

# Análise Exploratória de Dados usando o SQL Server: DataCo Supply Chain

Link do *dataset*: <https://www.kaggle.com/shashwatwork/dataco-smart-supply-chain-for-big-data-analysis>

O *dataset* foi dividido em oito partes:

1. Transactions\_Orders;
2. Orders;
3. Order\_Item;
4. Customer;
5. Products;
6. Products\_Category;
7. Department;
8. Department\_Regions

## Análise utilizando o SQL Server

-- Qual foi a receita e o lucro realizado por ano? Compare os resultados ano após ano.

```
WITH Results AS (
    SELECT YEAR(TR.Order_Date) AS Order_Year,
           ROUND(SUM(OI.Order_Item_Total), 2) AS Total_Net_Sales,
           ROUND(SUM(OI.Order_Item_Profit), 2) AS Total_Profit
    FROM Order_Item OI
    INNER JOIN Transactions_Orders TR
        ON TR.ID_Order_Item = OI.ID_Order_Item
    WHERE TR.Delivery_Status NOT LIKE 'Shipping canceled'
    GROUP BY YEAR(TR.Order_Date)
)
SELECT Order_Year, Total_Net_Sales,
       FORMAT((Total_Net_Sales - LAG(Total_Net_Sales, 1) OVER (ORDER BY
Order_Year))
/ LAG(Total_Net_Sales, 1) OVER (ORDER BY Order_Year), 'P') AS
Growth_Net_Sales_Percentage,
       Total_Profit,
       FORMAT((Total_Profit - LAG(Total_Profit, 1) OVER (ORDER BY Order_Year))
/ LAG(Total_Profit, 1) OVER (ORDER BY Order_Year), 'P') AS
Growth_Profit_Percentage
FROM Results
```

Order_Year	Total_Net_Sales	Growth_Net_Sales_Percentage	Total_Profit	Growth_Profit_Percentage
2015	10620465	NULL	1260323	NULL

2016	10599127	-0.20%	1253530	-0.54%
2017	10140401	-4.33%	1260204	0.53%
2018	284672	-97.19%	32363.6	-97.43%

-- Quais os 30 produtos que mais foram pedidos?

```

SELECT TOP 30 PR.ID_Product, PR.Product_Name, PR.Product_Price,
              SUM(Order_Item_Quantity) AS Order_Quantity
FROM Order_Item OI
INNER JOIN Products PR
    ON PR.ID_Product = OI.ID_Product
INNER JOIN Transactions_Orders TR
    ON TR.ID_Order_Item = OI.ID_Order_Item
WHERE TR.ID_Order_Item NOT LIKE 'Shipping canceled'
GROUP BY PR.ID_Product, PR.Product_Name, PR.Product_Price
ORDER BY Order_Quantity DESC;

```

ID_Product	Product_Name	Product_Price	Order_Quantity
365	Perfect Fitness Perfect Rip Deck	59.99	73698
502	Nike Men's Dri-FIT Victory Golf Polo	50	62956
1014	O'Brien Men's Neoprene Life Vest	49.98	57803
191	Nike Men's Free 5.0+ Running Shoe	99.99	36680
627	Under Armour Girls' Toddler Spine Surge Runni	39.99	31735
403	Nike Men's CJ Elite 2 TD Football Cleat	129.99	22246
1004	Field & Stream Sportsman 16 Gun Fire Safe	399.98	17325
1073	Pelican Sunstream 100 Kayak	199.99	15500
957	Diamondback Women's Serene Classic Comfort Bi	299.98	13729
977	ENO Atlas Hammock Straps	29.99	998
116	Nike Men's Comfort 2 Slide	44.99	991
565	adidas Youth Germany Black/Red Away Match Soc	70	969
885	Team Golf St. Louis Cardinals Putter Grip	24.99	958
728	LIJA Women's Eyelet Sleeveless Golf Polo	65	946
804	Glove It Women's Imperial Golf Glove	19.99	941
44	adidas Men's F10 Messi TRX FG Soccer Cleat	59.99	939
917	Glove It Women's Mod Oval 3-Zip Carry All Gol	21.99	930
926	Glove It Imperial Golf Towel	15.99	930
642	Columbia Men's PFG Anchor Tough T-Shirt	30	928
835	Bridgestone e6 Straight Distance NFL Carolina	31.99	928
276	Under Armour Women's Ignite Slide	31.99	919

