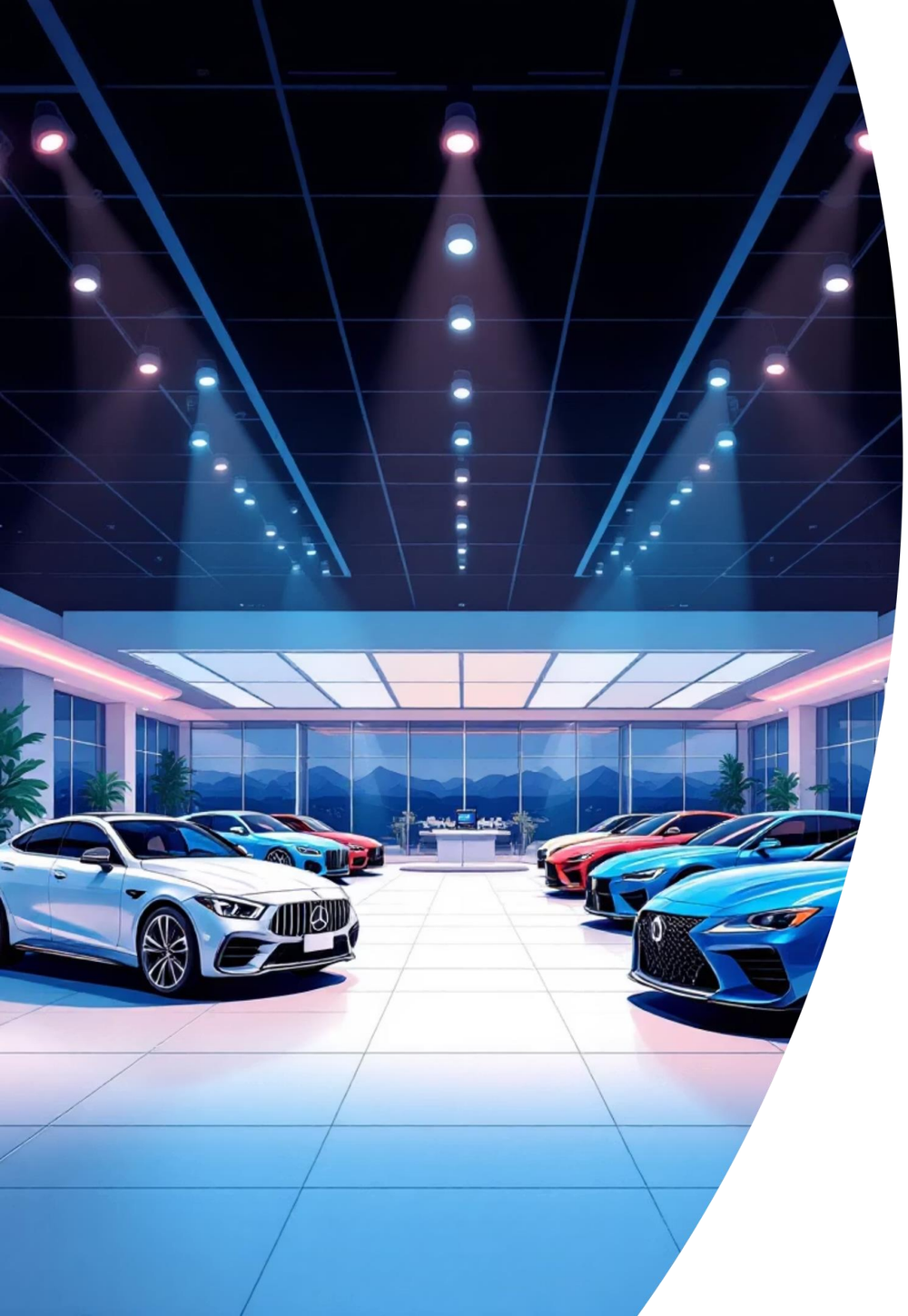


Car Sales Performance & Customer Insights Analysis

Portfolio Project Report

Tools Used: Excel • SQL • Power BI

Project Overview

The Challenge

Analyzing mid-sized automotive dealership performance using three integrated datasets: Cars, Customers, and Sales.

