.

SCOPE

It is of critical importance to the organization how it delivers products & services to the customer, whether the product is tangible or intangible. Effective and efficient physical movement of the tangible product will speak of intangible services associated with the product and the organization which is delivering it.

In case of intangible products, the delivery of tangibles at the right place & right time will speak about its quality. On the macro level infrastructure such as various modes of transport, transportation equipment, storage facilities, connectivity and information processing are contributing to a large extent in the physical movement of goods produced in manufacturing, mining and agriculture Sectors.

This speed and reliability in distribution of products and services contribute to a great extent in the growth of a country's domestic and international trade.

TABLE DEFINITIONS

1) **Employee_Details Table:**
   This table contains the information of the employees.

Column Name	Data Type	Description
Emp_ID	INT (5)	Employee ID (Primary Key)
Emp_NAME	VARCHAR (30)	Name of the employee
Emp-BRANCH	VARCHAR (15)	Branch name
Emp_DESIGNATION	VARCHAR (40)	Designation of the employee
Emp_ADDR	VARCHAR (100)	Address of the employee
Emp_CONT_NO	VARCHAR (10)	Contact Number of the employee

2) Membership Table:

This table contains the membership details of the customer or client.

Column Name	Data Type	Description
M_ID	INT	Membership ID associated with the client (Primary Key)
START_DATE	TEXT	Start date of the membership
END_DATE	TEXT)	End date of the membership

3) Customer Table:

This table contains the information of the customers or clients.

Column Name	Data Type	Description
Cust_ID	INT (4)	Client ID (Primary Key)
Cust-NAME	VARCHAR (30)	Name of the client
Cust-EMAIL_ID	VARCHAR (50)	Email of the client
Cust_CONT_NO	VARCHAR (10)	Contact Number of the client
Cust_ADDR	VARCHAR (100)	Address of the client
Cust_TYPE	VARCHAR (30)	Type of client (Wholesale, Retail, Internal Goods)
Membership_M_ID	INT	Membership ID (Foreign Key)

4) Payment_Details Table:

This table contains the payment details.

Column Name	Data Type	Description
PAYMENT_ID	VARCHAR (40)	Payment Unique ID (Primary Key)
AMOUNT	INT	Price to be paid by the client
PAYMENT_STATUS	VARCHAR (10)	Payment status (Paid / Not Paid)
PAYMENT_DATE	TEXT	Date when payment is made by the client
PAYMENT_MODE	VARCHAR (25)	Mode of payment (COD / Card Payment)
Shipment_SH_ID	VARCHAR (6)	Shipment ID (Foreign Key)
Shipment_Client_C_ID	INT (4)	Client ID (Foreign Key)

5) Shipment_Details Table:

This table contains the shipment details.

Column Name	Data Type	Description
SD_ID	VARCHAR (6)	Shipment ID (Primary Key)
SD_CONTENT	VARCHAR (40)	Type of shipping content
SD_DOMAIN	VARCHAR (15)	Shipment Domain (International / Domestic)
SD_TYPE	VARCHAR (15)	Service Type (Express / Regular)
SD_WEIGHT	VARCHAR (10)	Shipment Weight
SD-CHARGES	INT (10)	Shipment Charges
SD-ADDR	VARCHAR (100)	Source Address
DS_ADDR	VARCHAR (100)	Destination Address
Customer_Cust_ID	INT (4)	Client ID (Foreign Key)

6) Status table:

This table contains the details about the delivery status.

Column Name	Data Type	Description
CURRENT_ST	VARCHAR (15)	Current status of the shipment
SENT_DATE	TEXT	Date when shipment was sent
DELIVERY_DATE	TEXT	Date when the product was/will be delivered
SH_ID	VARCHAR (6)	Shipment ID (Primary Key)

7) Employee Manages Shipment Table:

This is a relationship table between the employee and the shipment table.

Column Name	Data Type	Description
Employee_E_ID	INT (5)	Employee ID (Foreign Key)
Shipment_SH_ID	VARCHAR (6)	Shipment ID (Foreign Key)
Status_SH_ID	VARCHAR (6)	Shipment_ID from status table (Foreign Key)