

VEHICLE SALES ANALYSIS

15 dec 2024

INTRODUCTION

Hello everyone,

My name is Pranav Phaltane, and I am a Data Analyst. Today, I will be presenting a Vehicle Sales Analysis using MySQL. This analysis aims to provide insights into sales trends, customer demographics, and overall performance of different vehicle models over time. I will walk you through the SQL queries used to extract and manipulate data, as well as the key findings that can help drive informed decision-making for the business. I'm excited to share how data-driven analysis can empower us to optimize vehicle sales strategies and boost efficiency.



01

Find top 10 Customers With High Credit Limit.

```
select customerName, creditLimit  
from customers  
order by creditLimit desc  
limit 10 ;
```

This insight is crucial for businesses to prioritize customers who have the capacity to make larger purchases, manage risk, and potentially offer tailored services.

	customerName	creditLimit
▶	Euro + Shopping Channel	227600.00
	Mini Gifts Distributors Ltd.	210500.00
	Vida Sport, Ltd	141300.00
	Muscle Machine Inc	138500.00
	AV Stores, Co.	136800.00
	Saveley & Henriot, Co.	123900.00
	Marta's Replicas Co.	123700.00
	L'ordine Souveniers	121400.00
	Heintze Collectables	120800.00
	Toms Spezialitäten, Ltd	120400.00

02

Find Customer Whose CreditLimit is greater than 10000.

This insight is crucial for businesses to manage risk, optimize credit strategies, and target high-value clients for special offers or loyalty programs. Understanding this customer segment helps businesses prioritize resources and ensure that high-credit customers receive the attention they deserve.

```
select customerName, creditlimit  
from customers  
where creditlimit >= 10000  
order by creditLimit asc  
limit 10 ;
```

	customerName	creditlimit
▶	Boards & Toys Co.	11000.00
	Atelier graphique	21000.00
	Auto-Moto Classics Inc.	23000.00
	Royale Belge	23500.00
	Frau da Collezione	34800.00
	Microscale Inc.	39800.00
	Gifts4AllAges.com	41900.00
	Tekni Collectables Inc.	43000.00
	Double Decker Gift Stores, Ltd	43300.00
	Cambridge Collectables Co.	43400.00

03

Find Employees job title

```
select employeeNumber, firstName, lastName, jobTitle  
from employees;
```

This insight is crucial for businesses to understand workforce composition, optimize talent allocation, and align employee skills with organizational needs. It also helps in identifying potential areas for training and development, ensuring the right resources are in place to drive business success.

	employeeNumber	firstName	lastName	jobTitle
▶	1002	Diane	Murphy	President
	1056	Mary	Patterson	VP Sales
	1076	Jeff	Firrelli	VP Marketing
	1088	William	Patterson	Sales Manager (APAC)
	1102	Gerard	Bondur	Sale Manager (EMEA)
	1143	Anthony	Bow	Sales Manager (NA)
	1165	Leslie	Jennings	Sales Rep
	1166	Leslie	Thompson	Sales Rep
	1188	Julie	Firrelli	Sales Rep
	1216	Steve	Patterson	Sales Rep
	1286	Foon Yue	Tseng	Sales Rep
	1323	George	Vanauf	Sales Rep
	1337	Loui	Bondur	Sales Rep

04

Find office-code that employees have to reports

```
select employees.firstName, employees.lastName, employees.officeCode  
from employees  
join offices on employees.officeCode = offices.officeCode;
```

This insight is crucial for businesses to optimize resource allocation, streamline communication across locations, and ensure that teams are efficiently managed.

	firstName	lastName	officeCode
	Diane	Murphy	1
	Mary	Patterson	1
	Jeff	Firrelli	1
	Anthony	Bow	1
	Leslie	Jennings	1
	Leslie	Thompson	1
	Julie	Firrelli	2
	Steve	Patterson	2
	Foon Yue	Tseng	3
	George	Vanauf	3
	Gerard	Bondur	4
	Loui	Bondur	4
	Gerard	Hernandez	4

05

Find general Spending of customer

This insight is crucial for businesses to target high-spending customers, optimize marketing campaigns, and improve inventory management. It also helps in identifying opportunities for personalized promotions and loyalty programs, ultimately driving customer satisfaction and business growth.

```
select products.productName, SUM(orderdetails.quantityOrdered * orderdetails.priceEach) AS Revenue
from products
join orderdetails ON orderdetails.productCode = products.productCode
join orders ON orders.orderNumber = orderdetails.orderNumber
join customers ON customers.customerNumber = orders.customerNumber
join payments ON payments.customerNumber = customers.customerNumber
group by products.productName
order by Revenue DESC;
```