The Goal

Understand sales drivers, identify key customer segments, and determine top revenue-generating models.

End-to-end analytics: Excel for cleaning, SQL for querying, Power BI for visualization.

Project Objectives

01

Clean & Prepare

Ensure datasets are accurate and analysis-ready

02

Explore Trends

Analyze sales performance and revenue drivers

03

Profile Customers

Segment by demographics and purchase behavior

04

Evaluate Inventory

Assess stock status and sales impact

05

Build Dashboard

Create actionable Power BI visualizations

Data Sources

Cars.csv

- Car ID, brand, model, year
- Engine type, transmission
- Price, quantity in stock
- Status (available, reserved, sold)

Customers.csv

- Customer ID, name, gender
- Age, phone, email
- City

Sales.csv

- Sale ID, sale date
- Customer ID, car ID
- Quantity, sale price
- Salesperson, payment method

Data Cleaning Process

Remove Duplicates

Ensured unique entries across all three datasets

Correct Data Types

Converted prices to numeric, dates to proper format, age to integer

Validate Relationships

Verified Car_ID and Customer_ID integrity across tables

Result: Clean, consistent, analysis-ready dataset

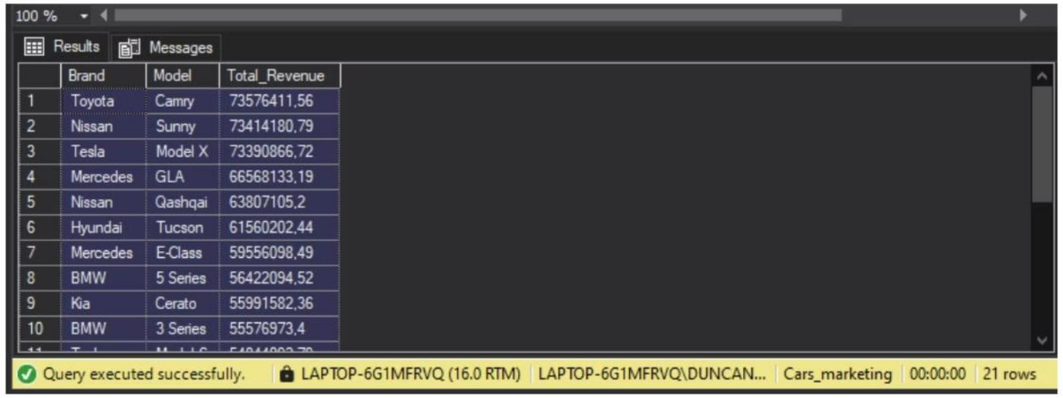
SQL Analysis: Key Queries

Revenue Drivers

- Top car models by total revenue
- Average sale price per model
- Month-by-month revenue trends

Customer Behavior

- Revenue by age group
- Preferred payment methods
- Geographic sales distribution



