



Innovation & Entrepreneurship Hub for Educated Rural Youth (SURE Trust – IERY)

**1.Mobile Sales Dashboard ,
2Energy Consumption Dashboard
& 3.Library Management System**

The domain of the Project:

G18 SQL & Power BI

Name:

**Ms. Bhagyashree Diwakar
Gourkar**

B.Tech, 4th year Pursuing

Period of the project

MAY 2025 to September 2025



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Declaration

The projects titled “**Energy Consumption Dashboard**”, “**Mobile Sales Dashboard**”, and “**Library Management System**” have been mentored by **Siddhika Shah**, organised by **SURE Trust**, from **May 2025 to September 2025**, for the benefit of the educated unemployed rural youth in gaining hands-on experience in working on industry-relevant projects that would take them closer to prospective employers.

I, **Bhagyashree Diwakar Gourkar**, hereby declare that I have successfully worked on these projects individually and enhanced my practical knowledge in the domains of **SQL** and **Power BI**.

Name:

Ms. Bhagyashree Diwakar Gourkar
B.Tech, 4th Year (Pursuing)

Mentor:

Siddhika Shah
Software Developer
TATA Technologies

Organiser:

Prof. Radhakumari
Executive Director & Founder
SURE Trust



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Table of contents:

1. Executive summary
2. Introduction
3. Project Objectives
4. Methodology & Results
5. Social / Industry relevance of the project
6. Learning & Reflection
7. Future Scope & Conclusion

PROJECTS:-

1. Project 1: Energy Consumption Dashboard (Power BI)
2. Project 2: Mobile Sales Dashboard (Power BI)
3. Project 3: Library Management System (SQL)



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Project 1: Energy Consumption Dashboard (Power BI)

Executive Summary:-

The Energy Consumption Dashboard project was developed to create an interactive Power BI analytics platform that highlights key insights on electricity usage, cost, and renewable energy contribution. This dashboard enables stakeholders to monitor usage, detect peak demand, and promote sustainability.

Introduction:-

The project was undertaken in response to the global demand for efficient energy monitoring solutions. Traditional monitoring is limited to monthly bills and lacks actionable insights. The dashboard bridges this gap by presenting detailed analysis of usage patterns and renewable integration.

Project Objectives:-

The objectives of the project include: enabling real-time monitoring of energy usage, identifying peak load hours, comparing renewable vs non-renewable energy, and encouraging conservation practices through actionable insights.