906	Team Golf Tennessee Volunteers Putter Grip	24.99	915
823	Titleist Pro V1x High Numbers Personalized Go	51.99	908
172	Nike Women's Tempo Shorts	30	907
564	Nike Men's Deutschland Weltmeister Winners Bl	30	907
828	Bridgestone e6 Straight Distance NFL San Dieg	31.99	906
905	Team Golf Texas Longhorns Putter Grip	24.99	895
797	Hirz1 Women's Soffft Flex Golf Glove	17.99	889
775	Clicgear 8.0 Shoe Brush	9.99	888
793	Hirz1 Women's Hybrid Golf Glove	14.99	888

-- Quais os 30 produtos que mais foram pedidos por ano?

```

SELECT TOP 30 YEAR(TR.Order_Date) AS Ano, PR.ID_Product, PR.Product_Name,
PR.Product_Price,
SUM(Order_Item_Quantity) AS Order_Quantity
FROM Order_Item OI
INNER JOIN Products PR
ON PR.ID_Product = OI.ID_Product
INNER JOIN Transactions_Orders TR
ON TR.ID_Order_Item = OI.ID_Order_Item
WHERE YEAR(TR.Order_Date) = 2017 -- Defina o ano
AND TR.ID_Order_Item NOT LIKE 'Shipping canceled'
GROUP BY YEAR(TR.Order_Date), PR.ID_Product, PR.Product_Name, PR.Product_Price
ORDER BY Order_Quantity DESC;

```

Ano	ID_Product	Product_Name	Product_Price	Order_Quantity
2017	365	Perfect Fitness Perfect Rip Deck	59.99	19807
2017	502	Nike Men's Dri-FIT Victory Golf Polo	50	17257
2017	1014	O'Brien Men's Neoprene Life Vest	49.98	15530
2017	191	Nike Men's Free 5.0+ Running Shoe	99.99	10122
2017	627	Under Armour Girls' Toddler Spine Surge Runni	39.99	8739
2017	403	Nike Men's CJ Elite 2 TD Football Cleat	129.99	6126
2017	1004	Field & Stream Sportsman 16 Gun Fire Safe	399.98	4751
2017	1073	Pelican Sunstream 100 Kayak	199.99	4281
2017	957	Diamondback Women's Serene Classic Comfort Bi	299.98	3867
2017	1350	Children's heaters	357.1	652
2017	1349	Web Camera	452.04	592
2017	1353	Porcelain crafts	461.48	484
2017	1354	DVDs	164.38	476
2017	1351	Dell Laptop	1500	442
2017	1352	Industrial consumer electronics	252.88	431
2017	1346	Sports Books	31.08	405

2017	1355	Lawn mower	532.58	388
2017	1358	Rock music	260.65	290
2017	1363	Summer dresses	215.82	272
2017	1348	CDs of rock	11.29	271
2017	1361	Toys	11.54	253
2017	1359	Adult dog supplies	84.4	246
2017	1356	First aid kit	293.04	239
2017	24	Elevation Training Mask 2.0	79.99	231
2017	1362	Fighting video games	39.75	228
2017	724	LIJA Women's Mid-Length Panel Golf Shorts	100	227
2017	251	Brooks Women's Ghost 6 Running Shoe	89.99	212
2017	777	Bag Boy M330 Push Cart	79.99	208
2017	646	Merrell Women's Grassbow Sport Hiking Shoe	99.99	207
2017	1347	Baby sweater	59.08	207