productName	Revenue
1992 Ferrari 360 Spider red	1300665.28
2001 Ferrari Enzo	744657.43
1952 Alpine Renault 1300	737191.82
1998 Chrysler Plymouth Prowler	712274.20
1956 Porsche 356A Coupe	655998.32
1969 Ford Falcon	655531.54
1969 Corvair Monza	644488.54
1928 Mercedes-Benz SSK	617625.84
1962 Volkswagen Microbus	602809.07
1957 Chevy Pickup	593084.31
1903 Ford Model A	583772.33
2003 Harley-Davidson Eagle Dr...	582075.55
1970 Triumph Spitfire	577443.44
1964 Mercedes Tour Bus	569788.27
1976 Ford Gran Torino	558562.90
1968 Ford Mustang	530661.09
1917 Grand Touring Sedan	527652.80
Diamond T620 Semi-Skirted Ta...	522929.80
1957 Corvette Convertible	512062.53
1992 Porsche Cayenne Turbo ...	492357.73

06

Find order date , shipped date of product

```
select distinct products.productName ,orders.orderDate, orders.shippedDate  
from products  
join orderdetails on orderdetails.productCode = products.productCode  
join orders on orders.orderNumber = orderdetails.orderNumber
```

This insight is crucial for businesses to optimize inventory management, improve supply chain efficiency, and enhance customer satisfaction. Understanding the time taken between order placement and shipment can also help identify bottlenecks and opportunities for process improvements, ensuring timely deliveries and better customer experiences.

productName	orderDate	shippedDate
1969 Harley Davidson Ultimate Chopper	2003-02-24	2003-02-26
1969 Harley Davidson Ultimate Chopper	2003-05-07	2003-05-13
1969 Harley Davidson Ultimate Chopper	2003-07-01	2003-07-05
1969 Harley Davidson Ultimate Chopper	2003-08-25	2003-08-31
1969 Harley Davidson Ultimate Chopper	2003-10-10	2003-10-16
1969 Harley Davidson Ultimate Chopper	2003-10-28	2003-11-01
1969 Harley Davidson Ultimate Chopper	2003-11-11	2003-11-14
1969 Harley Davidson Ultimate Chopper	2003-11-18	2003-11-24
1969 Harley Davidson Ultimate Chopper	2003-12-01	2003-12-02
1969 Harley Davidson Ultimate Chopper	2004-01-15	2004-01-18
1969 Harley Davidson Ultimate Chopper	2004-02-20	2004-02-24
1969 Harley Davidson Ultimate Chopper	2004-04-05	2004-04-10
1969 Harley Davidson Ultimate Chopper	2004-05-18	2004-05-24
1969 Harley Davidson Ultimate Chopper	2004-06-28	2004-07-02
1969 Harley Davidson Ultimate Chopper	2004-07-23	2004-07-29
1969 Harley Davidson Ultimate Chopper	2004-08-27	2004-08-31
1969 Harley Davidson Ultimate Chopper	2004-09-30	2004-10-01
1969 Harley Davidson Ultimate Chopper	2004-10-15	2004-10-18
1969 Harley Davidson Ultimate Chopper	2004-11-02	2004-11-07
1969 Harley Davidson Ultimate Chopper	2004-11-15	2004-11-16

07

Find MSRP, Buyprice of product line

```
select productLine ,buyPrice ,MSRP as 'Manufacture Suggested Retail Price'  
from products;
```

This insight is crucial for businesses to optimize pricing decisions, enhance profit margins, and identify competitive advantages. It also helps in understanding pricing discrepancies, enabling businesses to adjust their pricing strategies to maximize revenue and improve cost management.

productLine	buyPrice	Manufacture Suggested Retail Price
Motorcycles	48.81	95.70
Classic Cars	98.58	214.30
Motorcycles	68.99	118.94
Motorcycles	91.02	193.66
Classic Cars	85.68	136.00
Classic Cars	103.42	147.74
Classic Cars	95.34	194.57
Classic Cars	95.59	207.80
Trucks and Buses	77.90	136.67
Motorcycles	66.27	150.62
Classic Cars	89.14	151.08
Classic Cars	75.16	117.44
Classic Cars	83.05	173.02
Classic Cars	31.92	79.80
Trucks and Buses	55.70	118.50
Classic Cars	58.73	115.16
Trucks and Buses	58.33	116.67
Classic Cars	83.51	141.54
Vintage Cars	60.62	102.74
Vintage Cars	24.26	53.91

08

Find revenue generated by products

```
select
products.productLine,
products.productName,
sum(orderdetails.quantityOrdered * orderdetails.priceEach) as Revenue
from products
join orderdetails on products.productCode = orderdetails.productCode
group by products.productLine, products.productName
order by Revenue desc;
```

This insight is crucial for businesses to optimize product offerings, focus on high-revenue products, and adjust marketing strategies. Understanding revenue patterns can also help in inventory planning and resource allocation, ensuring that high-performing products receive the necessary attention to maximize profitability.

