BANA 614 Database Project

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California State University, Northridge
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Project Report

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Section 1 - Requirements Specification

1a: Executive Summary

MJP Technologies has undertaken an internal project: database migration of the sales platform from Quickbooks to Salesforce. In addressing the integration of two distinct business units within MJP Technologies, this report offers strategic solutions aimed at enhancing operational efficiency and customer experience. The merger of the internal business units, involving the assimilation of different relational database management systems, presents unique challenges. Our focus is on seamlessly combining these systems to optimize data management and service delivery. Our approach encompasses a detailed evaluation of the current systems and identification of potential areas for improvement. We propose the development of the following database objects, optimized for data integrity and efficiency. This strategic integration positions MJP Technologies for sustainable growth, leveraging improved data management and operational efficiency to reinforce its market leadership in the technological service industry.

1b: Case Background

MJP Technologies is an infrastructural division of Pacific OneSource, Inc. Founded in 1993, MJP technologies provides consumers with a variety of technological services. These services include life cycle device management, infrastructure solutions and network design. MJP performs technology related services and solutions from start to finish, ranging from network implementation, physical plant design, and technology sourcing and servicing.

1c: Business Problem

To increase efficiency and accuracy, MJP Technologies has decided to merge its existing sales business unit with a newly acquired service provider business unit. However, issues have been identified as both business units previously operated independently, using unique relational database management systems which had not been adequately maintained or administered. By addressing these challenges, MJP intends to achieve improved operational efficiency, increased data quality, and enhance the customer experience.

1d: Project Scope of Work

This scope of work for MJP Technologies encompasses a strategic transition from QuickBooks to Salesforce CRM, with a focus on designing a robust database infrastructure to support their sales platform. Our project will include the creation of a new relational database schema and development of tailored reports for sales, production, and management teams, with the ultimate goal of enhancing operational efficiency and data-driven decision-making within MJP Technologies. Below is the detailed breakdown of objectives, deliverables, tasks, and acceptance criteria.

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Objectives:

- To successfully replicate, improve, and migrate the current sales system from QuickBooks to Salesforce CRM.
- To design a new database schema that supports the sales process of MJP Technologies.
- To develop and implement customized reports for sales, production, and managerial teams.

Deliverables:

- A fully functional sales process within the Salesforce CRM system sandbox environment, integrated within existing IT infrastructure.
- A comprehensive database design documentation detailing objects and relationships.
- A set of reports tailored for different departmental needs.

Tasks:

Analysis and Planning:

- Conduct a thorough analysis of the current QuickBooks setup.
- Define the requirements for the Salesforce CRM migration and reporting.
- Develop a project plan detailing timelines and milestones.

System Design:

- Create the database schema for the Salesforce CRM that includes all necessary objects and relationships.

Custom Reports Development:

- Identify reporting requirements for sales, production, and managerial teams.

Assumptions:

- All necessary access to QuickBooks and Salesforce CRM will be provided.
- Stakeholder availability for consultations throughout the project.
- All production data from participating objects is to stay on-premises and cannot leave the database layer.

Project Management:

- Regular status meetings will be scheduled to ensure project milestones are being met.
- A project manager will be assigned to be the point of contact for MJP Technologies.

Acceptance Criteria:

- All database objects and relationships are well-defined.
- Custom reports provide the necessary insights as per the specifications of the different teams.

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Section 2 - Business Rules

Below are all business rules for the entities in our database:

- Each Vendor supplies multiple Vendor Products, or none.
- Each Vendor Product is supplied by only one vendor.
- Each Product is related to at least one Vendor Product.
- Each Vendor Product relates to only one Product.
- Each Product Family has multiple Products, or none.
- Each Product belongs to only one Product Family.
- Each Product belongs to one Order Line, or none.
- Each Order Line has only one Product.
- Each Sales Order has at least one Order Line.
- Each Order Line belongs to only one Sales Order.
- Each Sales Order relates to only one Opportunity.
- Each Opportunity relates to one Sales Order, or none.
- Each Opportunity is created by only one Salesperson.
- Each Salesperson creates multiple Opportunities, or none.
- Each Customer opens multiple Opportunities, or none.
- Each Opportunity is opened by only one Customer.
- Each Salesperson is managed by one Salesperson (Manager) or none.
- Each Salesperson manages many Salespeople, or none.

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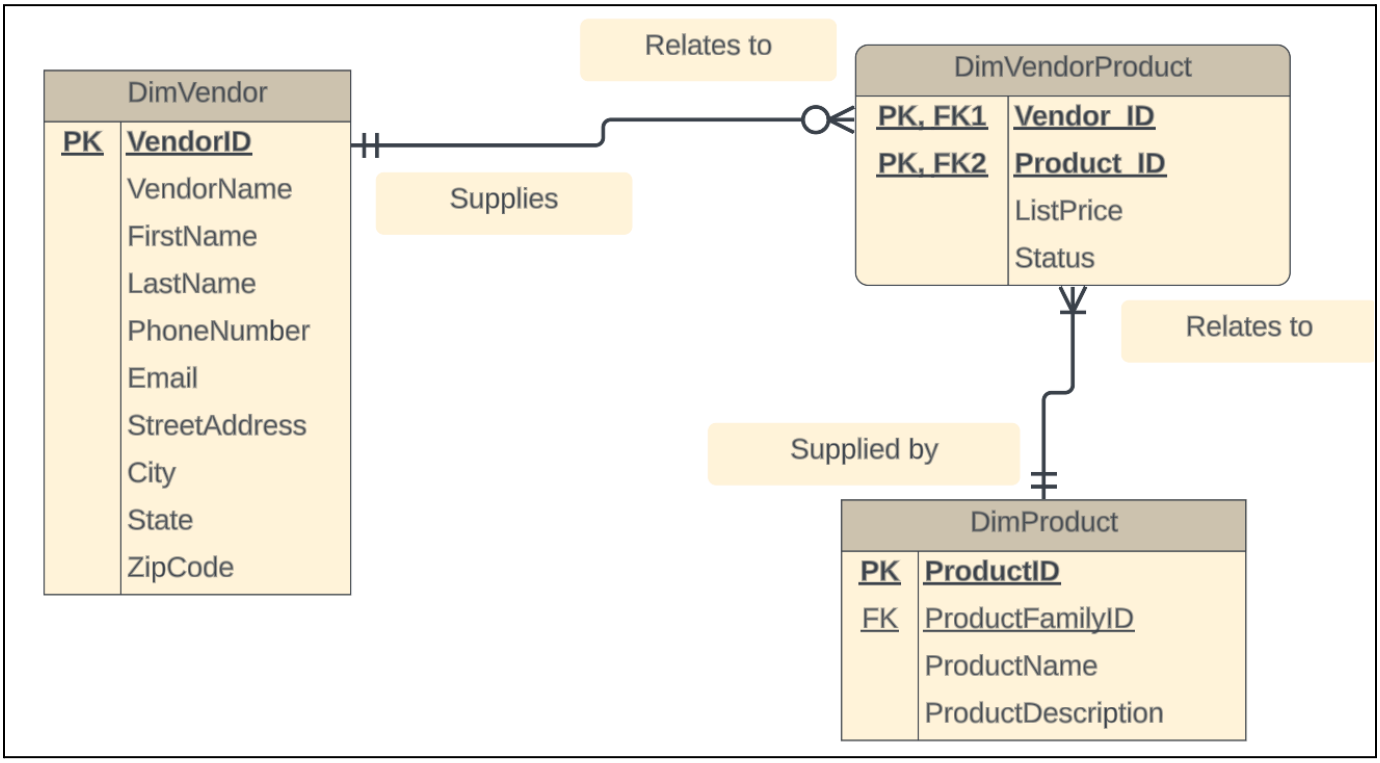
2a & 2b: Logic of Business Rules and Indications

This section details the relational structure and logic governing our database schema, focusing on the key relationships. Each subsection carefully examines how entities like vendors, products, sales orders, and sales opportunities are interlinked, highlighting the constraints and logic that define their interactions. The explanations demonstrate the relationships that underpin the database, ensuring clarity and consistency in database design. Below each justification are the figures which indicate the business logic rendering onto an ERD.

(DimVendor ----- DimVendorProduct----- DimProduct)

Each Vendor supplies multiple Vendor Products, or none.
Each Product is related to at least one Vendor Product.

- The Vendor Products table represents an associative entity with PK's from Product and Vendor as the composite keys.
- Each vendor may be contracted within multiple vendor/product instances, or they may be only included for reference without providing any products.
- Product represents that other table completing the associative entity Vendor Products.
- Each Vendor Product entry must include at least one product, but each product can be included in multiple Vendor Product entries.



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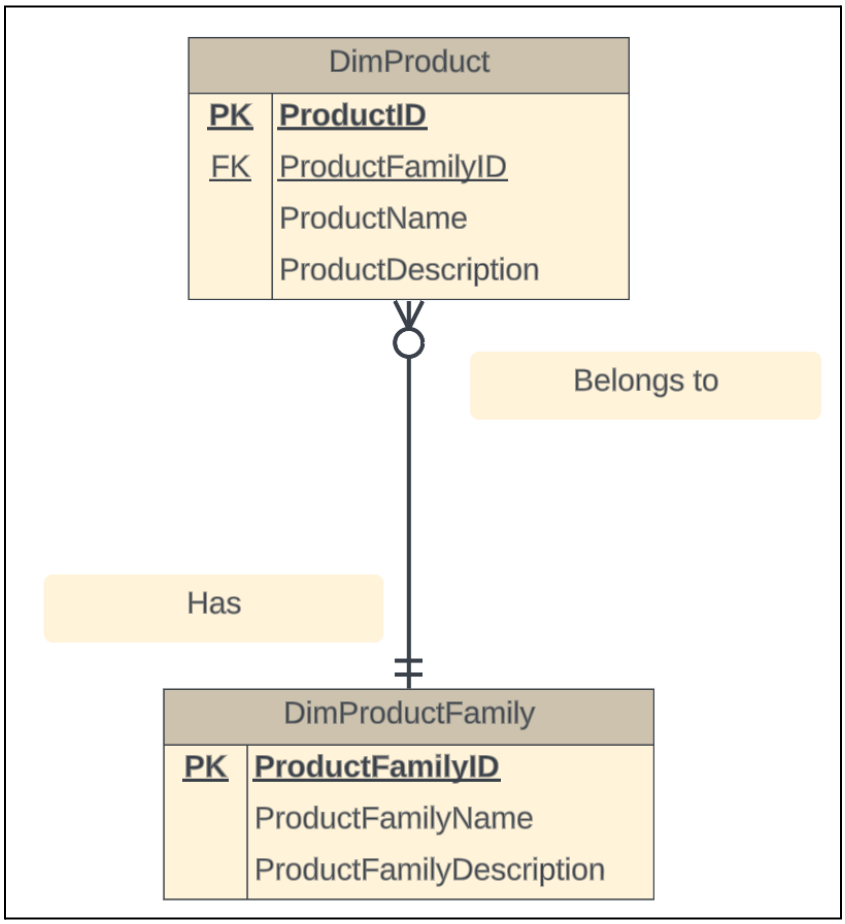
(DimProduct ----- DimProductFamily)

Each Product belongs to only one Product Family.
Each Product Family has multiple Products, or none.

