



Automation of Forms To MySQL DB with sales report in Power BI

The domain of the Project:

SQL AND POWER BI

Under the guidance of

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By

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Period of the project

May 2025 to August 2025



SURE TRUST

PUTTAPARTHI, ANDHRA PRADESH



Declaration

The project titled “Automation of forms to MySQL DB with sales reports in power BI” has been mentored by Ms. Siddhika Shah, organised by SURE Trust, from May 2025 to August 2025, for the benefit of the educated unemployed rural youth for gaining hands-on experience in working on industry relevant projects that would take them closer to the prospective employer. I declare that to the best of my knowledge the members of the team mentioned below, have worked on it successfully and enhanced their practical knowledge in the domain.

By:

Jagan Mohan Reddy Varigireddy

(B. Tech CSE Graduate)

Signature

Jagan Mohan Reddy Varigireddy

Mentors:

Ms Siddhika Shah Software Engineer

At HCL Technologies

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Seal & Signature

Prof. Radha kumari

Executive Director & Founder

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Executive Summary

This report presents three interconnected projects that leverage data visualization, reporting, and automation to enable data-driven decision-making and operational efficiency.

Marven Market Sales Report (Major Project – Power BI)

The objective of this project was to analyse Marven Market's sales performance using Power BI dashboards. Data was cleaned, modelled, and visualized to identify key sales trends, customer behaviour, and product performance. The report highlights top-performing products, seasonal demand variations, and revenue contributions by category and region. Insights support management in strategic decision-making for inventory planning, marketing, and profitability optimization.

Key Findings:

1. Significant contribution from a few high-demand product categories.
2. Regional sales variations indicate targeted marketing opportunities.
3. Seasonal demand spikes suggest improved forecasting strategies.

Recommendations:

1. Focus on top-performing categories for revenue growth.
2. Develop region-specific campaigns to boost underperforming markets.
3. Enhance demand forecasting to optimize inventory management.



Awesome Chocolates Sales Report (Mini Project – Power BI)

The mini-project focused on a sales analysis of sales data for Awesome Chocolates. Using interactive dashboards, performance metrics such as sales trends, product popularity, and customer preferences were visualized.

Key Findings:

1. Premium product lines showed higher profitability compared to standard variants.
2. Customer loyalty and repeat purchases were strong indicators of revenue stability.

Recommendations:

1. Expand premium product line to capture growing demand.
2. Strengthen customer loyalty programs to maximize retention.

Automation of Google Forms to MySQL (SQL Project)

This project automated the process of capturing Google Form responses and storing them directly into a MySQL database. This eliminated manual data entry, reduced errors, and enabled real-time data availability for analytics.

Key Outcomes:

1. Improved efficiency with automated data capture.
2. Enabled seamless integration of form responses with reporting systems.

Recommendations:

1. Extend automation to additional data sources.
2. Implement scheduled backups and monitoring for long-term data reliability.



Introduction

Background and Context

In today's competitive business environment, organizations rely heavily on data-driven decision-making to enhance operational efficiency and maximize profits. Retail and consumer product companies, in particular, generate vast amounts of sales and customer data that must be transformed into actionable insights.

The projects undertaken — *Marven Market Sales Report (Power BI)*, *Awesome Chocolates Sales Report (Power BI)*, and *Automation of Google Forms to MySQL (SQL Project)* — were designed to address this need. These projects integrate data collection, storage, visualization, and automation to provide decision-makers with accurate, real-time information in a simplified format.

Goals of the Project

- 1. Marven Market Sales Report (Major Project):** Lack of a unified reporting system made it difficult to identify sales patterns, monitor performance, and plan inventory effectively.
Goal: Build an interactive Power BI dashboard to visualize sales performance, customer behaviour, and product trends.
- 2. Awesome Chocolates Sales Report (Mini Project):** The chocolate division required detailed insights into customer demand and profitability but lacked data-driven reporting tools.
Goal: Create an analytical dashboard highlighting product performance, customer loyalty, and profitability metrics.
- 3. Automation of Google Forms to MySQL (SQL Project):** Manual data entry from Google Forms into databases was time-consuming and prone to errors.



Goal: Automate the process of storing Google Form responses directly into MySQL for real-time accessibility and reliability

Scope and Limitations

Scope:

1. Develop interactive dashboards in Power BI for sales insights.
2. Enable automated data pipelines from Google Forms to MySQL for real-time data availability.
3. Provide actionable recommendations based on visualized sales data.