productLine	productName	Revenue
Classic Cars	1992 Ferrari 360 Spider red	276839.98
Classic Cars	2001 Ferrari Enzo	190755.86
Classic Cars	1952 Alpine Renault 1300	190017.96
Motorcycles	2003 Harley-Davidson Eagle Drag Bike	170686.00
Classic Cars	1968 Ford Mustang	161531.48
Classic Cars	1969 Ford Falcon	152543.02
Planes	1980s Black Hawk Helicopter	144959.91
Classic Cars	1998 Chrysler Plymouth Prowler	142530.63
Vintage Cars	1917 Grand Touring Sedan	140535.60
Motorcycles	2002 Suzuki XREO	135767.03
Classic Cars	1956 Porsche 356A Coupe	134240.71
Classic Cars	1969 Corvair Monza	132363.79
Vintage Cars	1928 Mercedes-Benz SSK	132275.98
Classic Cars	1957 Corvette Convertible	130749.31
Classic Cars	1972 Alfa Romeo GTA	127924.32
Classic Cars	1962 Lancia A Delta 16V	123123.01
Classic Cars	1970 Triumph Spitfire	122254.75
Classic Cars	1976 Ford Gran Torino	121890.60
Classic Cars	1948 Porsche Type 356 Roadster	121653.46
Trucks and ...	1958 Setra Bus	119085.25

09

Find profits on product by MSRP

```
select
products.productName,
concat(round(((MSRP - buyprice)/ buyPrice) * 100 ,2), '%') as Product_Profit_Percentage
from products
order by Product_Profit_Percentage desc;
```

This insight is crucial for businesses to optimize pricing strategies, improve profit margins, and focus on high-margin products. It also helps in identifying products that may need pricing adjustments or cost reduction efforts to enhance overall profitability.

productName	Product_Profit_Percentage
1903 Ford Model A	99.99%
ATA: B757-300	99.98%
1900s Vintage Tri-Plane	99.97%
The Schooner Bluenose	96.09%
1969 Dodge Charger	96.08%
1917 Grand Touring Sedan	96.08%
1969 Harley Davidson Ultimate Chopper	96.07%
The Titanic	96.07%
1996 Peterbilt 379 Stake Bed with Outrigger	92.32%
1949 Jaguar XK 120	92.32%
1985 Toyota Supra	88.69%
1957 Vespa GS150	88.68%
1912 Ford Model T Delivery Wagon	88.68%
1965 Aston Martin DB5	88.66%
1936 Mercedes Benz 500k Roadster	88.64%
The Queen Mary	85.18%

10

Find revenue from Motorcycles, classic cars, Planes, Ships, Trains, Trucks And Buses, Vintage Cars

```
with RevenueFromProductLine as(  
    select  
        products.productLine,  
        sum(orderdetails.quantityOrdered * orderdetails.priceEach) as Revenue  
    from products  
    join orderdetails on products.productCode = orderdetails.productCode  
    group by products.productLine)  
select *  
from RevenueFromProductLine  
order by Revenue desc;
```

productLine	Revenue
Classic Cars	3853922.49
Vintage Cars	1797559.63
Motorcycles	1121426.12
Trucks and Buses	1024113.57
Planes	954637.54
Ships	663998.34
Trains	188532.92

This insight is crucial for businesses to tailor marketing efforts, optimize inventory, and allocate resources effectively across product categories. It also helps in identifying trends in customer demand, enabling businesses to make data-driven decisions on pricing, promotions, and product development.

11

Find order quantity order by customer

This insight is crucial for businesses to optimize inventory management, tailor customer engagement strategies, and personalize marketing efforts. It also helps in identifying potential opportunities for upselling or cross-selling, ensuring that the business maximizes customer value and satisfaction.

```
with Cust_Order as (
  select
    customers.customerNumber,
    orders.orderNumber
  from customers
  join orders on customers.customerNumber = orders.customerNumber)
  select
    Cust_Order.customerNumber,
    Cust_Order.orderNumber,
    products.productName,
    orderdetails.quantityOrdered
  from Cust_Order
  join orderdetails on Cust_Order.orderNumber = orderdetails.orderNumber
  join products on orderdetails.productCode = products.productCode
  order by orderdetails.quantityOrdered desc;
```

	customerNumber	orderNumber	productName	quantityOrdered
▶	209	10405	1969 Dodge Charger	97
	323	10404	1969 Dodge Super Bee	90
	328	10401	America West Airlines B757-200	85
	323	10404	1970 Plymouth Hemi Cuda	77
	328	10401	F/A 18 Hornet 1/72	77
	209	10405	1956 Porsche 356A Coupe	76
	450	10407	1917 Grand Touring Sedan	76
	450	10407	1949 Jaguar XK 120	76
	141	10412	1962 Volkswagen Microbus	70
	382	10419	1956 Porsche 356A Coupe	70
	141	10417	1969 Harley Davidson Ultimate...	66
	201	10403	2003 Harley-Davidson Eagle Dr...	66
	201	10403	2002 Suzuki XREO	66
	282	10420	1932 Alfa Romeo 8C2300 Spider...	66
	450	10407	1957 Ford Thunderbird	66