- Product Family is a list of categories, in one of which every product can be included.
- Each Product must be included in one of these families and can only be included in one family.
- As Product Family is a description of the product, multiple products may be included in one family.
- However, as inventory may change over time, it is possible for a family type listed in the Product Family table to not relate to any products in the Product table. This is useful for cases in which a new Product Family is going to be added, but no specific products have been decided yet.



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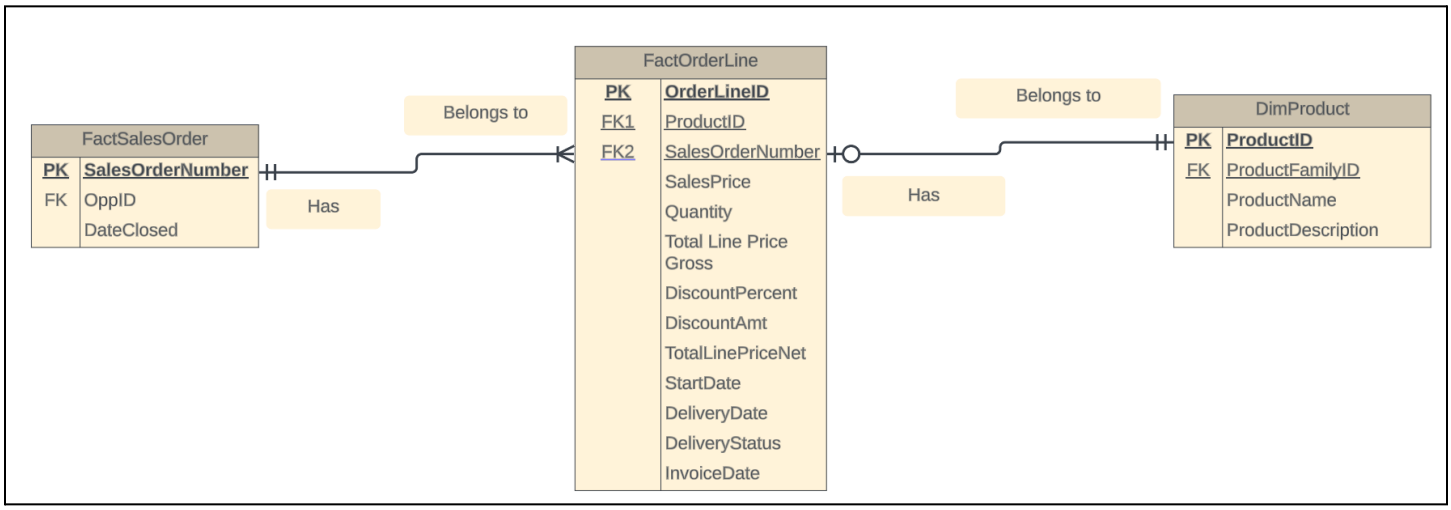
(FactSalesOrder ----- FactOrderLine ----- DimProduct)

Each Product belongs to one Order Line, or none.
Each Sales Order has at least one Order Line.

- The Order Line table is a list of individual order lines which are related to a Sales Order.
- For this reason, each order line will contain one and only one product, the product price, the quantity, and other order line attributes.
- Each Sales Order represents a full transaction of multiple products, which are listed individually in the Order Line table. So each Sales Order can be related to multiple rows in the Order Line, but must be related to at least one.



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(Salesperson ----- Opportunity-----SalesOrder)

Each Salesperson creates multiple Opportunities, or none
Each Opportunity is created by only one Salesperson.

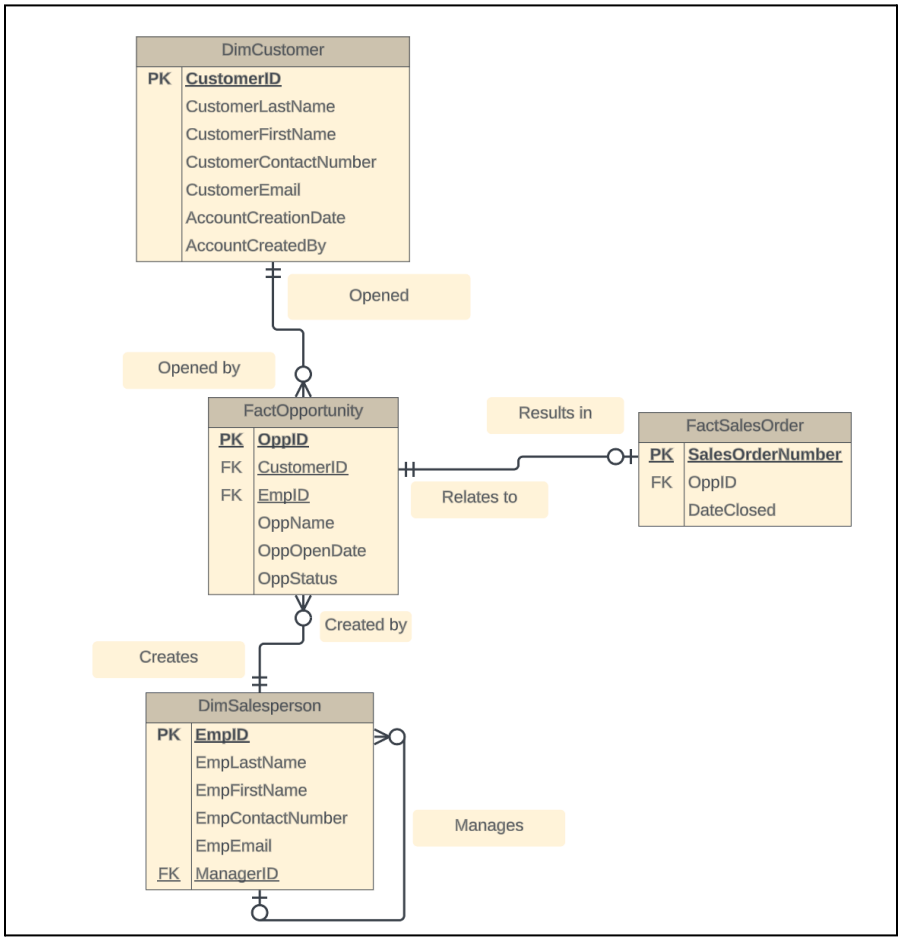
- Each salesperson can create multiple opportunities but not all opportunities convert to a finalized sale.
- By associating each opportunity with only one opening salesperson, reporting and tracking of sales performance becomes cleaner as it indicates clear ownership

Each Opportunity relates to one Sales Order, or none.

- This maintains clear traceability from finalized sale back to the originating opportunity.

Each Customer opens multiple Opportunities, or none.
Each Opportunity is opened by only one Customer.

- This rule shows traceability back to the original requesting customer for each opportunity.Supports customer-centric reporting and sales performance tracking.
- This allows for customers to open zero or more opportunities. This reflects that long-time customers can continuously open new opportunities, while new customers may not have opened any yet.

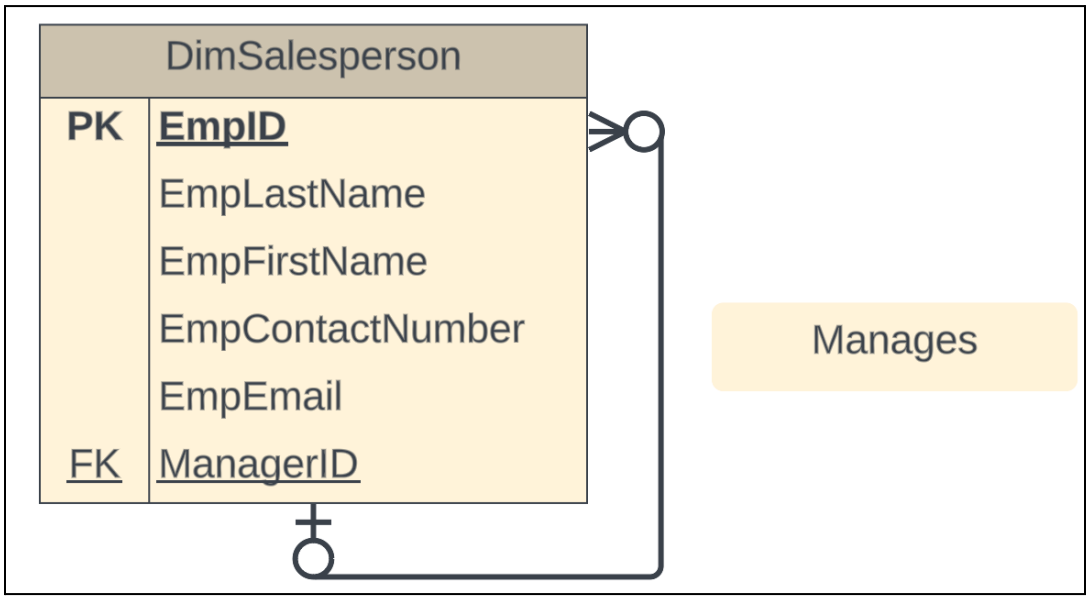


(Salesperson ----- Salesperson)

Each Salesperson is managed by one Salesperson (Manager) or none.

Each Salesperson manages many Salespeople, or none.

- Salespeople are managed by another salesperson (managers), however these managers do not report to another salesperson, and instead, report to the chief revenue officer and the chief financial officer. This relationship is outside the scope of this schema.