Limitations:

1. Analysis is based only on the provided dataset; external market factors (e.g., competition, inflation, global supply issues) were not included.
2. Real-time dashboards depend on timely data updates; delays in source data can affect insights.
3. Automation was limited to Google Forms and MySQL; integration with advanced cloud platforms (Azure, AWS) was not covered.

Innovation Component

1. **Integration of Automation with Analytics:** Automating Google Form responses into MySQL creates a seamless pipeline, ensuring that data used in dashboards is up-to-date and accurate.
2. **Visualization-Driven Insights:** Power BI dashboards transform raw data into interactive visuals, making complex sales trends and customer behaviours easy to understand for non-technical stakeholders.



3. **Decision-Centric Design:** Instead of just reporting numbers, the dashboards highlight key performance indicators (KPIs) and recommendations that directly support business strategy.
4. **Scalability:** The frameworks used (Power BI + MySQL automation) can be extended to other domains such as HR, finance, or supply chain analytics.



Project Objectives

Marven Market Sales Report (Major Project – Power BI)

Objectives & Goals:

1. Develop an interactive sales dashboard for Marven Market using Power BI.
2. Identify top-performing products, customer segments, and seasonal sales patterns.
3. Provide management with data-driven insights for inventory planning and marketing strategies.

Expected Outcomes & Deliverables:

1. A fully functional Power BI dashboard with KPIs (sales, revenue, product performance, regional trends).
2. Insightful reports highlighting revenue growth opportunities and customer behaviour.
3. Strategic recommendations for demand forecasting and profit optimization.

Awesome Chocolates Sales Report (Mini Project – Power BI)

Objectives & Goals:

1. Analyze sales performance of the Awesome Chocolates product line.
2. Compare profitability between premium and standard products.
3. Measure customer loyalty and repeat purchase patterns.

Expected Outcomes & Deliverables:

1. A focused Power BI dashboard displaying product-level and customer-level insights.
2. Reports on premium vs. standard product performance.



3. Recommendations for strengthening loyalty programs and expanding profitable product lines.

Automation of Google Forms to MySQL (SQL Project)

Objectives & Goals:

1. Automate the process of transferring Google Form responses into a MySQL database.
2. Eliminate manual data entry errors and delays.
3. Ensure real-time accessibility of structured data for analytics.

Expected Outcomes & Deliverables:

1. An automated pipeline connecting Google Forms to MySQL.
2. A centralized database with accurate, real-time responses.
3. Documentation of the process for scalability and future enhancements.



Methodology and Results

Methods / Technology Used

1. Data Preparation & Analysis:

1. Sales data collected and cleaned using Excel/SQL.
2. Data modelling performed in Power BI to establish relationships between tables (e.g., Products, Customers, Sales, Regions).
3. DAX (Data Analysis Expressions) used to calculate KPIs (sales growth, revenue contribution, profit margins).

2. Automation:

1. Google Forms integrated with Google Apps Script / third-party connector to automatically push responses into MySQL.
2. SQL queries used for data validation, cleaning, and structuring.

Tools / Software Used

1. **Power BI:** For data modelling, dashboard creation, and visualization.
2. **Microsoft Excel / CSV Files:** For raw data storage and initial data cleaning.
3. **MySQL Database:** For structured storage of Google Form responses.
4. **Google Forms:** For collecting inputs directly from users.
5. **Pabbly:** For automation to integrate Pabbly with MySQL.
6. **GitHub:** For version control and hosting project files/documentation.



Data Collection Approach

1. **Marven Market Sales Report:** Dataset obtained from structured retail sales data (CSV/Excel format).
2. **Awesome Chocolates Sales Report:** Dataset representing product-wise chocolate sales across time and customers.
3. **Google Forms Automation Project:** Real-time data collected via Google Forms (survey/feedback form) and stored directly into MySQL using automation pipeline.