Find payments made in 2003, 2004, 2005

```
with Payment_years as (
  select
    year(paymentDate) as Year,
    sum(amount) as TotalPayments
  from payments
  where year(paymentDate) in (2003, 2004, 2005)
  group by Year(paymentDate)
  order by Year
)
select *
from Payment_years;
```

This insight is crucial for businesses to evaluate historical financial performance, forecast future cash flow, and make informed budgeting decisions. It also helps in identifying periods of high or low sales activity, which can guide future business strategies and financial planning.

	Year	TotalPayments
▶	2003	3250217.70
	2004	4313328.25
	2005	1290293.28

13

Find Qty in stock by Vendor

```
with QtyInStock as (
  select
    productVendor,
    quantityInStock
  from products)
select *
from QtyInStock;
```

This insight is crucial for businesses to optimize inventory management, improve supplier relationships, and ensure product availability. It also helps in making informed decisions on reordering, negotiating with vendors, and streamlining procurement processes to minimize costs and maximize operational efficiency.

productVendor	quantityInStock
Min Lin Diecast	7933
Classic Metal Creations	7305
Highway 66 Mini Classics	6625
Red Start Diecast	5582
Motor City Art Classics	3252
Second Gear Diecast	6791
Autoart Studio Design	68
Second Gear Diecast	3619
Welly Diecast Productions	1579
Unimax Art Galleries	9997
Welly Diecast Productions	6906
Welly Diecast Productions	9123
Second Gear Diecast	1049
Studio M Art Models	5663
Exoto Designs	6125
Welly Diecast Productions	7323
Studio M Art Models	2613

Find Revenue generated by Customers

This insight is crucial for businesses to prioritize customer relationships, implement targeted marketing strategies, and focus on customer retention efforts. It also aids in identifying opportunities for upselling or cross-selling, ensuring that businesses can maximize the value of their customer base and drive sustainable growth.

```
with Cust_Revenue as (
  select
    distinct customers.customerName,
    sum(orderdetails.quantityOrdered * orderdetails.priceEach) as Revenue
  from orders
  join orderdetails on orders.orderNumber = orderdetails.orderNumber
  join customers on customers.customerNumber = orders.customerNumber
  group by customers.customerName
  order by Revenue desc)
  select *
  from Cust_Revenue;
```

customerName	Revenue
Euro+ Shopping Channel	820689.54
Mini Gifts Distributors Ltd.	591827.34
Australian Collectors, Co.	180585.07
Musde Machine Inc	177913.95
La Rochelle Gifts	158573.12
Dragon Souveniers, Ltd.	156251.03
Down Under Souveniers, Inc	154622.08
Land of Toys Inc.	149085.15
AV Stores, Co.	148410.09
The Sharp Gifts Warehouse	143536.27
Salzburg Collectables	137480.07
Kelly's Gift Shop	137460.79
Anna's Decorations, Ltd	137034.22

Find the difference between Revenue Generated by productline and Revenue generated by customers

This insight is crucial for businesses to optimize product offerings, align marketing efforts with customer preferences, and better allocate resources across high-performing product lines. It also helps in understanding customer demand patterns and the effectiveness of different product lines in generating revenue, enabling more informed decision-making.

```
WITH RevenueByProductLine AS (
    SELECT
        products.productLine,
        SUM(orderdetails.quantityOrdered * orderdetails.priceEach) AS Revenue
    FROM products
    JOIN orderdetails ON products.productCode = orderdetails.productCode
    GROUP BY products.productLine
),
RevenueByCustomer AS (
    SELECT
        customers.customerName,
        SUM(orderdetails.quantityOrdered * orderdetails.priceEach) AS Revenue
    FROM orders
    JOIN orderdetails ON orders.orderNumber = orderdetails.orderNumber
    JOIN customers ON customers.customerNumber = orders.customerNumber
    GROUP BY customers.customerName
)
SELECT
    SUM(RemoveByProductLine.Revenue) AS TotalRevenueByProductLine,
    SUM(RemoveByCustomer.Revenue) AS TotalRevenueByCustomer,
    (SUM(RemoveByProductLine.Revenue) - SUM(RemoveByCustomer.Revenue)) AS RevenueDifference
FROM RemoveByProductLine, RemoveByCustomer;
```

TotalRevenueByProductLine	TotalRevenueByCustomer	RevenueDifference
941210679.78	67229334.27	873981345.51

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