-- Quais produtos possuem a maiores margens de lucro?

```

SELECT TOP 30 PR.ID_Product, PR.Product_Name, PR.Product_Price,
              ROUND(SUM(Order_Item_Profit) / SUM(Order_Item_Quantity), 2)
AS Profit_Average_Per_Product,
              ROUND((SUM(Order_Item_Profit) / SUM(Order_Item_Quantity)) /
PR.Product_Price, 2) AS Profit_Ratio
FROM Order_Item OI
INNER JOIN Products PR
      ON PR.ID_Product = OI.ID_Product
INNER JOIN Transactions_Orders TR
      ON TR.ID_Order_Item = OI.ID_Order_Item
WHERE Order_Item_Profit > 0
      AND TR.Delivery_Status NOT LIKE 'Shipping canceled'
GROUP BY PR.ID_Product, PR.Product_Name, PR.Product_Price
ORDER BY Profit_Ratio DESC;

```

ID_Prod uct	Product_Name	Product_P rice	Profit_Average_Per_ Product	Profit_R atio
60	SOLE E25 Elliptical	999.99	361.15	0.36
127	Stiga Master Series ST3100 Competition Indoor	329.99	104.95	0.32
258	Nike Women's Free 5.0 TR FIT PRT 4 Training S	94.99	28.37	0.3
725	LIJA Women's Button Golf Dress	108	32.4	0.3
306	Polar FT4 Heart Rate Monitor	89.99	25.72	0.29
728	LIJA Women's Eyelet Sleeveless Golf Polo	65	18.75	0.29
777	Bag Boy M330 Push Cart	79.99	23.41	0.29
78	Nike Kids' Grade School KD VI Basketball Shoe	99.99	28.43	0.28

278	Under Armour Men's Compression EV SL Slide	44.99	12.67	0.28
364	Total Gym 1400	299.99	83.6	0.28
646	Merrell Women's Grassbow Sport Hiking Shoe	99.99	27.93	0.28
671	Cleveland Golf Collegiate My Custom Wedge 588	209.99	58.01	0.28
724	LIJA Women's Mid-Length Panel Golf Shorts	100	28.46	0.28
730	LIJA Women's Argyle Golf Polo	80	22.39	0.28
768	Titleist Club Glove Travel Cover	299.99	83.88	0.28
885	Team Golf St. Louis Cardinals Putter Grip	24.99	6.9	0.28
886	Team Golf San Francisco Giants Putter Grip	24.99	6.99	0.28
295	Fitbit The One Wireless Activity & Sleep Trac	99.95	27.07	0.27
235	Under Armour Hustle Storm Medium Duffle Bag	34.99	9.43	0.27
44	adidas Men's F10 Messi TRX FG Soccer Cleat	59.99	15.95	0.27
37	adidas Kids' F5 Messi FG Soccer Cleat	34.99	9.38	0.27
35	adidas Brazuca 2014 Official Match Ball	159.99	43.37	0.27
24	Elevation Training Mask 2.0	79.99	21.63	0.27
116	Nike Men's Comfort 2 Slide	44.99	12.02	0.27
93	Under Armour Men's Tech II T-Shirt	24.99	6.72	0.27
403	Nike Men's CJ Elite 2 TD Football Cleat	129.99	34.62	0.27
564	Nike Men's Deutschland Weltmeister Winners Bl	30	8.01	0.27
565	adidas Youth Germany Black/Red Away Match Soc	70	18.72	0.27
572	TYR Boys' Team Digi Jammer	39.99	10.72	0.27
666	Merrell Men's All Out Flash Trail Running Sho	109.99	30.21	0.27

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-- TOP 30 Clientes que mais fizeram pedidos

```

SELECT TOP 30 CT.ID_Customer, CONCAT(CT.Customer_First_Name, ' ',
CT.Customer_Last_Name) AS Customer_Name,
CT.Customer_Segment, CT.Customer_Country,
COUNT(OD.ID_Order) AS Order_Quantity_Customer,
ROUND(SUM(Sales), 2) AS Sales_Per_Customer
FROM Orders OD
INNER JOIN Customer CT
ON CT.ID_Customer = OD.ID_Customer
INNER JOIN Order_Item OI
ON OI.ID_Order = OD.ID_Order
INNER JOIN Transactions_Orders TR
ON TR.ID_Order = OD.ID_Order

```

WHERE TR.Delivery\_Status NOT LIKE 'Shipping canceled'  
GROUP BY CT.ID\_Customer, CT.Customer\_First\_Name, CT.Customer\_Last\_Name,  
Customer\_Segment, CT.Customer\_Country  
ORDER BY Sales\_Per\_Customer DESC;

