ICS241: DBMS Lab Assignment 1: Requirement Summary

Requirement Summary of Eklavya Enterprises

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**1. About the enterprise**

**A.** Eklavya Enterprises is a computer components and consumer electronics store. It provides both computer hardware and assembled PCs, along with a wide range of peripherals including but not limited to printers, routers, switches, workstation GPUs, scanners along with components for home use such as home theatre systems, gaming components, LCD/LED monitors etc. It differentiates itself by providing services such as free shipping and integrated after-sales services for all brands. It also caters to the IT requirements of small to medium-sized organizations. It has recently expanded its business, and now requires computerization of business processes to improve efficiency, which, until now, have been severely bottlenecked due to tedious manual processes. This is where the need of a full-fledged database management system chips in.

The organization has recently undergone a restructuring, and is now divided into multiple departments like Accounts, Sales, Marketing, HR etc. These departments are responsible for keeping track of inventory, replenishment of stocks through a network of well-established wholesalers, processing and shipping orders, managing finances, hiring employees, training salespersons and a maintaining a streamlined flow of customer order and delivery. It has about 40 employees deployed in the various departments, ranging from hardware engineers to marketing strategists. The company aims to provide high quality of customer satisfaction and other freebies at the risk of being a bit pricier than the competition at times. It provides the unique facility of an integrated after-sales service department, which acts as an intermediary between the manufacturer's service centers and the customers.

**2. Brief description of processes**

1. The organization is divided into the following departments:
2. Orders Department

* Receives order details from the customer
* Assembles/customizes the order as per requirements
* Packs and forwards to shipping department
* Forwards a copy of the bill to Accounts Department for collection of dues

1. Purchase Office

* Monitor inventory and makes purchases
* Maintains a list of wholesale vendors for various brands
* Contacts vendor for replenishment of stocks
* Receives, inspects and stores shipment on arrival
* Forwards a Request For Payment to Accounts Department.

1. Shipping Department

* Receives a processed order from the Orders Department
* Suitably packs and ships the order, taking into account customer preferences regarding delivery date and time.
* Updates the Accounts Department on delivery of shipment.

1. Accounts Department

* Keeps track of payment to wholesalers for goods delivered.
* Responsible for obtaining dues from customers and storing records of payments made.
* Responsible for crediting salary to employees’ accounts on a monthly basis.
* Authorizes funds for operational expenses (utility bills, office equipment, cleaning equipment etc)
* Calculates tax and prepares returns for the organization
* Responsible for managing Income Tax details of employees (Form 16, TDS etc)

1. Marketing Department

* Trains and manages salespersons for interacting with customers
* Decides on advertising strategies and promotional offers
* Responsible for building the brand image of the organization

1. Human Resources

* Recruits and trains new employees
* Responsible for arranging resources employees might need to execute assigned tasks.
* Handles employee concerns about work conditions
* Keeping track of employees’ performance and award appraisals/promotions accordingly

Order Department

Shipping Department

Sales Department

Customer Department

Accounts Department

Purchase Department

1. After Sales Service

* Maintains an updated list for all service centres of various brands in the country.
* Receive and resolve customer grievances.
* Forwards defective products to respective service centres for repair or replacement.
* Receive repaired/refurbished products from service centres and forward them to the consumer.

**3. Database requirements**

1. Each employee is assigned a unique Employee ID. Employee details like Name, Age, Date of Joining, Department, Permanent Address etc are stored in a database with the Human Resources Department. Financial details of the employee such as salary, PAN, TDS, other benefits are stored in a separate table with the Accounts Department. All these details are stored in an ‘EMPLOYEES’ database.
2. The Orders Department manages a catalogue of products. Each product has a unique Product ID, Model Name, Description, Category, Brand, Price, Batch No. etc. A table of customers is also maintained, which contains a UID, Customer Name, Address, Contact etc. Another table of orders is maintained, which contains an Order ID, Order details, Delivery Status, Referring Salesperson, Order Amount and Advance Received.
3. The Purchase Department maintains a list of wholesalers from whom stock is procured. The list will contain a Unique ID, Wholesaler’s name, address, Brands stocked and a confidential Internal Rating of the wholesaler. The ‘Internal Rating’ may contain a NULL value if no order has ever been made to a wholesaler. A list of orders made to these wholesalers is also maintained. It contains an Order ID, Wholesaler ID, Order Description, Promised Date, Date of Delivery, Delivery Status [Accepted | Rejected], Delivery Comments.
4. All records of payments made are stored with the accounts department, along with Order ID, Payment Mode [Cash | Cheque | Draft], Payment Type [Advance | Instalment | Final]. The accounts department also stores a database of operational expenses, advance tax paid by the enterprise etc.

* The Customer Service Department also has a database of its own. A ticket is opened on reception of each customer’s grievance and all the updates regarding the case are logged in that ticket. A table of defective products received from the customer is maintained and it contains the Product ID, . The department also maintains a table containing details of service centres of all brands in the country. Another table of products forwarded to service centres is maintained, which has fields like Product ID, Warranty Status, Problem Description, Cost incurred [if any].

**4. Information extraction**

The data can be used to extract various kinds of information

1. Profit – Loss statement can be generated using the tables in accounts section.
2. Tax records – total revenue and profits can easily be calculated from the Accounts database.
3. The number of orders secured by a salesperson can be used to gauge performance and award appraisals/promotion accordingly.
4. Hot products and non-performing products can be identified easily and thus their inventory can be maintained accordingly. This information can also help in marketing strategies.
5. A customer profile can be generated using his history of orders. Marketing can use this data to offer personalized offers to high-valued regular customers.