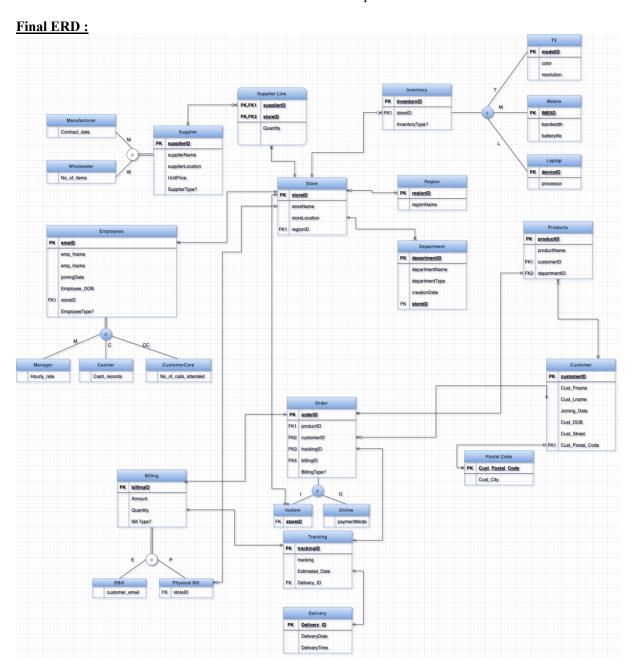
Data Management and Database Design (DAMG 6210) P3. Final ERD - Fall 2023

<u>Database Design – Retail Management System</u>

Team Members Group 6

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Changes from the Initial ERD:

1. Added a new Associative Entity 'Supplier Line' between 'Store' and 'Supplier'

Entity Name: Supplier Line

Attributes: supplierID (Primary Key, Foreign Key), storeID (Primary Key, Foreign Key), Quantity

Primary Key: supplierID, storeID

2. Divided 'Inventory' into subtypes, 'Mobile', 'TV', 'Phone'

Entity Name: Mobile

Attributes: IMEIID (Primary Key), bandwidth, batterylife

Primary Key: <u>IMEIID</u>

Entity Name: TV

Attributes: modelID (Primary Key), color, resolution

Primary Key: modelID

Entity Name: Laptop

Attributes: deviceID (Primary Key), processor

Primary Key: deviceID

3. Added a new attribute under the 'cashier' subtype

Entity Name: cashier Attributes: cash records

- 4. Changed the attribute 'Age' to 'Employee DOB'
- 5. Added Attributes in the 'Delivery' Entity

Entity Name: Delivery

Attributes: deliveryID (Primary Key), deliverydate, deliverytime

Primary Key: deliveryID

6. Added attributes like 'Cust Street', 'Cust Postal Code', 'Cust City' to the 'Customer' Entity

Entity Name: Customer

Attributes: customerID (Primary Key), Cust_Fname, Cust_Lname, Joining_Date, Cust_DOB, Cust_Street,

Cust_City, Cust_Postal_Code
Primary Key: customerID

7. 'Cust_City' shows transitive dependency so we created a new entity 'postal code' and updated the 'Customer' Entity

Entity Name: Postal Code

Attributes: Cust Postal Code (Primary Key), Cust City

Primary Key: Cust Postal Code

Entity Name: Customer

Attributes: customerID (Primary Key), Cust Fname, Cust Lname, Joining Date, Cust DOB, Cust Street,

Cust_Postal_Code(Foreign Key)
Primary Key: customerID

- 8. Added Foreign Key wherever necessary. All entities now have a primary key, and foreign keys for any relationships they participate in.
- 9. The model is now in 3NF thus removing the transitive dependencies
- 10. Removed Multivalued and Composite Attributes and removed all Many to Many Relationships

Added associative entity between store and supplier, and the associative entity is Supply chain.

Made inventory a super type having mobile, tv and phone as a subtype.

Added an attribute of cash records under cashier.

Changed the attribute from age to Employee DOB.

Added DeliveryDate and DeliveryTime as an attribute to Delivery.

Added attributes like Cust Street, Cust Postal Code and Cust City.

Then Cust_City showing transitive dependency, created a new table called postal code having Cust Postal Code as primary key and Cust City as an attribute of that entity.