ID_Cust omer	Customer_ Name	Customer_Se gment	Customer_Co untry	Order_Quantity_C ustomer	Sales_Per_Cu stomer
791	Mary Smith	Corporate	United States	165	40775.9
2641	Betty Spears	Consumer	United States	193	40445.23
5927	Christopher Cooper	Consumer	Puerto Rico	161	38335.95
1657	Betty Phillips	Consumer	Puerto Rico	170	36656.73
2292	Ashley Smith	Corporate	United States	168	36341.7
8766	Mary Duncan	Corporate	Puerto Rico	146	36101.82
2723	Mary Brady	Consumer	Puerto Rico	142	36015.6
10351	Teresa Gray	Home Office	Puerto Rico	126	35966.72
9371	Mary Patterson	Consumer	United States	171	35486.27
5624	Mary Mata	Consumer	Puerto Rico	147	34901.21
5715	Kelly Smith	Corporate	Puerto Rico	180	34600.4
341	Mary Smith	Consumer	United States	171	34510.63
3708	Judy Miller	Consumer	United States	180	34491.3
5004	Dorothy Friedman	Home Office	United States	185	34318.36
7445	Mary Smith	Consumer	United States	145	34206.74
9271	Christopher Smith	Consumer	United States	155	33906.68
5654	Jerry Smith	Home Office	Puerto Rico	185	33905.78
9727	Mary Cruz	Home Office	United States	161	33792.54
1443	Denise Cohen	Consumer	United States	171	33574.38
3710	Ashley Smith	Consumer	United States	158	33546.47
10744	Samantha Smith	Consumer	United States	112	33487.34
5691	James Brown	Corporate	Puerto Rico	163	33206.17
9821	Deborah Smith	Consumer	United States	171	33191.34
9358	Mary Smith	Corporate	Puerto Rico	149	33076.59
664	Bobby Jimenez	Home Office	United States	147	32437.22
1492	Gerald Patel	Consumer	United States	160	32406.54

10777	Martha Smith	Corporate	Puerto Rico	138	31796.93
2444	Kenneth Smith	Consumer	United States	161	31732.68
6375	Mary Smith	Corporate	United States	150	31651.47
10371	Joseph Smith	Consumer	United States	150	31516.31

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 -----  
 -- Países com maiores quantidades de pedidos e porcentagem sobre o total

```

DECLARE @total_orders NUMERIC;
SET @total_orders = (
    SELECT COUNT(DISTINCT(OD.Id_Order))
    FROM Orders OD
    INNER JOIN Transactions_Orders TR
        ON TR.ID_Order = OD.Id_Order
    WHERE NOT TR.Delivery_Status = 'Shipping canceled'
);

SELECT Order_Country, COUNT(DISTINCT(OD.ID_Order)) Order_Quantity,
    CAST(ROUND((COUNT(DISTINCT(OD.ID_Order)) / @total_orders)*100, 2) AS
    FLOAT) AS Total_Percentage_Quantity
FROM Orders OD
INNER JOIN Transactions_Orders TR
    ON TR.ID_Order = OD.Id_Order
-- WHERE TR.Delivery_Status NOT IN ('Shipping canceled') or
WHERE NOT TR.Delivery_Status = 'Shipping canceled'
GROUP BY Order_Country
ORDER BY Order_Quantity DESC;

```

Order_Country	Order_Quantity	Total_Percentage_Quantity
Estados Unidos	7887	12.54
Francia	4648	7.39
México	4201	6.68
Australia	3633	5.78
Alemania	3368	5.35
Reino Unido	2661	4.23
Brasil	2520	4.01
China	2495	3.97
India	2070	3.29
Indonesia	1833	2.91
Italia	1793	2.85
España	1408	2.24
El Salvador	1195	1.9
República Dominicana	1194	1.9
Honduras	1130	1.8
Cuba	1124	1.79
Turquía	1095	1.74
Nicaragua	959	1.52
Filipinas	912	1.45