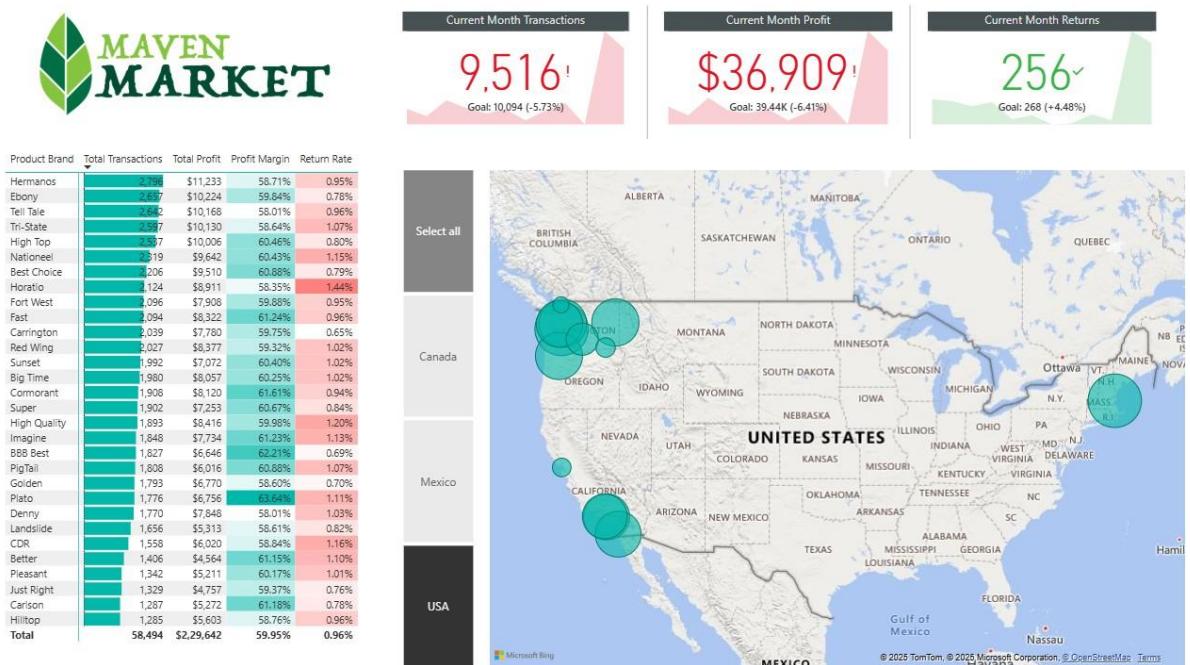
Project Architecture

1. **Marven Market & Awesome Chocolates (Power BI Projects):**
 1. Data Source → (CSV/Excel / MySQL)
 2. Data Cleaning & Transformation → (Power Query in Power BI)
 3. Data Modelling → (Relationships between sales, customers, products, and regions)
 4. Visualization → (Interactive Power BI dashboards with KPIs, charts, and filters)
 5. Reports & Insights → (Decision support for executives)
2. **Automation of Google Forms to MySQL (SQL Project):**
 1. User submits response via Google Form
 2. Response stored in Google Sheets (default backend)
 3. Data inserted into MySQL Database
 4. Data validated using SQL queries
 5. Connected to BI tools for analysis