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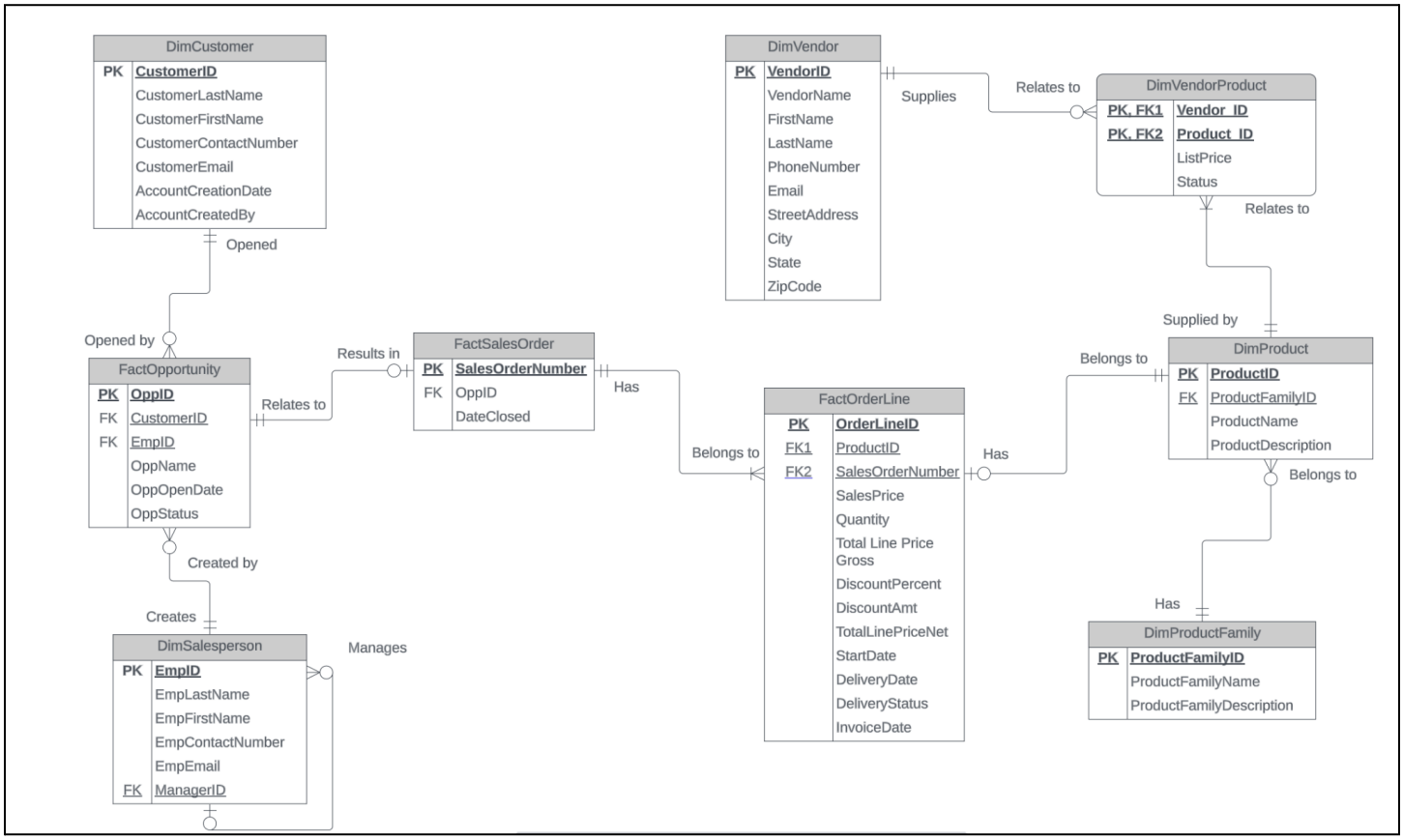
Section 3 - Data Modeling

The following section contains the Entity Relationship Diagram (ERD), the Relational Model diagram, and the Normalization diagram. MJP Technologies uses the star schema, a common design pattern used in data warehousing for organizing data into a format that is optimized for reporting and analysis. The star schema simplifies the structure of the database by clearly separating the objects participating in the environment. Dimension tables hold data that have descriptive components about the dimensions of the business, while the fact tables hold data that contain measurable and quantitative data of the business.

3a: Entity Relationship Diagram (ERD)



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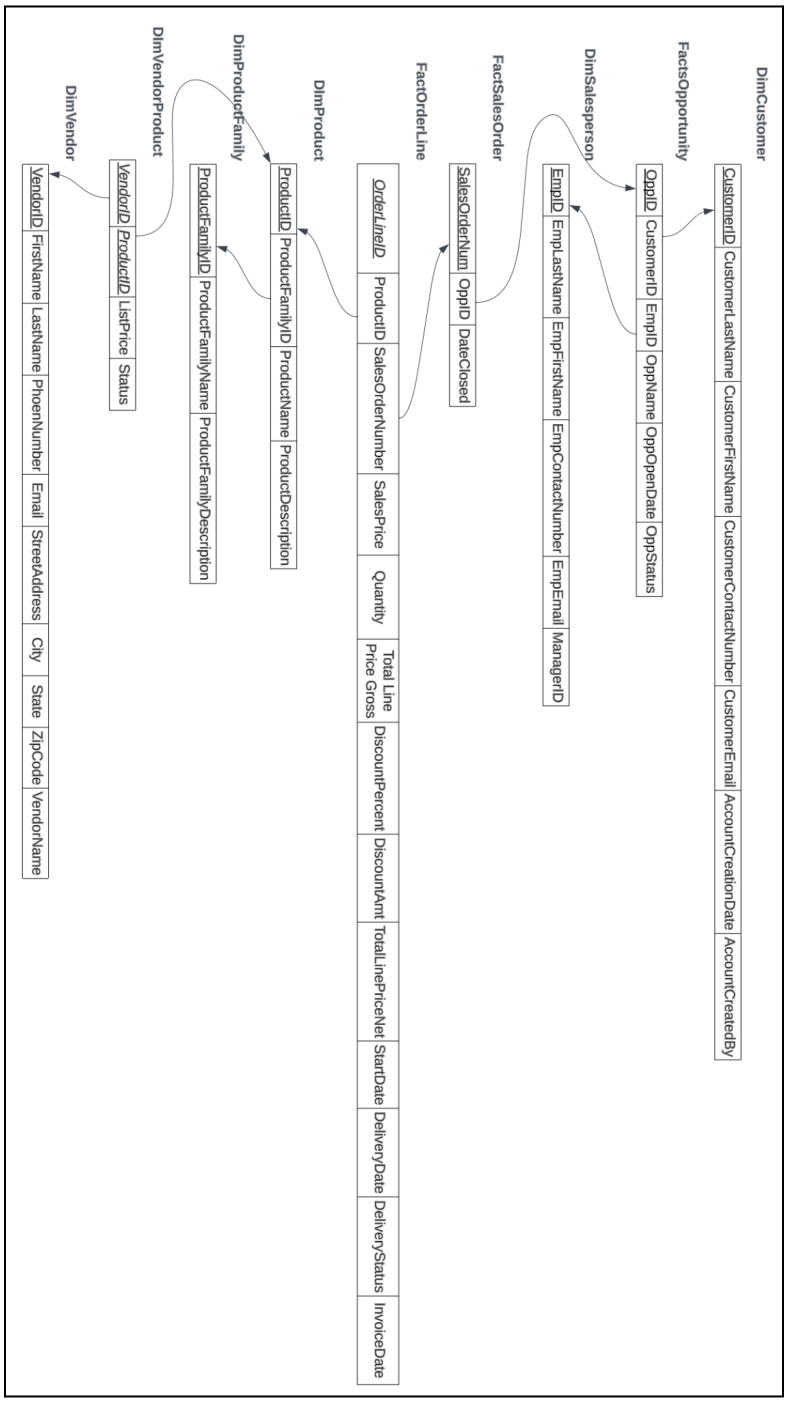
3b: Relational Data Model



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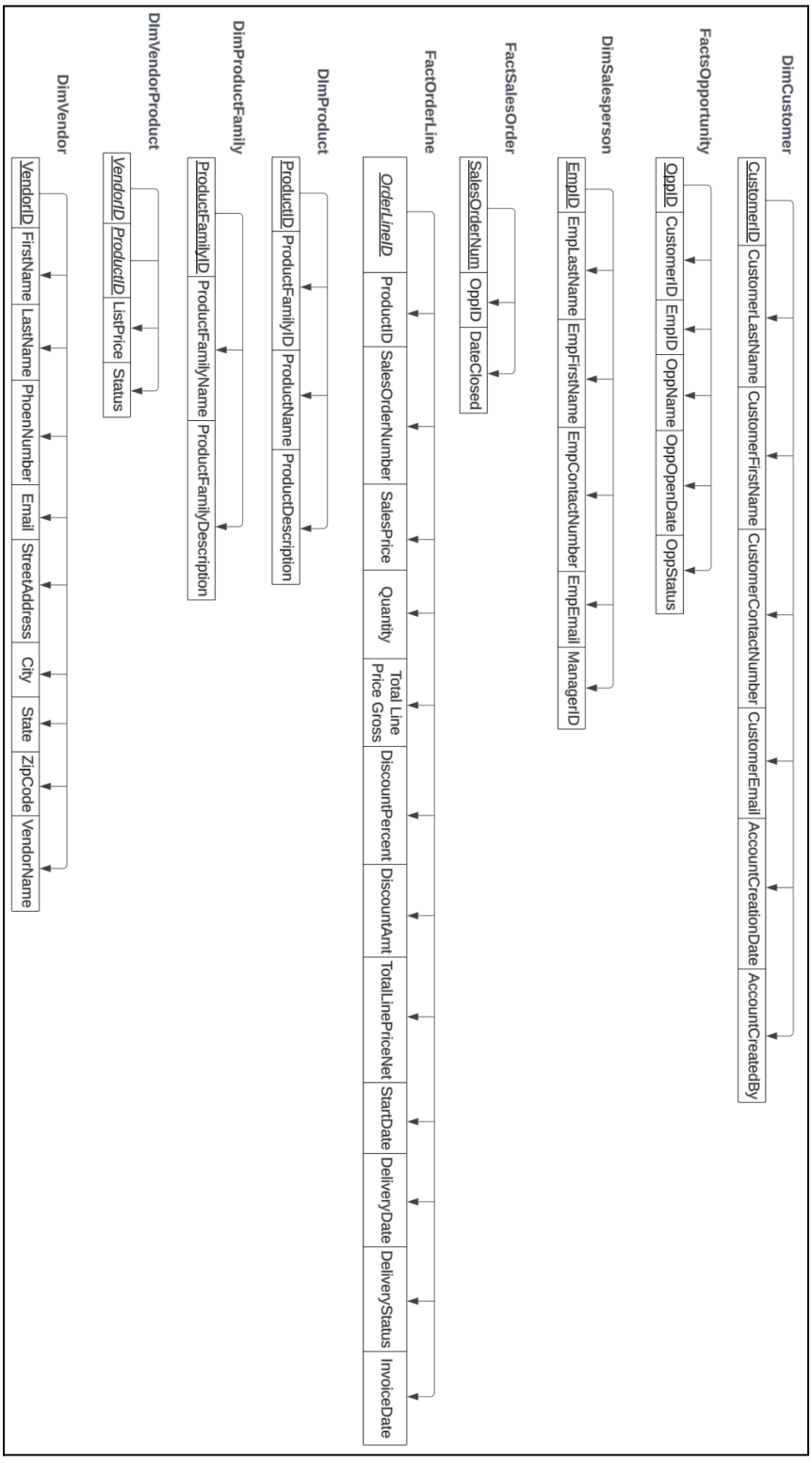
3c: Normalization (3NF)



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Section 4 - Queries (Reports)

The following section presents a series of eight SQL queries designed to efficiently extract critical sales data. These queries are instrumental for decision-makers and sales personnel, providing them with the actionable insights needed to enhance revenue generation and inform operational strategies. Each query is tailored to address specific aspects of the sales process, ensuring that decision-makers are well-equipped with the relevant information to drive business success.