Power BI Dashboard

Sales Performance

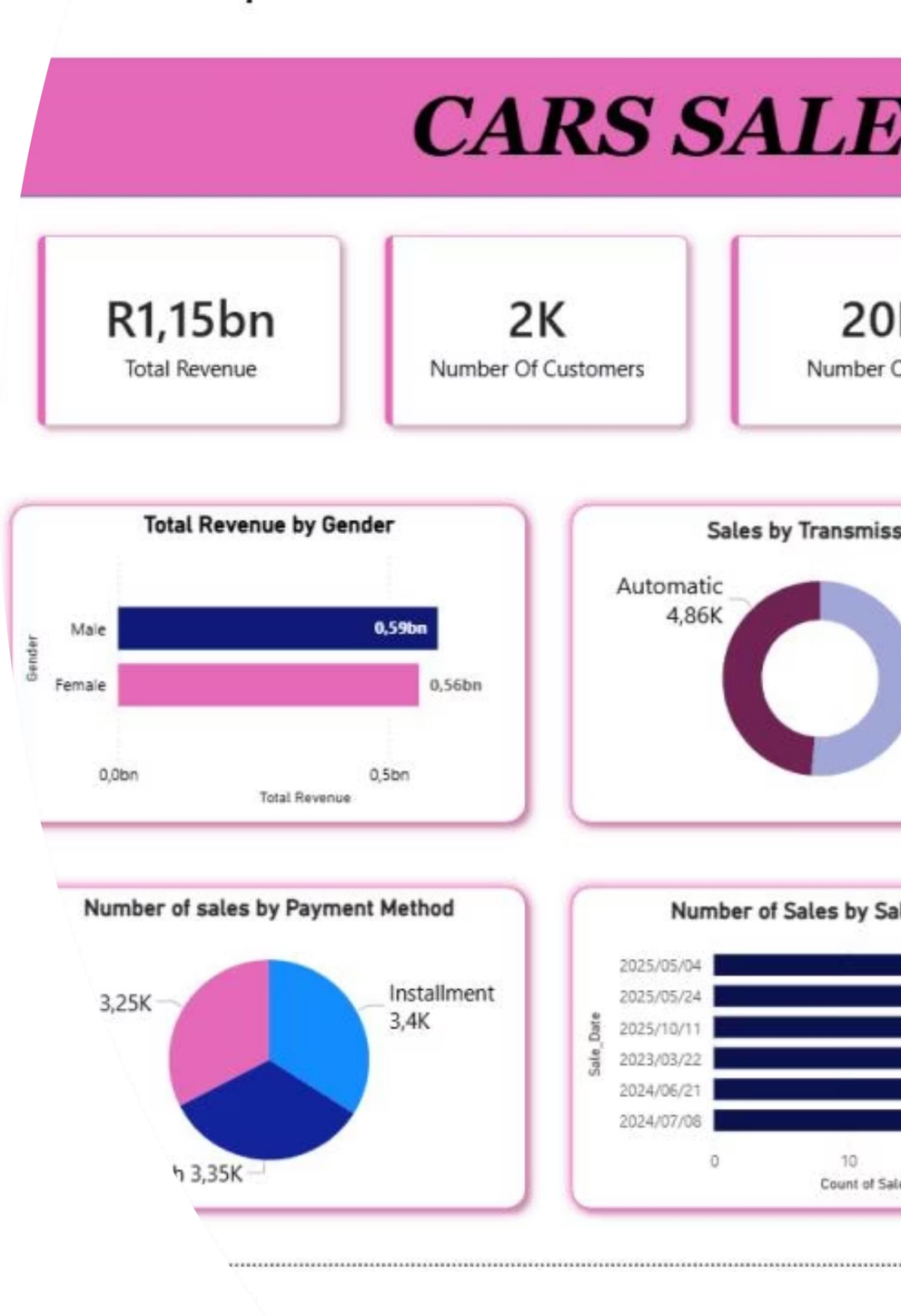
Revenue by salesperson, units by brand, payment methods, engine type analysis