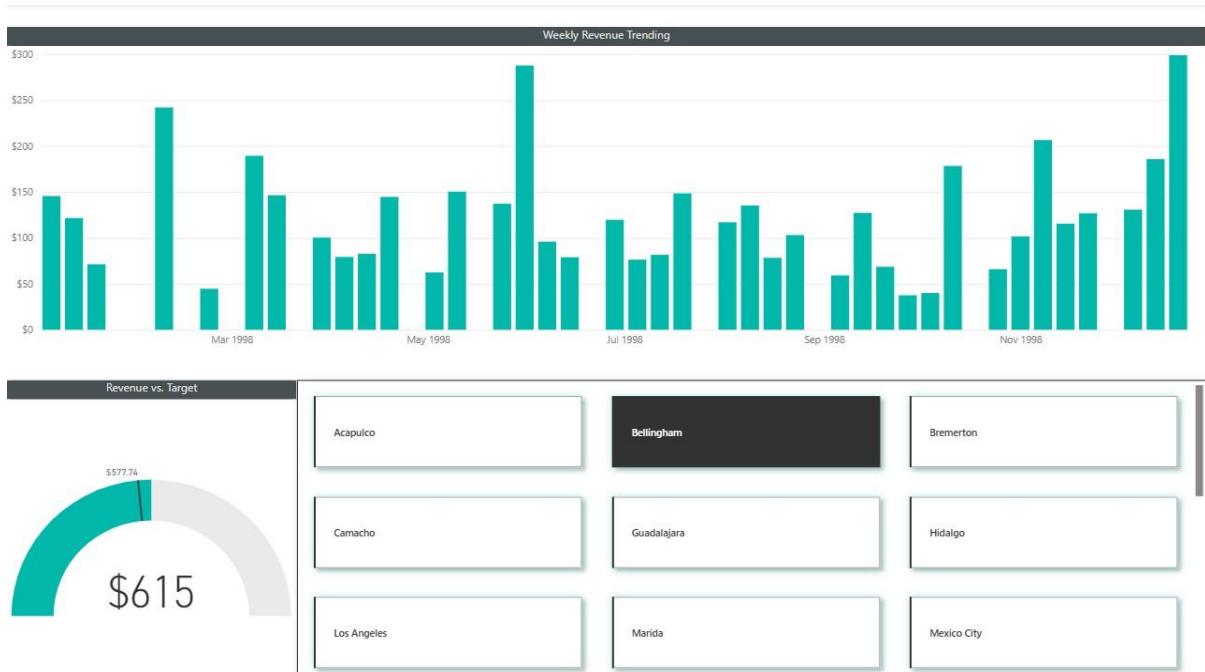


Final Project Working

1. Marven Market Power BI Dashboard



1.1: Monthly Report



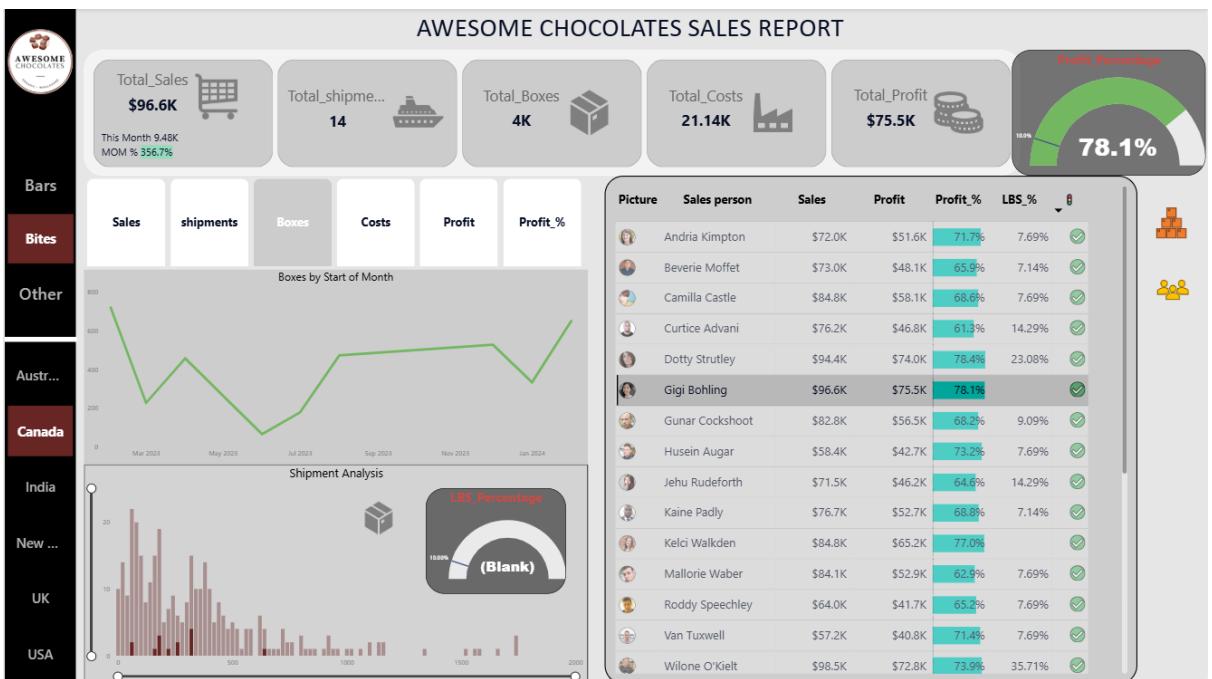
1.2: Weekly Revenue Trading



2. Awesome Chocolates Power BI Dashboard:



2.1: Product based Sales Report



2.2: Person Based Sales Report



3. Google Forms → MySQL Automation:

The screenshot shows a Google Form titled "project_info". It contains the following fields:

- project status (Text input)
- name * (Short-answer text input)
- mail_id * (Short-answer text input)
- course_name * (Short-answer text input)
- project_status * (Radio button input with options: completed, not completed)

3.1: Google Form

The screenshot shows a Zapier workflow titled "final_project". It consists of two main steps:

- Trigger:** "Trigger : When this happens ... 1. Google Forms : New Response Received"
- Action:** "Action : Do this ... 2. MySQL : Insert Row"

