Create 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 |

1. **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 |

1. **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) |

1. **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) |

1. **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) |

1. **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) |

1. **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) |