Methodology & Results:-

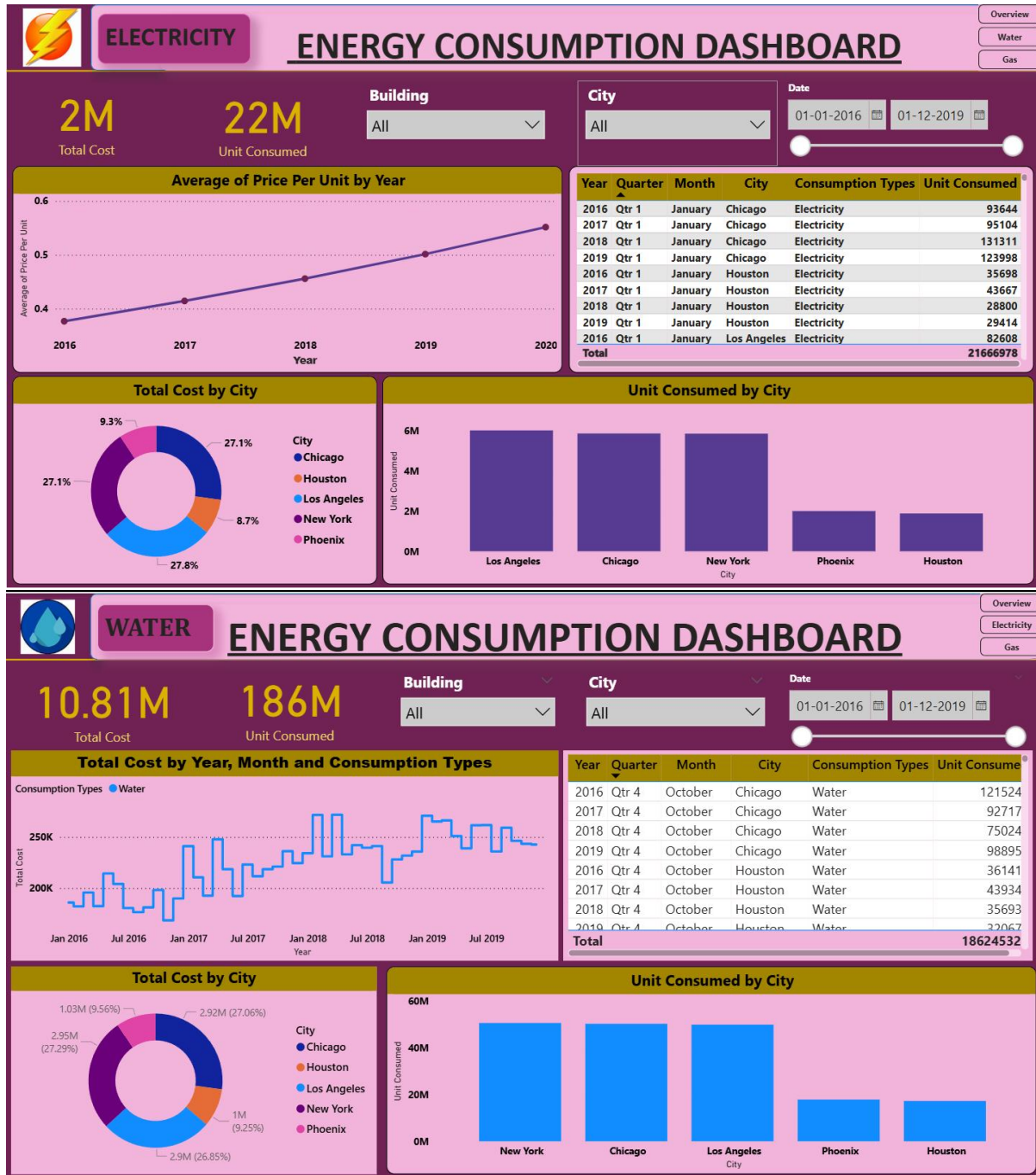
The project followed an ETL approach using Excel data imported into Power BI. Steps included cleaning, modeling, defining DAX measures, and creating visualizations such as KPIs, charts, and trend lines. The final dashboard showcased peak consumption, renewable shares, and cost metrics.

GITHUB LINK:-

https://github.com/Bhagyashree-web/SQL_POWER-BI-PROJECT_SURE_PROED/tree/main/Energy-Consumption-Dashboard



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WATER

ENERGY CONSUMPTION DASHBOARD

Overview

Electricity

Gas

10.81M

Total Cost

186M

Unit Consumed

Building
All

City
All

Date
01-01-2016 01-12-2019

Total Cost by Year, Month and Consumption Types

Consumption Types Water

Year	Month	Total Cost
2016	Jan	200K
2016	Jul	210K
2017	Jan	220K
2017	Jul	230K
2018	Jan	240K
2018	Jul	250K
2019	Jan	240K
2019	Jul	250K

Year **Quarter** **Month** **City** **Consumption Types** **Unit Consumed**

2016	Qtr 4	October	Chicago	Water	121524
2017	Qtr 4	October	Chicago	Water	92717
2018	Qtr 4	October	Chicago	Water	75024
2019	Qtr 4	October	Chicago	Water	98895
2016	Qtr 4	October	Houston	Water	36141
2017	Qtr 4	October	Houston	Water	43934
2018	Qtr 4	October	Houston	Water	35693
2019	Qtr 4	October	Houston	Water	22067
Total					18624532

Total Cost by City

City	Percentage
Chicago	27.06%
Houston	9.56%
Los Angeles	26.85%
New York	27.29%
Phoenix	9.25%

Unit Consumed by City

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Social / Industry Relevance of the Project:-

This project holds societal importance by encouraging households to save energy and industrial relevance by enabling organizations to optimize costs and meet sustainability goals.