For the MySQL action, the settings are as follows:

- Choose App: MySQL
- Action Event: Insert Row
- Table Name: form
- Name (varchar): 1. Name : jagan
- Mail Id (varchar):

3.2: Integration of Google forms and MySQL



The screenshot shows the MySQL Workbench interface. The left sidebar displays the database schema with tables like 'information_schema' and 'sql12796374'. The main area shows a query results grid for a table named 'form'. The grid has columns: name, mail_id, course_name, and project_status. The data is as follows:

name	mail_id	course_name	project_status
jagan	sajagan9489@gmail.com	sql and power bi	completed
Devesh Kushwaha	deveshkushwaha1256@gmail.com	BCA	completed
Mohan reddy	Mohanbrp@gmail.com	Ms sql	completed

Below the grid, there are buttons for 'Query results operations' including Print, Copy to clipboard, Export, Display chart, and Create view.

3.3: Integrated MySQL DataBase

4. Project GitHub Link

👉 <https://github.com/Jaganreddy3110/SQL-and-powerBi-Projects>



Learning and Reflection

New Learnings (Technology, Management)

1.Power BI & Data Visualization:

1. Learned how to clean, transform, and model datasets using Power Query.
2. Gained practical knowledge of DAX functions to create KPIs, measures, and calculated columns.
3. Improved ability to design interactive dashboards that present insights in a clear, executive-friendly manner.

2.Database Management (MySQL):

1. Strengthened understanding of relational databases and SQL queries.
2. Learned how to automate data entry from Google Forms into MySQL, ensuring accuracy and real-time availability.
3. Gained experience in validating, cleaning, and structuring database records for analysis.

3.Automation & Integration:

1. Acquired knowledge of integrating external tools (Google Forms, Google Apps Script/Python) with MySQL.
2. Learned how automation reduces manual effort and improves data consistency.

4.Project Management & Documentation:

1. Improved self-management skills by planning tasks, setting milestones, and completing the project within deadlines.
2. Learned the importance of version control and project documentation for clarity and reproducibility.



Overall Experience

Working on this project as an individual gave me valuable **end-to-end exposure** to real-world data handling and business intelligence. I experienced the complete workflow from data collection and storage to dashboard development and automation.

This project helped me bridge the gap between theoretical knowledge and practical application, particularly in:

1. **Sales Analytics** → deriving insights from raw sales data.
2. **Decision-Making Support** → creating dashboards that highlight KPIs for business strategy.
3. **Database Automation** → eliminating manual data entry through MySQL integration.

Overall, this project enhanced my technical, analytical, and problem-solving skills while also improving my ability to manage tasks independently. It has given me confidence to take on larger real-world projects involving data visualization, analytics, and automation.



Conclusion and Future Scope

Conclusion

1. Recap of Objectives and Achievements

The primary objectives of this project were to:

1. Build interactive sales dashboards (*Marven Market* and *Awesome Chocolates*) using **Power BI** to analyse sales trends, product performance, and customer behaviour.
2. Automate data collection from **Google Forms** to **MySQL** to ensure accuracy, efficiency, and real-time accessibility.

Achievements:

1. Successfully designed and implemented **Power BI dashboards** that provide valuable insights into sales, revenue, customer loyalty, and profitability.
2. Developed an **automation pipeline** that transfers Google Form responses directly into MySQL, eliminating manual entry and reducing errors.
3. Delivered actionable recommendations for improving sales strategy, inventory management, and customer engagement.
4. Strengthened technical skills in **Power BI, SQL, DAX, data cleaning, and automation scripting**.

2. Future Scope of the Project

This project can be further enhanced and expanded in the following directions:

1. Advanced Analytics & Forecasting:

Implement predictive models using Python or R to forecast sales trends and customer demand.



2. Integration with Cloud Platforms:

Host data on cloud databases (e.g., AWS RDS, Azure SQL, Google Cloud SQL) for scalability and remote accessibility.

3. Real-Time Dashboards:

Connect live data sources (APIs, streaming services) to Power BI for continuous, real-time updates.

4. Expansion Beyond Sales Data:

Extend similar dashboards and automation pipelines to HR analytics, finance, and supply chain management.

5. Mobile-Friendly Dashboards:

Optimize Power BI dashboards for mobile viewing so that executives can monitor KPIs on the go.

6. Machine Learning Integration:

Incorporate sentiment analysis (customer reviews/feedback) and recommendation systems to enhance decision-making.