Remark: Schema name `614projectdb` is required to retrieve table names within MySQL Workbench. Formatting of SQL statements follows the

Query 1: Cumulative Sales Amount All Time by Customer

The following query retrieves sales data and aggregates the sales amounts by customer.

```
6   SELECT
7       `c`.`CustomerID` AS `CustomerID`,
8       `c`.`CustomerLastName` AS `CustomerLastName`,
9       `c`.`CustomerFirstName` AS `CustomerFirstName`,
10      SUM(`odet`.`TotalLinePriceNet`) AS `Cumulative Sales Amount`
11  FROM
12      (((`614projectdb`.`factorderline` `odet`
13      JOIN `614projectdb`.`factsalesorder` `o` ON ((`o`.`SalesOrderNumber` = `odet`.`SalesOrderNumber`)))
14      JOIN `614projectdb`.`factopportunity` `opp` ON ((`opp`.`OppID` = `o`.`OppID`)))
15      JOIN `614projectdb`.`dimcustomer` `c` ON ((`c`.`CustomerID` = `opp`.`CustomerID`)))
16  GROUP BY `c`.`CustomerID`
17  ORDER BY SUM(`odet`.`TotalLinePriceNet`) DESC
```

Selection: The SELECT statement specifies the columns to be retrieved:

CustomerID: The unique identifier for each customer.
CustomerLastName: The last name of the customer.
CustomerFirstName: The first name of the customer.
Cumulative Sales Amount: The total amount of sales for each customer, which is the sum of TotalLinePriceNet for all orders associated with that customer.

From and Joins: The FROM clause and subsequent JOIN operations combine four tables to gather the necessary information:
factorderline as odet: Contains individual order line items, including a net price for each line.
factsalesorder as o: Contains sales order headers, which are linked to the line items in factorderline via SalesOrderNumber.
factopportunity as opp: Represents sales opportunities, linked to sales orders by OppID.
dimcustomer as c: Contains customer details and is linked to opportunities using CustomerID.

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Group By: The GROUP BY c.CustomerID clause aggregates the data at the customer level, ensuring that the sum of sales is calculated per customer.
Order By: The ORDER BY SUM(odet.TotalLinePriceNet) DESC clause sorts the results in descending order by the cumulative sales amount, so the customer with the highest sales total appears first.

Result: *(92 rows returned)*

CustomerID	CustomerLastName	CustomerFirstName	Cumulative Sales Amount
3	Moss	Ursula	250834.69
65	Walsh	Addison	197593.13
88	Foster	Xaviera	179442.85
13	Sanford	Dennis	178390.71
81	Mccoy	Abdul	169687.05
11	Lancaster	Hilary	164107.57
79	Boyer	Martina	161616.74
49	Wright	Ulysses	156671.66
42	Brewer	Justin	153792.55
6	Durham	Angelica	144145.49
97	Buckley	Lydia	137910.05
67	Hawkins	Cain	129262.69
94	Miller	Fallon	127088.79
16	Fields	Ivy	125256.54
35	Reid	Kyle	122527.40
8	Valdez	Acton	114395.53
46	Lambert	Imogene	112555.96
40	Farley	Candice	111093.69
96	Harris	Shannon	107905.77
2	Parrish	Regina	105763.71
64	Walls	Elliott	105464.21
54	Gibbs	Tobias	100721.48
77	Stanley	Ivory	98841.75
45	Benjamin	Desiree	91035.43
59	Ashley	Vivian	88730.34
21	Walker	Xyla	85196.53
82	Buckley	Kay	83477.25
100	Norman	Dominique	82111.23

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Query 2: Cumulative Sales Amount All Time by Salesperson

The following query retrieves sales data and aggregates the sales amounts by salesperson.

```
6   SELECT
7       `e`.`EmpID` AS `EmpID`,
8       `e`.`EmpFirstName` AS `EmpFirstName`,
9       `e`.`EmpLastName` AS `EmpLastName`,
10      SUM(`odet`.`TotalLinePriceNet`) AS `Cumulative Sales Amount`
11  FROM
12      (((`614projectdb`.`factorderline` `odet`
13      JOIN `614projectdb`.`factsalesorder` `o` ON ((`o`.`SalesOrderNumber` = `odet`.`SalesOrderNumber`)))
14      JOIN `614projectdb`.`factopportunity` `opp` ON ((`opp`.`OppID` = `o`.`OppID`)))
15      JOIN `614projectdb`.`dimsalesperson` `e` ON ((`e`.`EmpID` = `opp`.`EmpID`)))
16  GROUP BY `e`.`EmpID`
17  ORDER BY SUM(`odet`.`TotalLinePriceNet`) DESC
```

SELECT Clause: Four columns are selected to be part of the final result set:

EmpID: The unique identifier for each salesperson.
EmpFirstName: The salesperson's given name.
EmpLastName: The salesperson's family name.
Cumulative Sales Amount: The total sum of the TotalLinePriceNet column from the factorderline table, representing the total sales made by each salesperson.
FROM and JOINs: The query begins with the factorderline table aliased as odet, which contains the details of each order line including the net price. This table is joined with the factsalesorder table aliased as o using the SalesOrderNumber to connect order details to order headers. Next, the factsalesorder table is joined with the factopportunity table aliased as opp using the OppID, thereby linking sales orders to sales opportunities. Finally, the factopportunity table is joined with the dimsalesperson table aliased as e using EmpID, linking sales opportunities to the salespeople responsible for them.

GROUP BY Clause: The results are grouped by the EmpID to aggregate the sales data per salesperson.
ORDER BY Clause: The final results are ordered by the Cumulative Sales Amount in descending order to prioritize the salespeople with the highest sales figures at the top of the list.

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Result: *(40 rows returned)*

EmpID	EmpFirstName	EmpLastName	Cumulative Sales Amount
21	Elizabeth	Smith	328139.36
38	Michael	Miller	259658.55
13	Patricia	Williams	259118.36
19	Mary	Wilson	235879.91
7	James	Davis	228689.53
28	Elizabeth	Davis	214715.07
30	Linda	Wilson	206895.58
18	Robert	Johnson	206221.70
37	Michael	Johnson	197091.09
2	Jennifer	Miller	195720.25
39	Robert	Brown	189748.61
25	Michael	Jones	184833.17
20	William	Miller	183740.55
35	James	Miller	181716.38
24	Jennifer	Johnson	181503.11
34	Jennifer	Brown	181051.06
17	John	Davis	172988.79
40	Jennifer	Wilson	167371.45
31	Patricia	Brown	161904.30
11	William	Davis	157641.59
15	Mary	Moore	153401.73
9	Elizabeth	Smith	152039.33
12	Linda	Moore	150209.21
26	Elizabeth	Davis	149950.57
16	Jennifer	Brown	148480.84
1	James	Brown	142441.49
8	William	Williams	140972.02

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Query 3: Cumulative Sales by Employee with Manager

This query calculates the total net sales for each salesperson and presents this information alongside the names of their respective managers. It's structured to provide a hierarchical view of sales performance within an organization.

```
6       SELECT
7           `m`.`EmpFirstName` AS `ManagerFirstName`,
8           `m`.`EmpLastName` AS `ManagerLastName`,
9           `e`.`EmpFirstName` AS `EmployeeFirstName`,
10          `e`.`EmpLastName` AS `EmployeeLastName`,
11          (SELECT
12                  SUM(`sol`.`TotalLinePriceNet`)
13              FROM
14                  ((`614projectdb`.`factopportunity` `opp`
15                  JOIN `614projectdb`.`factsalesorder` `fso` ON ((`opp`.`OppID` = `fso`.`OppID`)))
16                  JOIN `614projectdb`.`factorderline` `sol` ON ((`fso`.`SalesOrderNumber` = `sol`.`SalesOrderNumber`)))
17              WHERE
18                  (`opp`.`EmpID` = `e`.`EmpID`)) AS `TotalSales`
19      FROM
20          (`614projectdb`.`dimsalesperson` `e`
21          LEFT JOIN `614projectdb`.`dimsalesperson` `m` ON ((`e`.`ManagerID` = `m`.`EmpID`)))
```

SELECT Clause: The query selects the first and last names of both the managers and their respective sales employees, along with a subquery-calculated field:

ManagerFirstName and ManagerLastName: These fields represent the first and last names of the managers from the dimsalesperson table (aliased as m).
EmployeeFirstName and EmployeeLastName: These fields represent the first and last names of the sales employees from the dimsalesperson table (aliased as e).
TotalSales: A correlated subquery calculates the total net sales for each salesperson. It sums the TotalLinePriceNet from the factorderline table (aliased as sol), joining it with the factsalesorder (aliased as fso) and factopportunity (aliased as opp) tables to filter orders related to the respective employee (e).

FROM and JOINs:
The main query starts from the dimsalesperson table (aliased as e) representing the employees.

A **LEFT JOIN** is used to connect each employee with their manager from the same dimsalesperson table (aliased as m) using the ManagerID to EmpID relationship.

WHERE Clause in the Subquery: This filters the results of the subquery to include only those sales opportunities (opp) that are associated with the currently considered sales employee (e).