Learning & Reflection:-

Key learnings included Power BI data modeling, dashboard design, and sustainability analytics. The project enhanced technical, managerial, and problem-solving skills.

Future Scope & Conclusion:-

The project objectives were met successfully. Future scope includes integrating IoT data for real-time monitoring and applying predictive analytics for energy forecasting.



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Project 2: Mobile Sales Dashboard (Power BI)

Executive Summary:-

The Mobile Sales Dashboard project transformed raw sales data into meaningful insights. Built using SQL and Power BI, it provided KPIs such as total sales, quantity, transactions, average price, city-wise sales, brand performance, ratings, and payment preferences. Insights revealed top brands and cities, customer satisfaction trends, and dominant payment methods.

Introduction:-

In the mobile industry, vast sales data is generated daily, but often underutilized. Static reporting fails to provide dynamic analysis of sales trends, brand contributions, or customer feedback. This dashboard bridges the gap by offering interactive, real-time insights for decision-making.

Project Objectives:-

The project aimed to design a unified dashboard to analyze sales data effectively. Goals included identifying top-performing brands and cities, studying payment preferences, analyzing ratings, and providing time-based sales trends.

Methodology & Results:-

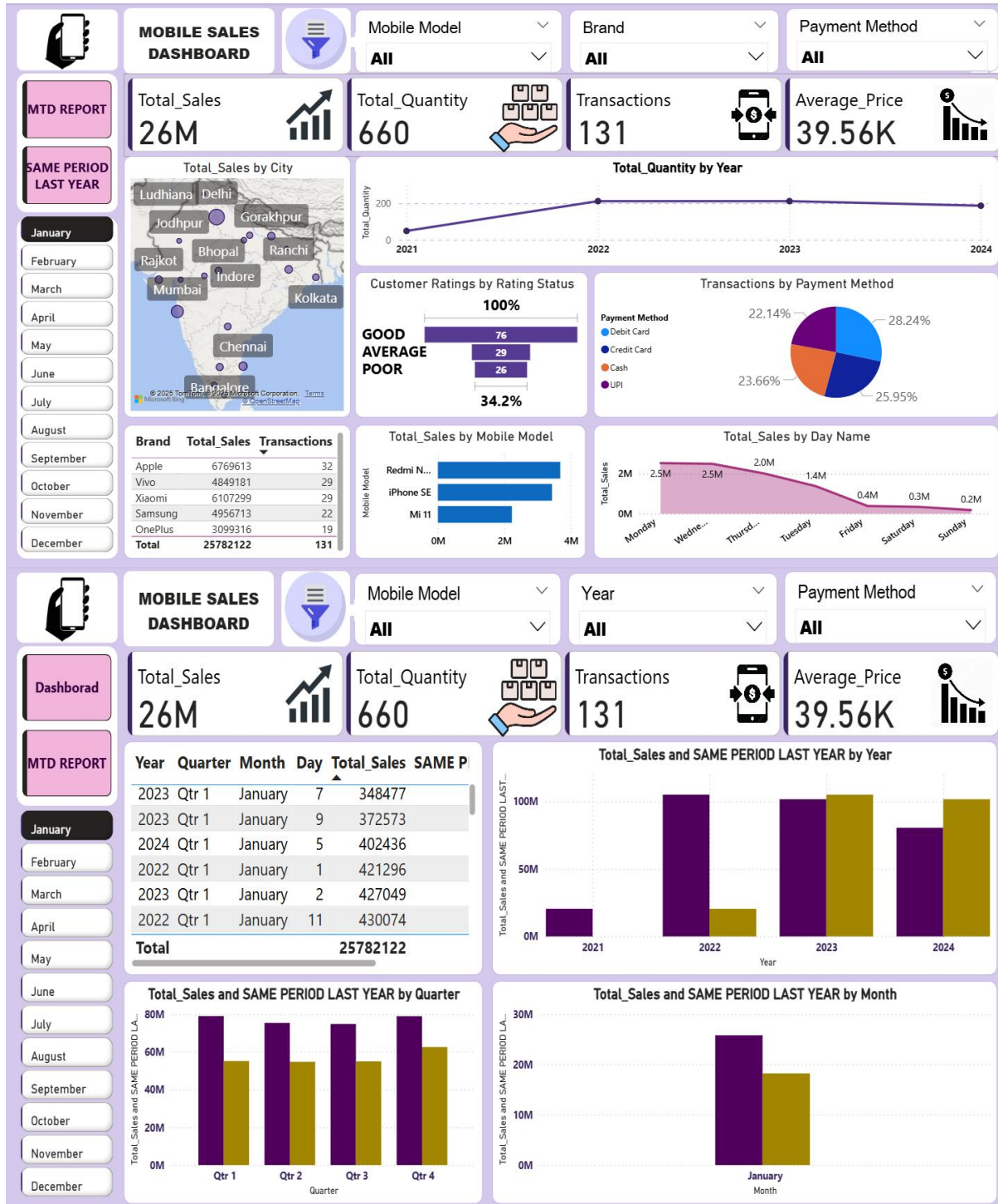
The project followed an ETL pipeline. Data was structured using SQL, cleaned, and queried. It was then modeled in Power BI with DAX measures. The dashboard displayed KPIs, charts, maps, and ratings distribution for business insights.