Guatemala	866	1.38
Nigeria	737	1.17
Países Bajos	701	1.11
Panamá	635	1.01
Argentina	610	0.97
Colombia	579	0.92
Nueva Zelanda	515	0.82
Austria	484	0.77
Irán	481	0.76
Tailandia	385	0.61
Egipto	374	0.59
SudAfrica	363	0.58
Marruecos	360	0.57
Pakistán	353	0.56
Suecia	346	0.55
Japón	337	0.54
Vietnam	325	0.52
República Democrática del Congo	317	0.5
Ucrania	314	0.5

-- Quais os departamentos que mais fizeram vendas? Qual a porcentagem dessas vendas sobre o total?

```

DECLARE @total_sales NUMERIC;
SET @total_sales = (
    SELECT SUM(Order_Item_Total)
    FROM Order_Item OI
    INNER JOIN Transactions_Orders TR
        ON TR.ID_Order_Item = OI.ID_Order_Item
    WHERE NOT TR.Delivery_Status = 'Shipping canceled'
)

SELECT DP.ID_Department, DP.Department_Name,
    ROUND(SUM(Order_Item_Total), 2) AS Sales_Per_Department,
    ROUND((SUM(Order_Item_Total) / @total_sales)*100, 2) AS
Total_Percentage_Sales
FROM Department DP
INNER JOIN Order_Item OI
    ON OI.ID_Department = DP.ID_Department
INNER JOIN Transactions_Orders TR
    ON TR.ID_Order_Item = OI.ID_Order_Item
WHERE NOT TR.Delivery_Status = 'Shipping canceled'
GROUP BY DP.ID_Department, DP.Department_Name
ORDER BY Sales_Per_Department DESC;

```

ID_Department	Department_Name	Sales_Per_Department	Total_Percentage_Sales
7	Fan Shop	14730174	46.55
4	Apparel	6858959	21.67
5	Golf	3962014	12.52



3	Footwear	3443987	10.88
6	Outdoors	1078728	3.41
10	Technology	893686.5	2.82
2	Fitness	342216.4	1.08
9	Discs Shop	196910.8	0.62
12	Health and Beauty	91249.68	0.29
11	Pet Shop	35834.98	0.11
8	Book Shop	10904.04	0.03

-- Quantidade de pedidos por tipo de entrega

```
SELECT Shipping_Mode, COUNT(DISTINCT(ID_Order)) AS Order_Quantity
FROM Transactions_Orders
WHERE Delivery_Status NOT IN ('Shipping canceled')
GROUP BY Shipping_Mode
ORDER BY Order_Quantity;
```

Shipping_Mode	Order_Quantity
Same Day	3407
First Class	9602
Second Class	12256
Standard Class	37632

-- Qual a quantidade de pedidos por status de entrega em cada ano.  
 -- Apresente a porcentagem de pedidos de cada status de entrega em relação ao total de pedidos por ano.

```
SELECT Order_Year, Delivery_Status, Order_Quantity,
       FORMAT((CAST((Order_Quantity) AS FLOAT) / SUM(Order_Quantity) OVER
(PARTITION BY Order_Year)), 'P') AS Total_Percentage_Per_Year
FROM (
  SELECT YEAR(Order_Date) AS Order_Year, Delivery_Status,
         COUNT(DISTINCT(ID_Order)) AS Order_Quantity
  FROM Transactions_Orders
  WHERE Delivery_Status NOT LIKE 'Shipping canceled'
  GROUP BY YEAR(Order_Date), Delivery_Status
) AS Transactions
ORDER BY Order_Year
```

Order_Year	Delivery_Status	Order_Quantity	Total_Percentage_Per_Year
2015	Advance shipping	4861	24.31%
2015	Late delivery	11431	57.17%
2015	Shipping on time	3703	18.52%
2016	Advance shipping	4715	23.63%
2016	Late delivery	11497	57.61%

2016	Shipping on time	3743	18.76%
2017	Advance shipping	5083	24.31%
2017	Late delivery	11925	57.03%
2017	Shipping on time	3902	18.66%
2018	Advance shipping	468	22.97%
2018	Late delivery	1195	58.66%
2018	Shipping on time	374	18.36%

