

Key Findings from Analysis

1) Find the number of stores in each country.

	country	Total_Stores
1	UK	10
2	USA	10
3	Canada	8
4	China	4
5	Australia	3
6	Brazil	2
7	Japan	2
8	Turkey	2
9	UAE	2
10	France	2

2) Calculate the total number of units sold by each store.

	store_id	store_name	total_units_sold
1	ST-52	Apple Mumbai	24590
2	ST-53	Apple New Delhi	24501
3	ST-51	Apple Seoul	24469
4	ST-14	Apple Pacific Centre	24349
5	ST-54	Apple Ankara	24286
6	ST-55	Apple Istanbul	24105
7	ST-21	Apple Orchard Road	23094
8	ST-23	Apple Covent Garden	23036
9	ST-22	Apple Regent Street	23030
10	ST-24	Apple Bluewater	22906

3) Identify how many sales occurred in December 2023.

	total_sales
1	29997

4) Determine how many stores have never had a warranty claim filed.

	store_id	store_name
1	ST-1	Apple Fifth Avenue
2	ST-10	Apple Tysons Corner
3	ST-11	Apple Eaton Centre
4	ST-12	Apple Yorkdale
5	ST-13	Apple Square One
6	ST-14	Apple Pacific Centre
7	ST-15	Apple Chinook Centre
8	ST-16	Apple Rideau Centre
9	ST-17	Apple West Edmonton Mall
10	ST-18	Apple CF Sherway Gardens

5) Calculate the percentage of warranty claims marked as "Warranty Void".

	percentage
1	23.1645

6) Identify which store had the highest total units sold in the last year.

	store_id	store_name	total_sales
1	ST-52	Apple Mumbai	19680
2	ST-53	Apple New Delhi	19606
3	ST-51	Apple Seoul	19529
4	ST-55	Apple Istanbul	19197
5	ST-54	Apple Ankara	19197
6	ST-21	Apple Orchard Road	3522
7	ST-25	Apple Munich	3450
8	ST-24	Apple Bluewater	3436
9	ST-23	Apple Covent Garden	3394
10	ST-22	Apple Regent Street	3376

7) Count the number of unique products sold in the last year.

	product_id	product_name	total_sales
1	P-63	iPhone 15 Pro	13138
2	P-64	iPhone 15 Pro Max	13048
3	P-62	iPhone 15	12985
4	P-55	iPhone 14	11051
5	P-54	iPhone 14 Pro	10922
6	P-59	iPad (10th Gen)	10236
7	P-60	iPad Pro (M2, 11-inch)	10180
8	P-58	AirPods Pro (2nd Gen)	7486
9	P-61	iPad Pro (M2, 12.9-inch)	7180
10	P-56	Apple Watch Series 8	5400

8) Find the average price of products in each category.

	category_id	category_name	avg_price
1	CAT-1	Laptop	1511.5
2	CAT-7	Desktop	1199
3	CAT-4	Smartphone	889.43
4	CAT-3	Tablet	656.5
5	CAT-5	Wearable	362.33
6	CAT-2	Audio	259
7	CAT-6	Streaming Device	179
8	CAT-8	Subscription Service	149.5
9	CAT-9	Smart Speaker	99
10	CAT-10	Accessory	29

9) How many warranty claims were filed in 2020?

	repair_status	warranty_claims
1	Free Replaced	1707
2	Paid Repaired	113
3	Warranty Void	930
4	total_claims	2750

10) Identify the best-selling day for each store.

	store_id	store_name	best_selling_day	total_sales
1	ST-1	Apple Fifth Avenue	Sunday	1100
2	ST-10	Apple Tysons Corner	Sunday	1065
3	ST-11	Apple Eaton Centre	Saturday	1095
4	ST-12	Apple Yorkdale	Sunday	1073
5	ST-13	Apple Square One	Monday	1085
6	ST-14	Apple Pacific Centre	Thursday	3665
7	ST-15	Apple Chinook Centre	Monday	2879
8	ST-16	Apple Rideau Centre	Monday	2940
9	ST-17	Apple West Edmonton Mall	Thursday	2837
10	ST-18	Apple CF Sherway Gardens	Sunday	2865

11) Identify the least selling product in each country for each year.