GITHUB LINK:-

https://github.com/Bhagyashree-web/SQL_POWER-BI-PROJECT_SURE_PROED/tree/main/Mobile-Sales-Dashboard



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MOBILE SALES DASHBOARD

Mobile Model

All

Year

All

Payment Method

All

Dashborad

MTD REPORT

January

February

March

April

May

June

July

August

September

October

November

December

Total_Sales
26M

Total_Quantity
660

Transactions
131

Average_Price
39.56K

Year

Year	Quarter	Month	Day	Total_Sales	SAME P
2023	Qtr 1	January	7	348477	
2023	Qtr 1	January	9	372573	
2024	Qtr 1	January	5	402436	
2022	Qtr 1	January	1	421296	
2023	Qtr 1	January	2	427049	
2022	Qtr 1	January	11	430074	
Total				25782122	

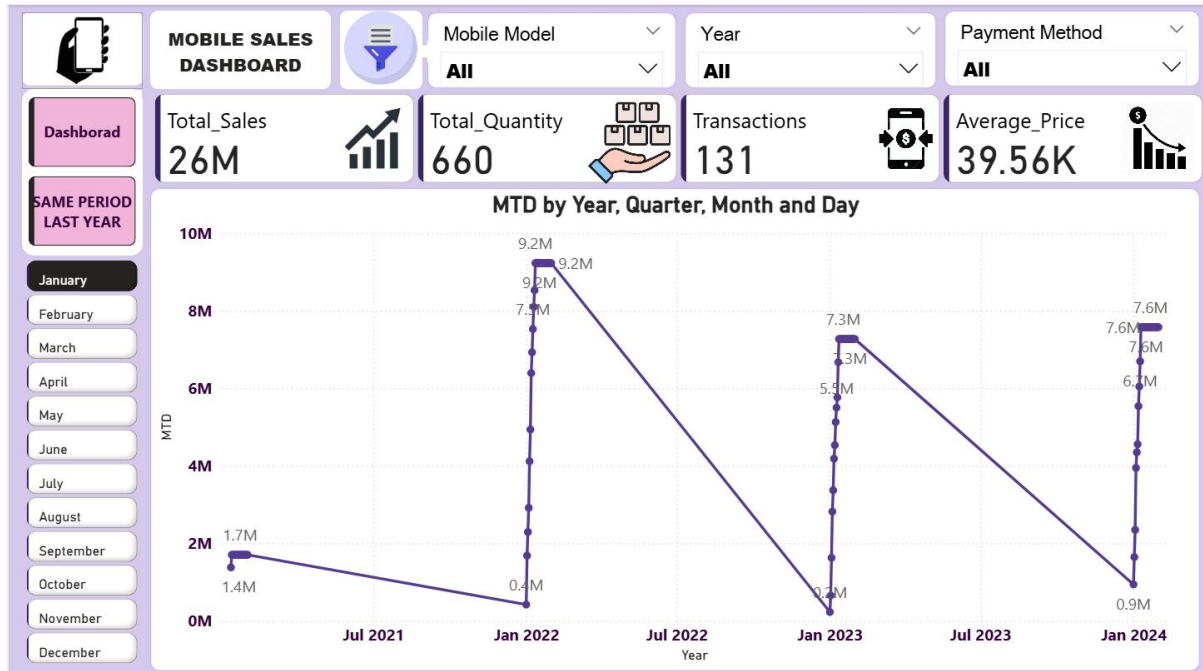
Total_Sales and SAME PERIOD LAST YEAR by Year

