Group 2

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Bacchus Winery Case Study Module-9

Initial ERD:

A diagram of a computer generated data

Description automatically generated with medium confidence

Business Rules:

**Employees:**

1. Personal Management
   1. Employee 1 handles finances and payroll
   2. Employee 2 heads the marketing department
   3. Employee 3 manages the production line
   4. Employee 4 oversees the distribution
2. Employee Work Hours:
   1. Track employee's work hours every quarter
   2. Generate reports detailing hours worked by each employee for the last four quarters

**Products:**

1. Wine Varieties:
   1. Bacchus Winery produces four types of wine: Merlot, Cabernet, Chablis, and Chardonnay
2. Product Distribution:
   1. Specific distributors distribute each wine type
   2. Track wine sales to determine if any wine is underperforming

**Suppliers and Inventory:**

1. Suppliers:
   1. Supplier 1: Provides bottles and corks
   2. Supplier 2: Provides labels and boxes
   3. Supplier 3: Provides vats and tubing
2. Inventory Management:
   1. Maintain an inventory of supplies, updated with each delivery
   2. Track supply deliveries to ensure they arrive on time
   3. Generate monthly reports to identify gaps between expected and actual delivery dates

**Ordering and Distribution:**

1. Online Ordering:
   1. Implement an online system for ordering supplies
   2. Enable distributors to place orders and track shipments online

**Reporting:**

1. Annual Snapshot:
   1. Prepare an annual report detailing inventory status, distribution performance, and employee information

**Assumptions:**

* The winery has a stable number of employees with no immediate plans for expansion or reduction
* All distributors have online access and the necessary technology to place and track
* The suppliers are consistent and do not change frequently
* The dates for orders, expected and arrived deliveries
  + The supplies and quantities ordered will remain the same and be placed at similar times as previous orders.
* The client will compare previous and future data to determine more efficient methods.
* Each of the employees only belongs to their specified department
* Employee work time should remain the same as in previous quarters.
* Each of the distributors can carry multiple types of wine

**Initial ERD components:**

* Supplier
  + Supplier\_id, supplier\_name, supply\_type
* Inventory
  + Inventory\_id, quantity, supply\_type, supplier\_id
* Orders
  + orders\_id, order\_date, inventory\_id, supplier\_id, delivery\_id, wine\_id
* Deliveries
  + delivery\_id, delivery\_name, expected\_date, actual\_date, supplier\_id
* Wine
  + wine\_id, wine\_type
* Employee
  + employee\_id, employee\_firstname, employee\_lastname, employee\_hours, employee\_position
* Department
  + Department\_id, department\_name, employee\_id

**The relationship will be defined as follows:**

* Employees work in different departments (finance, marketing, production, distribution)
* Wines are distributed by various distributors
* Suppliers provide different types of supplies
* Inventory tracks supplies and their delivery status
* Orders link distributors with the wines they order