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Result: *(40 rows returned)*

ManagerFirstName	ManagerLastName	EmployeeFirstName	EmployeeLastName	TotalSales
NULL	NULL	James	Brown	142441.49
James	Brown	Jennifer	Miller	195720.25
James	Brown	Michael	Brown	65944.99
James	Brown	Elizabeth	Williams	116112.96
James	Brown	Mary	Davis	98060.21
James	Brown	Jennifer	Johnson	136658.79
James	Brown	James	Davis	228689.53
James	Brown	William	Williams	140972.02
James	Brown	Elizabeth	Smith	152039.33
NULL	NULL	Mary	Miller	88329.93
Mary	Miller	William	Davis	157641.59
Mary	Miller	Linda	Moore	150209.21
Mary	Miller	Patricia	Williams	259118.36
Mary	Miller	Jennifer	Davis	66114.34
Mary	Miller	Mary	Moore	153401.73
Mary	Miller	Jennifer	Brown	148480.84
Mary	Miller	John	Davis	172988.79
Mary	Miller	Robert	Johnson	206221.70
Mary	Miller	Mary	Wilson	235879.91
NULL	NULL	William	Miller	183740.55
William	Miller	Elizabeth	Smith	328139.36
William	Miller	Linda	Johnson	83238.27
William	Miller	Mary	Smith	131123.33
William	Miller	Jennifer	Johnson	181503.11
William	Miller	Michael	Jones	184833.17
William	Miller	Elizabeth	Davis	149950.57
William	Miller	Michael	Moore	58776.53
William	Miller	Elizabeth	Davis	214715.07

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Query 4: Salesperson Opportunity Success Percentage

This query provides a performance report of sales employees by measuring their success in creating and closing sales opportunities. It also calculates the rate of opportunities that successfully closed relative to those created by each employee.

```
6   SELECT
7       `sls`.`EmpID` AS `Employee ID`,
8       `sls`.`EmpLastName` AS `Employee Last Name`,
9       `sls`.`EmpFirstName` AS `Employee First Name`,
10      COUNT(`opp`.`OppID`) AS `Total Opportunities Created`,
11      (SELECT
12              COUNT(`oppsub`.`OppID`)
13          FROM
14              `614projectdb`.`factopportunity` `oppsub`
15          WHERE
16              ((`oppsub`.`OppStatus` = 'CLOSED')
17                  AND (`sls`.`EmpID` = `oppsub`.`EmpID`))) AS `Closed Opportunities`,
18      FORMAT((((SELECT
19                  COUNT(`oppsub`.`OppID`)
20              FROM
21                  `614projectdb`.`factopportunity` `oppsub`
22              WHERE
23                  ((`oppsub`.`OppStatus` = 'CLOSED')
24                      AND (`sls`.`EmpID` = `oppsub`.`EmpID`))) / COUNT(`opp`.`OppID`)) * 100),
25          '%') AS `Opportunity Success Rate "%"`
26  FROM
27      (`614projectdb`.`dimsalesperson` `sls`
28      JOIN `614projectdb`.`factopportunity` `opp` ON ((`sls`.`EmpID` = `opp`.`EmpID`)))
29  GROUP BY `sls`.`EmpID` , `sls`.`EmpLastName` , `sls`.`EmpFirstName`
30  ORDER BY FORMAT((((SELECT
31              COUNT(`oppsub`.`OppID`)
32          FROM
33              `614projectdb`.`factopportunity` `oppsub`
34          WHERE
35              ((`oppsub`.`OppStatus` = 'CLOSED')
36                  AND (`sls`.`EmpID` = `oppsub`.`EmpID`))) / COUNT(`opp`.`OppID`)) * 100),
37          '%') DESC
```

SELECT Clause: The query selects the employee ID, last name, first name, and aggregates counts of opportunities to produce the following fields:

Employee ID: The unique identifier for each sales employee.
Employee Last Name and Employee First Name: These fields represent the names of the sales employees.
Total Opportunities Created: The count of all opportunities created by each salesperson, as represented by OppID.

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Closed Opportunities: A subquery counts the number of opportunities with a status of 'CLOSED' for each salesperson.
Opportunity Success Rate "%": This is a calculated field showing the percentage of closed opportunities out of the total opportunities created by each salesperson, formatted as a percentage.

FROM and JOINs:
The main query involves the dimsalesperson table (aliased as sls) representing the sales employees.
The factopportunity table (aliased as opp) is joined with sls to link opportunities to the employees based on their EmpID.

GROUP BY Clause: It groups the results by the employee's ID, last name, and first name to ensure that the aggregates are calculated per individual salesperson.
ORDER BY Clause: The results are sorted in descending order based on the Opportunity Success Rate "%" to highlight the most successful employees at the top of the list.

Result: *(40 rows returned)*

Employee ID	Employee Last Name	Employee First Name	Total Opportunities Created	Closed Opportunities	Opportunity Success Rate "%"
22	Johnson	Linda	7	5	71
30	Wilson	Linda	16	10	63
18	Johnson	Robert	24	15	63
19	Wilson	Mary	18	11	61
13	Williams	Patricia	17	10	59
16	Brown	Jennifer	17	10	59
2	Miller	Jennifer	12	7	58
24	Johnson	Jennifer	18	10	56
6	Johnson	Jennifer	17	9	53
31	Brown	Patricia	17	9	53
28	Davis	Elizabeth	19	10	53
11	Davis	William	17	9	53
21	Smith	Elizabeth	20	10	50
20	Miller	William	18	9	50
25	Jones	Michael	22	11	50
23	Smith	Mary	20	10	50
38	Miller	Michael	23	11	48
17	Davis	John	15	7	47

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Query 5: Lost Opportunities in Q3 2023

This SQL query is designed to extract detailed information about sales opportunities that were not won ('LOST') for a specific quarter of the year 2023 (July, August, and September). It links sales opportunities with salespersons and their managers, as well as with the customers associated with each opportunity.

```
6       SELECT
7           `opp`.`OppName` AS `Opportunity Name`,
8           `opp`.`OppStatus` AS `Opportunity Status`,
9           `opp`.`OppOpenDate` AS `Opportunity Open Date`,
10          `cust`.`CustomerFirstName` AS `Customer First Name`,
11          `cust`.`CustomerLastName` AS `Customer Last Name`,
12          `emp`.`EmpID` AS `Salesperson ID`,
13          `emp`.`EmpLastName` AS `Salesperson Last Name`,
14          `emp`.`EmpFirstName` AS `Salesperson First Name`,
15          `mgr`.`EmpID` AS `Manager ID`,
16          `mgr`.`EmpLastName` AS `Manager Last Name`,
17          `mgr`.`EmpFirstName` AS `Manager First Name`
18      FROM
19          (((`614projectdb`.`dimsalesperson` `emp`
20          LEFT JOIN `614projectdb`.`dimsalesperson` `mgr` ON ((`mgr`.`EmpID` = `emp`.`ManagerID`)))
21          LEFT JOIN `614projectdb`.`factopportunity` `opp` ON ((`opp`.`EmpID` = `emp`.`EmpID`)))
22          LEFT JOIN `614projectdb`.`dimcustomer` `cust` ON ((`opp`.`CustomerID` = `cust`.`CustomerID`)))
23      WHERE
24          ((`opp`.`OppStatus` = 'LOST')
25              AND (`mgr`.`EmpLastName` IS NOT NULL)
26              AND (YEAR(`opp`.`OppOpenDate`) = 2023)
27              AND (MONTH(`opp`.`OppOpenDate`) IN (7 , 8, 9)))
```

SELECT Clause: The query retrieves various pieces of information:

- Opportunity Name, Opportunity Status, and Opportunity Open Date from the factopportunity table (aliased as opp).
- Customer First Name and Customer Last Name from the dimcustomer table (aliased as cust).
- Salesperson ID, Salesperson Last Name, and Salesperson First Name from the dimsalesperson table (aliased as emp).
- Manager ID, Manager Last Name, and Manager First Name from the dimsalesperson table again (aliased as mgr), representing the manager of each salesperson.

FROM and JOINs:
The dimsalesperson table is first self-joined to relate salespersons to their managers using the ManagerID. Then it is left joined with factopportunity to match salespersons with the opportunities they are responsible for. Lastly, it is left joined with dimcustomer to associate the opportunities with the customers involved.

WHERE Clause: This filters the records to include only:

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- Opportunities with a status of 'LOST'.
- Opportunities where the manager's last name is present (not null) to retrieve only salespeople who are not managers.
- Opportunities that were opened in the third quarter of the year 2023 (specifically July, August, and September).

Result: *(22 rows returned)*

Opportunity Name	Opportunity Status	Opportunity Open Date	Customer First Name	Customer Last Name	Salesperson ID	Salesperson Last Name	Salesperson First Name	Manager ID	Manager Last Name	Manager First Name
Opportunity with Raphael	lost	2023-09-05	Raphael	Barber	4	Williams	Elizabeth	1	Brown	James
Opportunity with Ivy	lost	2023-08-08	Ivy	Fields	4	Williams	Elizabeth	1	Brown	James
Opportunity with Nelle	lost	2023-08-12	Nelle	Miranda	24	Johnson	Jennifer	20	Miller	William
Opportunity with Elliott	lost	2023-07-22	Elliott	Walls	6	Johnson	Jennifer	1	Brown	James
Opportunity with Kyle	lost	2023-09-26	Kyle	Reid	18	Johnson	Robert	10	Miller	Mary
Opportunity with Dean	lost	2023-08-08	Dean	Mccray	14	Davis	Jennifer	10	Miller	Mary
Opportunity with Tad	lost	2023-09-22	Tad	Ray	34	Brown	Jennifer	30	Wilson	Linda
Opportunity with Amal	lost	2023-07-22	Amal	Sandoval	24	Johnson	Jennifer	20	Miller	William
Opportunity with Kelly	lost	2023-09-17	Kelly	Anderson	25	Jones	Michael	20	Miller	William
Opportunity with Tad	lost	2023-08-21	Tad	Ray	29	Miller	Patricia	20	Miller	William
Opportunity with Charles	lost	2023-07-04	Charles	Rivas	9	Smith	Elizabeth	1	Brown	James
Opportunity with David	lost	2023-07-22	David	Greer	40	Wilson	Jennifer	30	Wilson	Linda
Opportunity with Dane	lost	2023-07-24	Dane	Campos	14	Davis	Jennifer	10	Miller	Mary
Opportunity with Sheila	lost	2023-08-17	Sheila	Flowers	12	Moore	Linda	10	Miller	Mary
Opportunity with Elliott	lost	2023-07-22	Elliott	Walls	14	Davis	Jennifer	10	Miller	Mary
Opportunity with Whitney	lost	2023-07-11	Whitney	Blackwell	16	Brown	Jennifer	10	Miller	Mary
Opportunity with India	lost	2023-08-07	India	Forbes	17	Davis	John	10	Miller	Mary
Opportunity with India	lost	2023-07-21	India	Forbes	9	Smith	Elizabeth	1	Brown	James
Opportunity with Ruby	lost	2023-07-14	Ruby	Santiago	16	Brown	Jennifer	10	Miller	Mary
Opportunity with David	lost	2023-08-23	David	Greer	27	Moore	Michael	20	Miller	William
Opportunity with April	lost	2023-07-22	April	Stuart	31	Brown	Patricia	30	Wilson	Linda
Opportunity with Sophia	lost	2023-07-07	Sophia	Hartman	31	Brown	Patricia	30	Wilson	Linda

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Query 6: Products with no Sales in the Last 6 Months

This query is constructed to identify products from the dimproduct table that have not been sold in the last month. It does this by attempting to match products to order lines based on the product ID and filtering for those products that do not have any associated order lines within the past month.

```
6       SELECT
7           `p`.`ProductID` AS `ProductID`,
8           `p`.`ProductName` AS `ProductName`,
9           `p`.`ProductDescription` AS `ProductDescription`,
10          `p`.`ProductFamilyID` AS `ProductFamilyID`
11      FROM
12          (`614projectdb`.`dimproduct` `p`
13          LEFT JOIN `614projectdb`.`factorderline` `o` ON (((`p`.`ProductID` = `o`.`ProductId`)
14              AND (`o`.`StartDate` >= (NOW() - INTERVAL 6 MONTH)))))
15      WHERE
16          (`o`.`OrderlineId` IS NULL)
```

SELECT Clause: The query selects the following columns from the dimproduct table (aliased as p):

ProductID: The unique identifier for each product.
ProductName: The name of the product.
ProductDescription: A description of the product.
ProductFamilyID: An identifier that groups the product into a larger product family.