Total_Sales and SAME PERIOD LAST YEAR by Quarter

Total_Sales and SAME PERIOD LAST YEAR by Month



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Social / Industry Relevance of the Project:-

The dashboard benefits the retail industry by identifying profitable markets, tracking performance, and aligning business strategy. For society, it improves customer satisfaction by analyzing feedback and service gaps.

Learning & Reflection:-

Learnings included SQL data structuring, Power BI visualization, and business analytics skills. The project improved individual problem-solving, data interpretation, and dashboard design expertise.

Future Scope & Conclusion:-

The dashboard successfully met its objectives, providing decision-makers with clarity. Future scope includes real-time data integration with SQL servers and predictive modeling for sales forecasting.



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Project 3: Library Management System (SQL)

Executive Summary:-

The Library Management System project automated book records, borrowing, and returning processes. Developed using SQL, it provided a structured database for managing students, books, and transactions. The system improves efficiency by reducing manual errors and supporting automated reporting.

Introduction:-

Traditional library systems are prone to inefficiency and errors. This project introduced a database-driven solution using SQL to streamline record-keeping, ensuring accurate and accessible information about books and users.

Project Objectives:-

Objectives included designing an ER model, creating normalized tables, tracking book issuance and returns, and generating reports for librarians.

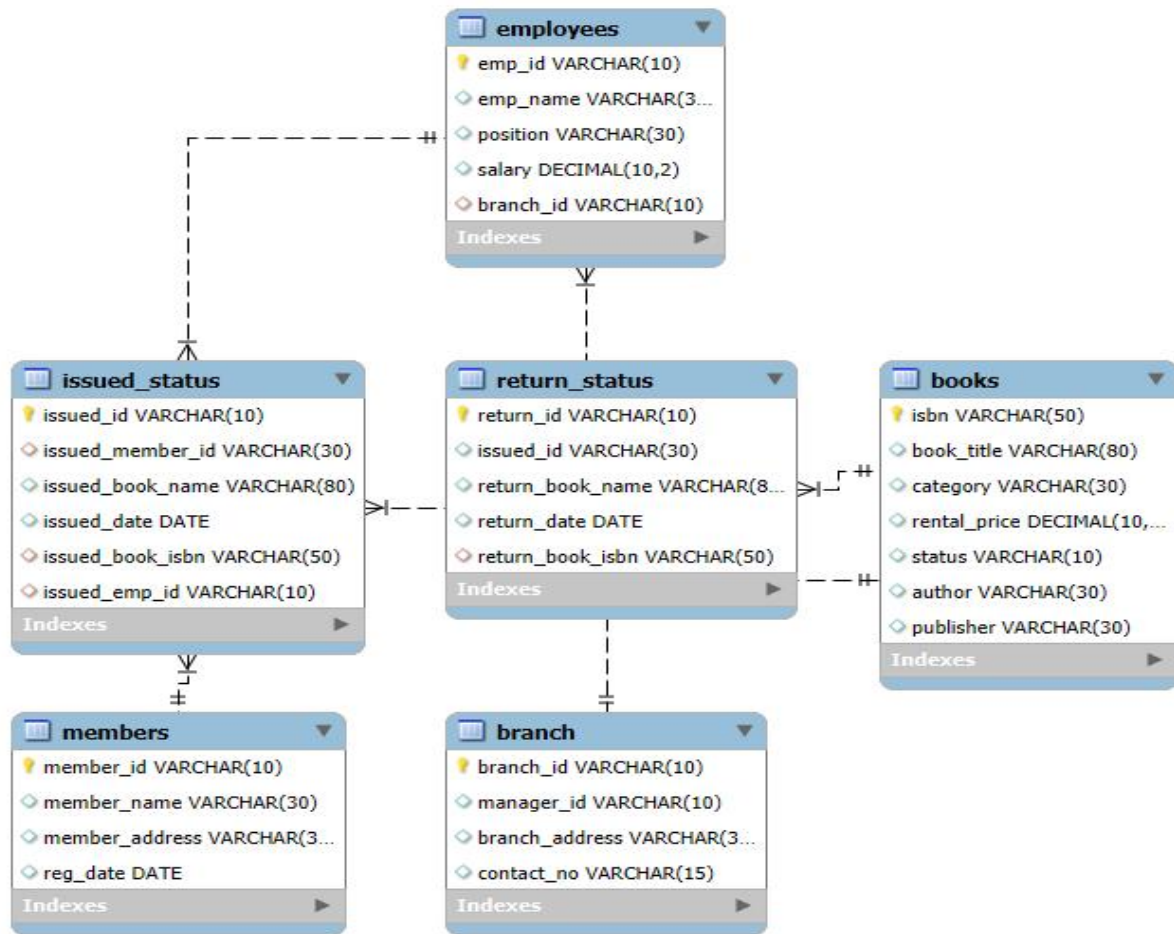
Methodology & Results:-

The methodology involved ER diagram design, schema creation, and writing SQL queries, joins, and triggers. The project was implemented on MySQL/SQL Server. Outputs included queries for book search, issue/return, and overdue calculations.