Customer Insights

Revenue by age group, city mapping, gender spending, demographic slicers

Inventory Analysis

Stock by brand, slow-moving inventory identification



Key Findings

Top Performers

Tesla and Mercedes lead revenue, driven by Model X and GLA sales

Seasonal Trends

Sales peak July-October, showing clear seasonal demand patterns

Customer Profile

Customers over 51 are largest segment, contributing most revenue

Payment Preference

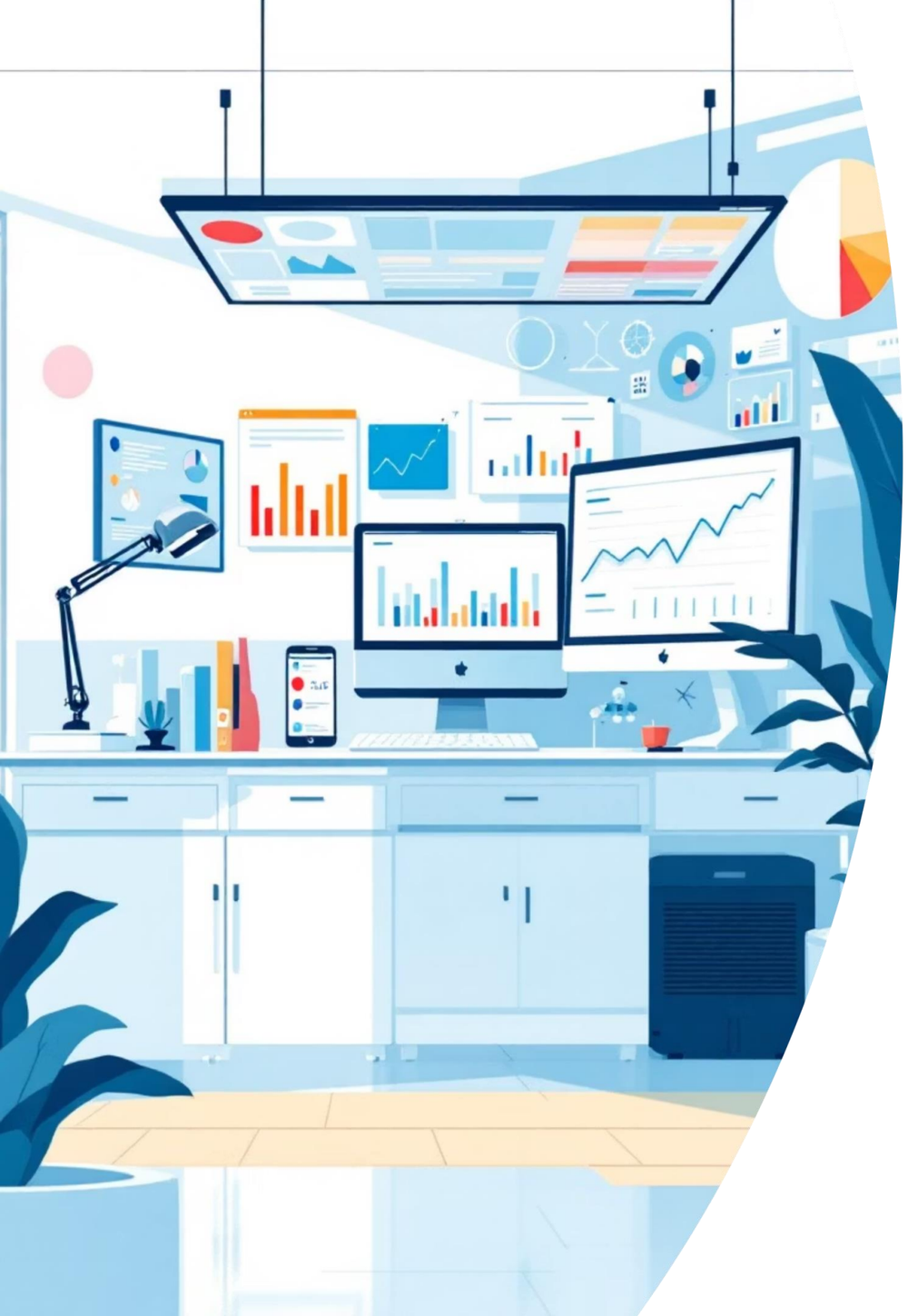
Installment plans dominate, highlighting importance of financing

Inventory Issues

High stock but low sales on certain models indicates over-ordering

Sales Team

Top salespeople consistently outperform, driving disproportionate revenue



Technical Toolkit

1. **Excel**

   Data cleaning, labeling, validation, preparation

2. **SQL**

   Analytical queries, exploration, integrity checks

3. **Power BI**

   Dashboard building, modeling, DAX measures, storytelling

Demonstrated Capabilities

Data Transformation

Clean and transform complex datasets efficiently

SQL Expertise

Write efficient analytical queries

Visualization

Build interactive Power BI dashboards

Communication

Communicate insights clearly and visually

Business Acumen

Combine business understanding with technical skill

End-to-end analytical capabilities for data analytics, business intelligence, and data science roles