FROM and LEFT JOIN:
The query begins with the dimproduct table, which contains the details of the products. It then performs a left join on the factorderline table (aliased as o) on two conditions: the product IDs must match between the two tables, and the order line's start date must be within the last month from the current date (as given by NOW() - INTERVAL 1 MONTH).

WHERE Clause:
The filter applied by the WHERE clause is to select only those products where there is no matching entry in the factorderline table (o.OrderlineId IS NULL). This effectively filters for products that have not been sold in the last month.

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Result: (97 rows returned)

ProductID	ProductName	ProductDescription	ProductFamilyID
1	Laptop Product 731	Next-gen laptop for professional environments, with advanced features.	2
2	Enterprise Network Hardware Product 657	Next-gen enterprise network hardware for network management, with the latest technology.	12
3	Laptop Product 368	Compact laptop for graphic design, with advanced features.	2
6	Chromebook Product 606	Eco-friendly chromebook for graphic design, with advanced features.	3
7	Robotics Product 486	Innovative robotics for personal use, with advanced features.	15
9	Laptop Product 982	Innovative laptop for content creation, with user-friendly interface.	2
10	Enterprise Network Hardware Product 998	High-quality enterprise network hardware for content creation, with user-friendly interface.	12
11	Laptop Product 758	High-quality laptop for graphic design, with user-friendly interface.	2
12	Enterprise Data Center Hardware Product 798	Next-gen enterprise data center hardware for network management, with reliable durability.	14
14	Enterprise Data Center Hardware Product 415	Innovative enterprise data center hardware for network management, with reliable durability.	14
15	Furniture Product 930	Versatile furniture for software development, with high compatibility.	10
17	Enterprise Data Center Hardware Product 528	Eco-friendly enterprise data center hardware for personal use, with the latest technology.	14
18	Professional Service Product 839	Robust professional service for gaming, with reliable durability.	5
21	Enterprise Data Center Hardware Product 604	Ergonomic enterprise data center hardware for professional environments, with reliable durability.	14
23	Security Hardware Product 120	High-quality security hardware for personal use, with precise controls.	8
24	Laptop Product 26	Next-gen laptop for personal use, with reliable durability.	2
27	Software Product 804	Eco-friendly software for network management, with exceptional performance.	13
28	Monitor Product 370	Robust monitor for software development, with high compatibility.	6
31	Professional Service Product 259	Compact professional service for content creation, with user-friendly interface.	5
33	Laptop Product 302	Ergonomic laptop for network management, with reliable durability.	2
36	Furniture Product 458	Robust furniture for graphic design, with user-friendly interface.	10
38	Desktop Product 872	Robust desktop for network management, with precise controls.	1
39	Accessories Product 340	High-quality accessories for software development, with precise controls.	7
49	Audio Video Equipment Product 527	High-quality audio video equipment for network management, with advanced features.	9
53	Enterprise Network Hardware Product 126	High-quality enterprise network hardware for personal use, with energy-saving capabilities.	12
56	Security Hardware Product 738	Robust security hardware for content creation, with reliable durability.	8
57	Accessories Product 51	Compact accessories for gaming, with exceptional performance.	7
58	Enterprise Network Hardware Product 677	Versatile enterprise network hardware for gaming, with user-friendly interface.	12

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Query 7: Revenue of Product Family 2 by Year

This SQL query is designed to calculate and report the monthly revenue for a specific product family, identified by ProductFamilyID = 2, over different months and years. It links products with their corresponding product families and order lines to aggregate sales data.

```
6       SELECT
7           YEAR(`fol`.`InvoiceDate`) AS `Year`,
8           MONTH(`fol`.`InvoiceDate`) AS `Month`,
9           `dpf`.`ProductFamilyID` AS `ProductFamilyID`,
10          SUM(`fol`.`TotalLinePriceNet`) AS `MonthlyRevenue`
11      FROM
12          ((`614projectdb`.`dimproductfamily` `dpf`
13          JOIN `614projectdb`.`dimproduct` `dp` ON ((`dp`.`ProductFamilyID` = `dpf`.`ProductFamilyID`)))
14          JOIN `614projectdb`.`factorderline` `fol` ON ((`fol`.`ProductId` = `dp`.`ProductID`)))
15      WHERE
16          ((`dpf`.`ProductFamilyID` = 2)
17              AND (`fol`.`InvoiceDate` IS NOT NULL))
18      GROUP BY `Year` , `Month`
19      ORDER BY `Year` DESC , `Month` DESC
```

SELECT Clause: The query retrieves and calculates the following fields:

Year: Extracted from the InvoiceDate of the factorderline table (aliased as fol), indicating the year of the invoice.
Month: Extracted from the InvoiceDate, indicating the month of the invoice.
ProductFamilyID: Taken from the dimproductfamily table (aliased as dpf), representing the ID of the product family.
MonthlyRevenue: The sum of the TotalLinePriceNet from the factorderline table, representing the total revenue for that product family in each month.

FROM and JOINs:
The query starts with the dimproductfamily table, which contains details of product families.
It then joins with the dimproduct table (aliased as dp) on the ProductFamilyID.
The factorderline table is subsequently joined to link the products with their sales data.

WHERE Clause:
The filter applied restricts the data to only the product family with ProductFamilyID equal to 2.
It also ensures that only order lines with a non-null InvoiceDate are included.

GROUP BY Clause:
The results are grouped by Year and Month to aggregate the revenue data on a monthly basis for each year.

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ORDER BY Clause: The results are ordered by Year in descending order and then by Month in descending order, so the most recent months and years appear first.

Result: *(19 rows returned)*

Year	Month	ProductFamilyID	MonthlyRevenue
2024	2	2	3772.86
2023	11	2	1727.49
2023	10	2	14032.44
2023	9	2	642.63
2023	8	2	9095.40
2023	7	2	4340.16
2023	6	2	1688.54
2023	4	2	8926.20
2023	3	2	12366.72
2023	2	2	1863.36
2023	1	2	10144.20
2022	10	2	3030.72
2022	9	2	42360.10
2022	8	2	17684.30
2022	7	2	8079.42
2022	5	2	29948.81
2022	4	2	13662.00
2022	3	2	3969.60
2022	2	2	11145.84

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Query 8: Top Performing Product Families by Revenue

This query is designed to calculate the total revenue for each product family by aggregating the net line prices from order lines associated with products belonging to these families.

```
SELECT
    `f`.`ProductFamilyID` AS `ProductFamilyID`,
    `f`.`ProductFamilyName` AS `ProductFamilyName`,
    `f`.`ProductFamilyDescription` AS `ProductFamilyDescription`,
    SUM(`o`.`TotalLinePriceNet`) AS `TotalRevenue`
FROM
    ((`614projectdb`.`factorderline` `o`
    JOIN `614projectdb`.`dimproduct` `d` ON ((`o`.`ProductId` = `d`.`ProductID`)))
    JOIN `614projectdb`.`dimproductfamily` `f` ON ((`d`.`ProductFamilyID` = `f`.`ProductFamilyID`)))
GROUP BY `f`.`ProductFamilyID` , `f`.`ProductFamilyName` , `f`.`ProductFamilyDescription`
ORDER BY `TotalRevenue` DESC
```

SELECT Clause: The query selects several key fields:

- ProductFamilyID, ProductFamilyName, and ProductFamilyDescription from the dimproductfamily table (aliased as f), identifying each product family.
- TotalRevenue: Calculated as the sum of TotalLinePriceNet from the factorderline table (aliased as o), representing the total sales revenue for each product family.

FROM and JOINs:
The query starts from the factorderline table, which contains detailed line items for orders, including the net line price. It then joins with the dimproduct table (aliased as d) on ProductId to link each order line to its respective product. The dimproductfamily table is subsequently joined on ProductFamilyID to associate products with their respective product families.

GROUP BY Clause:
The results are grouped by ProductFamilyID, ProductFamilyName, and ProductFamilyDescription to ensure that the revenue is aggregated for each unique product family.

ORDER BY Clause:
The results are ordered by TotalRevenue in descending order, so the product families with the highest revenue are listed first.

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Result: *(15 rows returned)*

ProductFamilyID	ProductFamilyName	ProductFamilyDescription	TotalRevenue
14	Enterprise Data Center Hardware	Infrastructure for data center solutions.	969104.56
10	Furniture	Chairs, desks, doors, etc.	591558.80
6	Monitor	Computer display.	517473.36
15	Robotics	Automated machines and systems.	478156.12
11	Educational Technology	Specialized hardware and devices for educational...	447065.47
3	Chromebook	Portable mobile computer running ChromeOS.	441307.15
7	Accessories	Computer accessories such as keyboard, mice, w...	440083.22
1	Desktop	Stationary personal computer. Includes all-in-ones.	429596.43
9	Audio Video Equipment	Multimedia AV devices.	413379.51
13	Software	Licenses to access enterprise software.	407848.00
2	Laptop	Portable personal computer.	391480.09
5	Professional Service	Services such as installations, configurations, whit...	380229.34
12	Enterprise Network Hardware	Infrastructure for network solutions.	230192.63
8	Security Hardware	Hardware such as cameras and sensors.	188330.44
4	Tablet	Portable personal computer with touchscreen inte...	115503.50

Project Report

Section 5 - Business Recommendations

In this section, we present strategic business recommendations derived from the results of the reports above. These recommendations are tailored to address specific challenges and opportunities identified in our analysis, with the aim of driving sustainable growth and competitive advantage. Our approach integrates a mix of short-term tactical solutions and long-term strategic initiatives, ensuring immediate improvement in performance while laying the groundwork for future expansion and success. These recommendations are categorized into distinct areas, each targeting a key aspect of the business – from product pricing and portfolio optimization to customer re-engagement strategies and sales team empowerment.

Business Recommendation 1: Products with No Sales in last 6 months

We should focus first on analyzing pricing and the competitive landscape. Ensuring pricing is aligned to the market is critical, before exploring other factors like product enhancements, promotions etc. Specifically, we should:

- Research pricing for competing products in the same product categories. Identify prices and price ranges for alternatives.
- Compare pricing of non-selling products to those competitor prices to determine if there is a major price discrepancy driving a lack of demand.
- Model impacts to unit sales by decreasing pricing on select products if there is a notable pricing gap. Calculate the potential increase in units to determine if additional volume covers the price drop.
- Run the products showing major pricing differences as the first candidates for a pricing adjustment test.
- Track sales after price changes on a weekly basis to monitor impact. Expand price adjustments further if initial test drives increased sales velocity.