GITHUB LINK:-

https://github.com/Bhagyashree-web/SQL_POWER-BI-PROJECT_SURE_PROED/tree/main/Library%20Manageme%20System

SCHEMA:-



SOME OUTPUTS:-

1. List all books that have never been issued.

	isbn	book_title
▶	978-0-375-50167-0	The Road
	978-0-439-06486-6	Harry Potter and the Chamber of Secrets
	978-0-439-13635-8	Harry Potter and the Prisoner of Azkaban
	978-0-440-17464-1	Children of Dune
	978-0-553-28377-4	Dune Messiah
	978-0-553-57340-1	1984
	978-0-553-80147-3	A Clash of Kings
	978-0-553-89785-8	A Storm of Swords
	978-0-618-26030-0	The Fellowship of the Ring
	978-0-618-26031-7	The Two Towers
	978-0-618-26032-4	The Return of the King
	978-0-7432-4722-4	The Da Vinci Code



2. Find the total number of members registered in the system.

	total_members
▶	17

3. Show all books issued by employee 'E106'.

	issued_book_name	issued_emp_id
▶	A Game of Thrones	E106
	A Peoples History of the United States	E106
	The Guns of August	E106
	The Hobbit	E106
	Angels & Demons	E106
	The Diary of a Young Girl	E106
	The Stand	E106
	The Kite Runner	E106

Social / Industry Relevance of the Project:-

The project has academic relevance by training students in database design and industrial relevance for educational institutions managing large libraries.

Learning & Reflection:-

Learnings included schema design, normalization, SQL queries, and real-world database handling. It also enhanced systematic thinking and query optimization skills.

Future Scope & Conclusion:-

The project objectives were achieved with a functional SQL-based LMS. Future scope includes integrating a web interface, mobile app, and cloud deployment for scalability.

GITHUB LINK OF ENTIRE PROJECT:-

https://github.com/Bhagyashree-web/SQL_POWER-BI-PROJECT_SURE_PROED?tab=readme-ov-file