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-- Tempo médio de entrega de um pedido por cada tipo de entrega

```
SELECT Shipping_Mode,
        AVG(DATEDIFF(day, Order_Date, Shipping_Date)) AS AVG_Shipping_Days
FROM Transactions_Orders
GROUP BY Shipping_Mode
ORDER BY AVG_Shipping_Days DESC;
```

Shipping_Mode	AVG_Shipping_Days
Standard Class	3
Second Class	3
First Class	2
Same Day	0

-----

-- Taxa de desconto concedida por tipo de pagamento e produto

```
SELECT PR.ID_Product, PR.Product_Name, OD.Order_Payment,
        ROUND(AVG(OI.Order_Item_Discount / OI.Order_Item_Quantity), 2) AS
AVG_Discount_Per_Quantity
FROM Products PR
INNER JOIN Order_Item OI
    ON OI.ID_Product = PR.ID_Product
INNER JOIN Orders OD
    ON OD.ID_Order = OI.ID_Order
INNER JOIN Transactions_Orders TR
    ON TR.ID_Order_Item = OI.ID_Order_Item
WHERE NOT TR.Delivery_Status = 'Shipping canceled'
GROUP BY PR.ID_Product, PR.Product_Name, OD.Order_Payment;
```

ID_Product	Product_Name	Order_Payment	AVG_Discount_Per_Quantity
19	Nike Men's Fingertrap Max Training Shoe	CASH	13.44
19	Nike Men's Fingertrap Max Training Shoe	DEBIT	10.12
19	Nike Men's Fingertrap Max Training Shoe	PAYMENT	12.07
19	Nike Men's Fingertrap Max Training Shoe	TRANSFER	12.86
24	Elevation Training Mask 2.0	CASH	7.6

24	Elevation Training Mask 2.0	DEBIT	8.56
24	Elevation Training Mask 2.0	PAYMENT	6.85
24	Elevation Training Mask 2.0	TRANSFER	7.95
35	adidas Brazuca 2014 Official Match Ball	CASH	15.02
35	adidas Brazuca 2014 Official Match Ball	DEBIT	17.11
35	adidas Brazuca 2014 Official Match Ball	PAYMENT	22.04
35	adidas Brazuca 2014 Official Match Ball	TRANSFER	11.51
37	adidas Kids' F5 Messi FG Soccer Cleat	CASH	2.81
37	adidas Kids' F5 Messi FG Soccer Cleat	DEBIT	3.37
37	adidas Kids' F5 Messi FG Soccer Cleat	PAYMENT	3.57
37	adidas Kids' F5 Messi FG Soccer Cleat	TRANSFER	3.77
44	adidas Men's F10 Messi TRX FG Soccer Cleat	CASH	6.55
44	adidas Men's F10 Messi TRX FG Soccer Cleat	DEBIT	6.82
44	adidas Men's F10 Messi TRX FG Soccer Cleat	PAYMENT	6.09
44	adidas Men's F10 Messi TRX FG Soccer Cleat	TRANSFER	6.05
58	Diamondback Boys' Insight 24 Performance Hybr	CASH	32
58	Diamondback Boys' Insight 24 Performance Hybr	DEBIT	42.41
58	Diamondback Boys' Insight 24 Performance Hybr	PAYMENT	36
58	Diamondback Boys' Insight 24 Performance Hybr	TRANSFER	26
60	SOLE E25 Elliptical	DEBIT	43.33
60	SOLE E25 Elliptical	PAYMENT	30
60	SOLE E25 Elliptical	TRANSFER	70.83
61	Diamondback Girls' Clarity 24 Hybrid Bike 201	CASH	30
61	Diamondback Girls' Clarity 24 Hybrid Bike 201	DEBIT	29.1
61	Diamondback Girls' Clarity 24 Hybrid Bike 201	PAYMENT	32.4
61	Diamondback Girls' Clarity 24 Hybrid Bike 201	TRANSFER	25.5
78	Nike Kids' Grade School KD VI Basketball Shoe	CASH	4.5
78	Nike Kids' Grade School KD VI Basketball Shoe	DEBIT	10.09
78	Nike Kids' Grade School KD VI Basketball Shoe	PAYMENT	9.68
78	Nike Kids' Grade School KD VI Basketball Shoe	TRANSFER	9.73
93	Under Armour Men's Tech II T-Shirt	CASH	2.09
93	Under Armour Men's Tech II T-Shirt	DEBIT	2.67