Getting pricing and positioning right in the market should be the first priority before exploring other drivers. This can have a quick impact on demand with limited incremental effort. Competitive intelligence and pricing studies should provide the benchmark to know if current price points are hindering sales.

Business Recommendation 2: Top Performing Product Families (By Revenue)

We should prioritize reviewing and optimizing the tablet product mix as the most impactful next step. The rationale is:

- Tablets have the lowest overall revenue of the underperforming product categories
- Currently cheaper, lower-end tablet models likely dominate the mix
- Introducing more premium tablets can:
    - Increase average selling price per tablet
    - Provide higher profit margin tablets
    - Position tablets as productivity tools through enterprise-grade specs

To optimize the product mix, we recommend the following:

- Performing customer and market research on tablet needs and price sensitivity
- Using insights to introduce 2-3 new premium tablet models priced 25-50% above current tablets
- Marketing benefits heavily - performance, enterprise capabilities

- Monitoring sales split between existing value tablets and new premium
- Expand tablet portfolio breadth if initial models gain traction getting the right tablet product mix can have an outsized impact on both revenues and positioning tablets as enterprise-ready products. New premium models could lift Tablets past other categories if successful.

Business Recommendation 3: Lost Opportunities

Based on the data on lost opportunities, one priority business recommendation would be to implement targeted win-back campaigns for customers with multiple lost opportunities:

- The data shows some customers like Tad Ray and India Forbes have had multiple lost opportunities recently
- These customers likely still have a need but something prevented deal closure previously
- Marketing should develop targeted win-back offers and promotions to re-engage high potential lost accounts
- Campaigns could include special discounts, free trials, or bundled offerings tailored to their needs
- Outreach led by salespeople with existing relationships can explore reasons for losses and position new solution

Winning back customers with whom there is a sales history and open past opportunity can have much higher conversion rates than new prospect acquisition. A focused win-back initiative aimed at customers like Tad and India who show intent but multiple missed closures presents a priority opportunity to cost-effectively generate new sales. Personalized engagement is key to rebuilding trust and meeting their business needs.

Business Recommendation 4: Top Performing Manager

Based on the sales data by manager, one top priority recommendation would be to provide additional resources and support for the top sales managers to expand their teams:

- Managers like Mary Miller, William Miller, and Linda Wilson have proven abilities to lead strong sales teams based on total team sales
- Enabling them to grow their sales organizations can multiply overall revenue capabilities
- Prioritize hiring budget and headcount growth goals specifically for the teams of top sales leaders
- Support manager training programs to develop junior managers that can take over sub-teams
- Expand direct report span of control for top managers by reallocating other weaker groups under them

Empowering the best sales managers with larger teams and budgets would directly translate to higher revenues. The data shows their repeatable success in coaching and leading salespeople. Investing further in the demonstrated strengths of Mary, William, Linda in leading and enabling sales teams makes the most sense for scalable, consistent sales growth.

Business Recommendation 5: General Business Recommendations

Short Term Recommendations:

- Offer pricing and bundling promotions targeted at low/non-selling products to stimulate demand
- Profile customers with multiple lost opportunities for targeted win-back campaigns

- Provide top sales managers with budgets to hire additional direct reports

Long Term Recommendations:

- Expand tablet portfolio with new premium models to increase Average Selling Price (ASP)
- Build retention programs focused on customers showing repeat buying patterns
- Develop manager mentorship initiative to transfer best practices to junior leaders
- Create dedicated enterprise solutions packages for network and datacenter hardware

The short term recommendations focus on tactical initiatives to drive additional near term sales based directly on the trends observed in the data. These require less lead time to implement. The long term recommendations involve more strategic product, customer, and organizational initiatives that build foundations for scalable growth. But they require upstream planning over multiple quarters to execute.

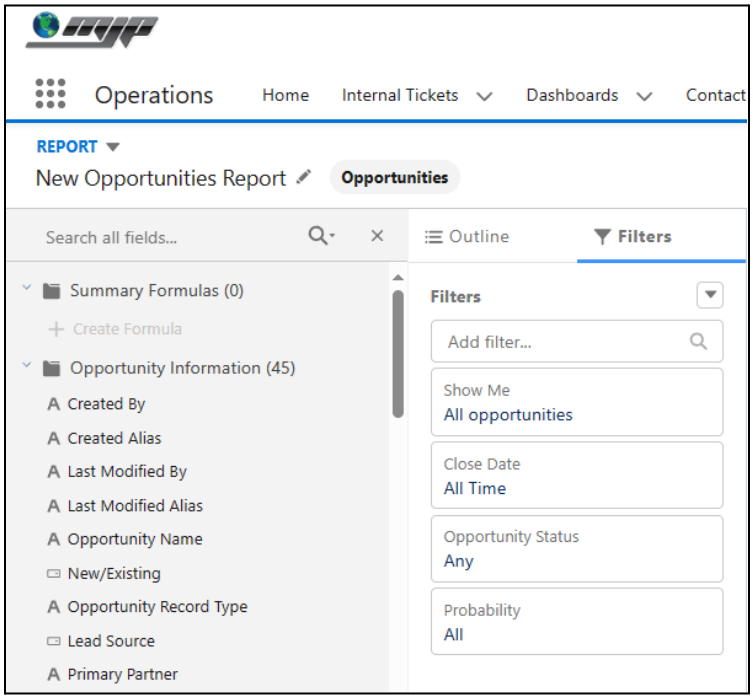
Section 6 - Appendix

In this section, we provide a selection of key documents that have been instrumental in shaping the requirements specification and data modeling of our database information systems project for MJP Technologies. These documents, encompassing export of reports from Salesforce into Comma Separated files, have served as foundational references in the development of the Entity-Relationship Diagram (ERD) and the subsequent database schema. Each section below has two figures: the first is the Salesforce report builder and the second is the anonymized and scrambled report output.

To uphold confidentiality and data protection obligations, the documents included herein have been processed to obfuscate sensitive information. This approach allows us to use existing systems during our design considerations without compromising any real-world data or the privacy of individuals and entities involved. The original Salesforce reports were exported to .csv and the data presented is arbitrarily scrambled and anonymized to maintain the integrity and privacy of actual data. Additionally, all exported data has remained securely on-premises at all times.

