Case Study Bacchus Winery

Stella Kemp

Dan Zhu

John Smith

Brandon Hasty  
Bellevue University   
Database Development and Use  
Darren Osier  
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Assumptions Made:

1. Each employee has a unique employee ID.
2. Each supplier has a unique supplier ID.
3. Each type of wine has a unique product ID.
4. Inventory transactions (supplies ordered and received) are tracked by date, quantity, and supplier.
5. Wine sales transactions are tracked by date, quantity, wine type, and distributor.
6. Employee work hours are logged by date, hours worked, and employee ID.

Known :

**Owners:** Stan and Davis Bacchus are co-owners and responsible for overall management, supply inventory, and ordering.

**Employees**: Five main employees manage specific operations:

Janet Collins: Finance and Payroll, Roz Murphy , Bob Ulrich: Marketing ,

Henry Doyle: Production (manages 20 employees) and Maria Costanza: Distribution

**Products**: The winery produces four types of wine: Merlot, Cabernet, Chablis, Chardonnay. Suppliers: Three suppliers provide essential components:

Supplier 1: Bottles and corks,

Supplier 2: Labels and boxes,

Supplier 3: Vats and tubing.

**Inventory**: Supply inventory tracking is managed by Stan and Davis, they have goal to transition to an online system.

**Distributions**: managed by Maria Costanza, has a goal to enable online ordering and shipment tracking for distributors.

1. Multiple distributors can carry the same wine

2. Each distributor must be able to order online

3. Each shipment must be trackable

4. Distribution orders must maintain quantity and date information

5. System must track which wines each distributor carries

**Reporting** : Managed by Henry Doyle and Janet Collins probably.

1. Employee hours must be tracked quarterly
2. Inventory levels must be monitored for both supplies and wines.
3. Monthly reports on supplier delivery timeliness and gaps between expected and actual deliveries. Monthly sales reports on wine distribution, including which wines are sold by each distributor and identifying non-performing products.

Business Rules for Bacchus Winery Database

1. **Owners and Roles**

Each owner is assigned a role from the user\_roles table.

An owner must have a role\_id that corresponds to an existing role.

Each owner has a unique owner\_id and owner\_name

**Employees and Roles**

Each employee must have an assigned role (role\_id).

The role\_id for an employee must exist in the user\_roles table.

Employees have a unique employee\_id and employee\_name.

1. **Products and Suppliers**

Each product must have an associated supplier. A supplier may provide multiple products, but a product is supplied by only one supplier. The supplier\_id in the products table must reference an existing supplier\_id in the suppliers table.

1. **Orders and Products**Each order contains at least one product.

The product\_id in the order table must reference an existing product\_id in the products table. Orders must have a unique order\_id and a valid order date.

Initial ERD for Bacchus Winery Database