93	Under Armour Men's Tech II T-Shirt	PAYMENT	2.57
93	Under Armour Men's Tech II T-Shirt	TRANSFER	2.58

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 -- Comparativo entre o preço de um produto e a média da categoria de produtos na qual esse produto pertence

```

WITH Product_Category_Price AS (
    SELECT ID_Product, Product_Name, Product_Price, PR.ID_Product_Category,
    PC.Category_Name,
        ROUND(AVG(Product_Price)
            OVER (PARTITION BY PR.ID_Product_Category
                ), 2) AS AVG_Price_Category
    FROM Products PR
    INNER JOIN Products_Category PC
        ON PC.ID_Product_Category = PR.ID_Product_Category
)
SELECT *,
    CASE
        WHEN Product_Price > AVG_Price_Category
            THEN 'Higher than the average'
        WHEN Product_Price < AVG_Price_Category
            THEN 'Lower than the average'
        ELSE 'Equal to the average'
    END AS AVG_Price_Comparative
FROM Product_Category_Price
ORDER BY ID_Product;

```

ID_Product	Product_Name	Product_Price	ID_Product_Category	Category_Name	AVG_Price_Category	AVG_Price_Comparative
19	Nike Men's Fingertrap Max Training Shoe	124.99	2	Soccer	102.49	Higher than the average
24	Elevation Training Mask 2.0	79.99	2	Soccer	102.49	Lower than the average
35	adidas Brazuca 2014 Official Match Ball	159.99	3	Baseball & Softball	84.99	Higher than the average
37	adidas Kids' F5 Messi FG Soccer Cleat	34.99	3	Baseball & Softball	84.99	Lower than the average
44	adidas Men's F10 Messi TRX FG Soccer Cleat	59.99	3	Baseball & Softball	84.99	Lower than the average
58	Diamondback Boys' Insight 24 Performance Hybr	299.99	4	Basketball	533.32	Lower than the average
60	SOLE E25 Elliptical	999.99	4	Basketball	533.32	Higher than the average

61	Diamondback Girls' Clarity 24 Hybrid Bike 201	299.99	4	Basketball	533.32	Lower than the average
78	Nike Kids' Grade School KD VI Basketball Shoe	99.99	5	Lacrosse	62.49	Higher than the average
93	Under Armour Men's Tech II T-Shirt	24.99	5	Lacrosse	62.49	Lower than the average
116	Nike Men's Comfort 2 Slide	44.99	6	Tennis & Racquet	44.99	Equal to the average
127	Stiga Master Series ST3100 Competition Indoor	329.99	7	Hockey	125.66	Higher than the average
134	Nike Women's Legend V-Neck T-Shirt	25	7	Hockey	125.66	Lower than the average
135	Nike Dri-FIT Crew Sock 6 Pack	22	7	Hockey	125.66	Lower than the average
172	Nike Women's Tempo Shorts	30	9	Cardio Equipment	65	Lower than the average
191	Nike Men's Free 5.0+ Running Shoe	99.99	9	Cardio Equipment	65	Higher than the average
203	GoPro HERO3+ Black Edition Camera	399.99	10	Strength Training	862.99	Lower than the average
208	SOLE E35 Elliptical	1999.99	10	Strength Training	862.99	Higher than the average
216	Yakima DoubleDown Ace Hitch Mount 4-Bike Rack	189	10	Strength Training	862.99	Lower than the average
226	Bowflex SelectTech 1090 Dumbbells	599.99	11	Fitness Accessories	317.49	Higher than the average
235	Under Armour Hustle Storm Medium Duffle Bag	34.99	11	Fitness Accessories	317.49	Lower than the average
249	Under Armour Women's Micro G Skulpt Running S	54.97	12	Boxing & MMA	79.98	Lower than the average
251	Brooks Women's Ghost 6 Running Shoe	89.99	12	Boxing & MMA	79.98	Higher than the average