Project Report

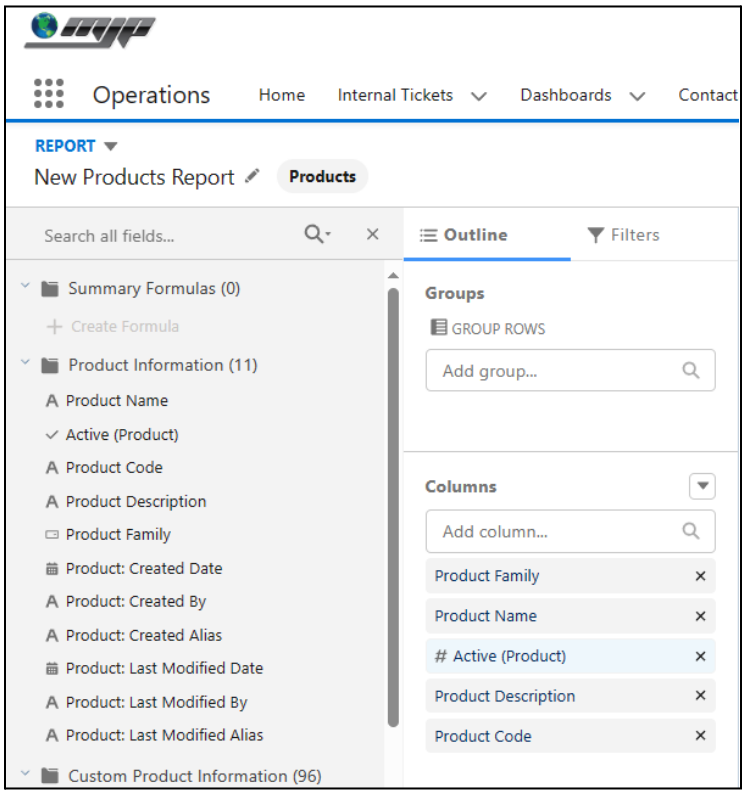
Opportunities Salesforce Report Output



	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Opportunity Owner	Account Name	Opportunity Name	Stage	Fiscal Period	Amount	Probability (%)	Age	Close Date	Created Date	Next Step	Lead Source	New/Existing
2	Casey Anderson	Morgan Brown Corp	Project for Jun 2023	Closed Lost	Q4-2023	2624.79	0	83	9/27/2023	4/26/2023	-	Website	Existing Business
3	Morgan Smith	Morgan Anderson Corp	Project for Feb 2023	Closed Won	Q4-2023	75416.5	0	3	12/8/2023	4/12/2023	-	Website	Existing Business
4	Jane Smith	Casey Smith Corp	Deal for Sep 2023	Closed Won	Q4-2023	149062.34	100	80	9/9/2023	2/23/2023	-	Website	Existing Business
5	Sam Wilson	Sam Brown Corp	Proposal for Jul 2023	Closed Lost	Q4-2023	171789	0	81	12/14/2023	1/15/2023	-	Website	Existing Business
6	John Taylor	Morgan Taylor Corp	Deal for Nov 2024	Closed Won	Q4-2023	180312.13	100	100	9/20/2023	2/1/2023	-	Website	Existing Business
7	Alex Davis	Casey Doe Corp	Deal for Oct 2023	Closed Lost	Q4-2023	31659.79	100	75	12/9/2023	3/8/2023	-	Website	New Business
8	John Wilson	Sam Brown Corp	Project for Dec 2023	Closed Lost	Q4-2023	14664.58	0	43	11/6/2023	5/18/2023	-	Website	Existing Business
9	Sam Miller	Sam Miller Corp	Proposal for Jul 2023	Closed Lost	Q4-2023	190703.37	100	90	9/24/2023	6/21/2023	-	Website	New Business
10	John Anderson	Chris Brown Corp	Deal for Nov 2024	Closed Lost	Q4-2023	10801.85	100	88	9/1/2023	6/4/2023	-	Website	Existing Business
11	Chris Taylor	Morgan Smith Corp	Deal for Nov 2024	Closed Lost	Q4-2023	58322.09	100	54	11/11/2023	6/12/2023	-	Website	Existing Business
12	Sam Doe	Casey Wilson Corp	Deal for May 2024	Closed Lost	Q4-2023	73564.63	100	88	12/25/2023	1/5/2023	-	Website	New Business
13	Jane Smith	Casey Miller Corp	Proposal for Mar 2024	Closed Won	Q4-2023	155866.15	100	45	11/7/2023	4/1/2023	-	Website	Existing Business
14	Jane Miller	Jane Davis Corp	Quote for Jan 2024	Closed Won	Q4-2023	137325.64	0	23	10/18/2023	3/26/2023	-	Website	New Business
15	Casey Taylor	Taylor Davis Corp	Deal for Jan 2023	Closed Lost	Q4-2023	118028.21	100	75	10/3/2023	5/18/2023	-	Website	New Business
16	Alex Brown	Chris Doe Corp	Project for Jan 2023	Closed Lost	Q4-2023	45015.36	100	36	11/15/2023	3/8/2023	-	Website	New Business
17	Jane Wilson	Alex Taylor Corp	Case for Jun 2023	Closed Lost	Q4-2023	195268.15	0	16	10/16/2023	1/22/2023	-	Website	New Business
18	Sam Brown	Chris Anderson Corp	Case for Oct 2024	Closed Lost	Q4-2023	105070.62	100	64	9/6/2023	3/26/2023	-	Website	Existing Business
19	Taylor Anderson	Sam Wilson Corp	Case for May 2024	Closed Won	Q4-2023	102086.48	0	35	10/11/2023	4/5/2023	-	Website	Existing Business
20	Morgan Miller	Jane Anderson Corp	Quote for Mar 2024	Closed Lost	Q4-2023	77143.79	0	13	10/24/2023	2/24/2023	-	Website	New Business
21	Morgan Doe	John Doe Corp	Project for Jan 2023	Closed Lost	Q4-2023	152368.77	100	14	9/20/2023	3/14/2023	-	Website	Existing Business
22	John Brown	Chris Taylor Corp	Case for Feb 2024	Closed Lost	Q4-2023	23424.49	0	49	10/17/2023	7/4/2023	-	Website	New Business
23	Jane Smith	Alex Brown Corp	Case for Jan 2024	Closed Lost	Q4-2023	150797.01	0	49	12/10/2023	3/1/2023	-	Website	Existing Business
24	Casey Miller	John Brown Corp	Project for Feb 2023	Closed Lost	Q4-2023	79067.66	0	75	10/4/2023	3/27/2023	-	Website	Existing Business
25	Jane Davis	Jane Smith Corp	Case for Oct 2024	Closed Lost	Q4-2023	34102.03	0	47	11/16/2023	4/17/2023	-	Website	Existing Business
26	Casey Miller	John Davis Corp	Quote for Jun 2023	Closed Lost	Q4-2023	58507.08	0	20	12/4/2023	3/28/2023	-	Website	New Business
27	Taylor Doe	Jane Davis Corp	Deal for Dec 2024	Closed Lost	Q4-2023	27077.38	0	65	11/21/2023	7/27/2023	-	Website	New Business
28	Jane Taylor	Alex Anderson Corp	Project for Aug 2024	Closed Lost	Q4-2023	119328.5	0	80	11/26/2023	2/8/2023	-	Website	Existing Business
29	John Anderson	Sam Doe Corp	Quote for Mar 2023	Closed Won	Q4-2023	12369.73	100	17	12/23/2023	4/14/2023	-	Website	New Business
30	Sam Wilson	Morgan Miller Corp	Deal for Feb 2023	Closed Won	Q4-2023	25736.57	0	32	10/26/2023	2/2/2023	-	Website	Existing Business
31	John Doe	Sam Miller Corp	Quote for Feb 2024	Closed Lost	Q4-2023	144768.28	100	91	10/3/2023	2/11/2023	-	Website	Existing Business

Project Report

Product Salesforce Report Output

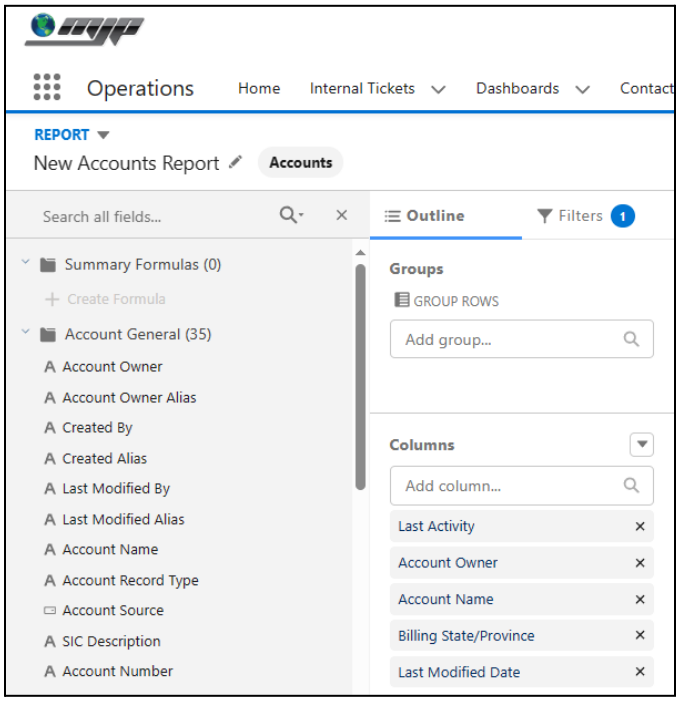


	A	B	C	D
1	ProductID	ProductFamilyName	ProductName	ProductDescription
2	1	Accessories	Jabra Headset	Noise-cancelling Jabra headset for clear audio communication.
3	2	Service	Camera Installation	Installation of security cameras with network setup and mobile monitoring capabilities.
4	3	Tablet	Microsoft Surface	A touchscreen personal computer, perfect for on-the-go media consumption and light work.
5	4	Service	IFP Installation	Installation of Interactive Flat Panel, wall mounted or on a mobile cart.
6	5	Tablet	Amazon Fire	A touchscreen personal computer, perfect for on-the-go media consumption and light work.
7	6	Service	Network Setup	Comprehensive network configuration services for optimized connectivity and security.
8	7	Tablet	Amazon Fire	A touchscreen personal computer, perfect for on-the-go media consumption and light work.
9	8	Service	IFP Installation	Installation of Interactive Flat Panel, wall mounted or on a mobile cart.
10	9	Tablet	Amazon Fire	A touchscreen personal computer, perfect for on-the-go media consumption and light work.
11	10	Service	IFP Installation	Installation of Interactive Flat Panel, wall mounted or on a mobile cart.
12	11	Accessories	Anker Charger	Fast-charging Anker charger with multi-device support.
13	12	Service	IFP Installation	Installation of Interactive Flat Panel, wall mounted or on a mobile cart.
14	13	Accessories	Logitech Mouse	High-precision Logitech mouse, designed for comfort and accuracy.
15	14	Service	Camera Installation	Installation of security cameras with network setup and mobile monitoring capabilities.
16	15	Monitor	Samsung Odyssey	A high-resolution computer display, providing clear and vibrant visuals for all computing needs.
17	16	Service	White Glove Service	Premium setup service ensuring all devices are fully configured and ready to use.
18	17	Chromebook	Lenovo 100e	A portable mobile device running ChromeOS, optimized for browsing and cloud-based applications.
19	18	Service	White Glove Service	Premium setup service ensuring all devices are fully configured and ready to use.
20	19	Desktop	HP Pavilion	A stationary personal computer, suitable for office tasks, includes all-in-one models.
21	20	Service	Camera Installation	Installation of security cameras with network setup and mobile monitoring capabilities.
22	21	Laptop	MacBook Pro	A portable personal computer, ideal for mobile computing and office tasks.
23	22	Service	Camera Installation	Installation of security cameras with network setup and mobile monitoring capabilities.
24	23	Desktop	Acer Aspire	A stationary personal computer, suitable for office tasks, includes all-in-one models.
25	24	Service	Network Setup	Comprehensive network configuration services for optimized connectivity and security.
26	25	Desktop	HP Pavilion	A stationary personal computer, suitable for office tasks, includes all-in-one models.
27	26	Service	White Glove Service	Premium setup service ensuring all devices are fully configured and ready to use.
28	27	Desktop	Acer Aspire	A stationary personal computer, suitable for office tasks, includes all-in-one models.
29	28	Service	Camera Installation	Installation of security cameras with network setup and mobile monitoring capabilities.
30	29	Accessories	Sandisk SSD	High-speed Sandisk SSD for quick data transfer and storage.
31	30	Service	IFP Installation	Installation of Interactive Flat Panel, wall mounted or on a mobile cart.

Project Report

Customer Salesforce Report Output

Remark: Accounts in Salesforce are the Customers in our database



	A	B	C	D
1	Last Activity	Account Owner	Account Name	Billing State/Province
2	2/4/2017	Chris Lee	Summit Academy	GA
3	1/29/2018	Taylor Martinez	Harbor View Services	CA
4	9/28/2022	Taylor Martinez	Riverside Technology Group	FL
5	3/3/2019	Taylor Martinez	Summit Academy	GA
6	9/3/2017	Jamie Garcia	Pinecrest Institute	OH
7	1/23/2022	Taylor Martinez	Riverside Technology Group	OH
8	4/1/2021	Patricia Smith	Pinecrest Institute	PA
9	9/22/2021	Patricia Smith	Cedar Hall Education Center	TX
10	3/19/2017	Taylor Martinez	Bridgewater Media Corp	TX
11	9/13/2021	Patricia Smith	Cedar Hall Education Center	WA
12	4/27/2020	Taylor Martinez	Greenwood Public School	NC
13	9/5/2021	Taylor Martinez	Greenwood Public School	NY
14	10/30/2019	Chris Lee	Harbor View Services	MA
15	3/26/2018	Patricia Smith	Riverside Technology Group	TX
16	11/25/2022	Chris Lee	Cedar Hall Education Center	NC
17	8/8/2018	Chris Lee	Bridgewater Media Corp	GA
18	11/11/2017	Jamie Garcia	Riverside Technology Group	WA
19	10/24/2023	Jamie Garcia	Riverside Technology Group	PA
20	3/1/2023	Chris Lee	Harbor View Services	PA
21	5/25/2022	Chris Lee	Greenwood Public School	OH
22	8/2/2017	Alex Johnson	Riverside Technology Group	FL
23	4/18/2023	Taylor Martinez	Pinecrest Institute	TX
24	1/4/2020	Taylor Martinez	Cedar Hall Education Center	WA
25	12/7/2020	Taylor Martinez	Greenwood Public School	NC
26	2/18/2021	Jamie Garcia	Summit Academy	NC
27	11/7/2022	Jamie Garcia	Harbor View Services	NC
28	5/13/2022	Taylor Martinez	Cedar Hall Education Center	MA
29	3/28/2020	Jamie Garcia	Summit Academy	NC
30	4/23/2017	Jamie Garcia	Cedar Hall Education Center	NC
31	10/21/2020	Chris Lee	Summit Academy	PA