	product_id	product_name	total_sales	sale_year	country	rank
1	P-44	iPhone 13 Mini	16	2021	Argentina	1
2	P-63	iPhone 15 Pro	99	2023	Argentina	1
3	P-64	iPhone 15 Pro Max	99	2023	Argentina	1
4	P-35	Apple Fitness+	29	2020	Australia	1
5	P-44	iPhone 13 Mini	37	2021	Australia	1
6	P-59	iPad (10th Gen)	458	2022	Australia	1
7	P-62	iPhone 15	264	2023	Australia	1
8	P-35	Apple Fitness+	25	2020	Brazil	1
9	P-44	iPhone 13 Mini	30	2021	Brazil	1
10	P-60	iPad Pro (M2, 11-inch)	281	2022	Brazil	1
11	P-62	iPhone 15	180	2023	Brazil	1

12) Calculate how many warranty claims were filed within 180 days of a product sale.

	warranty_claims
1	18745

13) Determine how many warranty claims were filed for products launched in the last two years.

	product_name	warranty_claims	total_sales
1	AirPods Pro (2nd Gen)	659	20807
2	iPad (10th Gen)	444	20687
3	iPad Pro (M2, 11-inch)	467	20747
4	iPhone 14	986	31944
5	iPhone 14 Pro	946	31728
6	iPhone 15	321	14875
7	iPhone 15 Pro	290	14954
8	iPhone 15 Pro Max	320	14860
9	iPhone SE (3rd Gen)	1885	8371

14) List the months in the last three years when sales did not exceed 5,000 units in the USA.

	month	total_sales
1	01-2022	2392
2	01-2023	4318
3	02-2022	2174
4	02-2023	3908
5	03-2022	2835
6	03-2023	4469
7	04-2022	2463
8	04-2023	2474
9	05-2022	1007
10	09-2022	2929

15) Identify the product category with the most warranty claims filed in the last two years.

	category_id	category_name	warranty_claims
1	CAT-4	Smartphone	8188
2	CAT-3	Tablet	2638
3	CAT-5	Wearable	978
4	CAT-8	Subscription Service	940
5	CAT-2	Audio	528
6	CAT-10	Accessory	64
7	CAT-1	Laptop	59
8	CAT-7	Desktop	7
9	CAT-6	Streaming Device	5

- 16) Determine the percentage chance of receiving warranty claims after each purchase for each country.

	country	total_sales	warranty_claims	percentage_chance
1	Argentina	2794	0	No Claim Chance
2	Australia	19445	0	No Claim Chance
3	Brazil	12842	0	No Claim Chance
4	Canada	123089	0	No Claim Chance
5	Chile	5272	0	No Claim Chance
6	China	20895	0	No Claim Chance
7	Costa Rica	2848	0	No Claim Chance
8	France	29218	335	1.15
9	Germany	37573	641	1.71
10	India	49091	2241	4.56

- 17) Analyze the year-by-year growth rate for each store.

	store_id	store_name	year	current_year_sales	previous_year_sales	growth_rate	status
1	ST-27	Apple Amsterdam	2020	2,057,521	1,938,674	6.13	GROWTH
2	ST-27	Apple Amsterdam	2021	3,011,823	2,057,521	46.38	GROWTH
3	ST-27	Apple Amsterdam	2022	3,580,638	3,011,823	18.89	GROWTH
4	ST-27	Apple Amsterdam	2023	1,454,241	3,580,638	-59.39	DECLINE
5	ST-27	Apple Amsterdam	2024	186,817	1,454,241	-87.15	DECLINE
6	ST-54	Apple Ankara	2021	1,472,404	1,888,289	-22.02	DECLINE
7	ST-54	Apple Ankara	2023	15,671,503	1,472,404	964.35	GROWTH
8	ST-45	Apple Bangkok	2021	1,488,187	1,831,371	-18.74	DECLINE
9	ST-45	Apple Bangkok	2023	308,693	1,488,187	-79.26	DECLINE
10	ST-33	Apple Barcelona	2021	1,537,994	1,888,830	-18.57	DECLINE
11	ST-33	Apple Barcelona	2022	851,983	1,537,994	-44.6	DECLINE
12	ST-33	Apple Barcelona	2023	312,689	851,983	-63.3	DECLINE

- 18) Calculate the correlation between product price and warranty claims for products sold in the last five years, segmented by price range.

	product_range	price_range	total_warranty_claims
1	LOW RANGE PRODUCT	29	5097
2	LOW RANGE PRODUCT	99	74
3	LOW RANGE PRODUCT	120	36
4	LOW RANGE PRODUCT	179	1811
5	LOW RANGE PRODUCT	249	659
6	LOW RANGE PRODUCT	329	1906
7	LOW RANGE PRODUCT	399	1978
8	LOW RANGE PRODUCT	429	1885
9	LOW RANGE PRODUCT	449	444
10	MID RANGE PRODUCT	549	32

B4		=CORREL(B1:U1,B2:U2)																			
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U
1	Price range	29	99	120	179	249	329	399	429	449	549	599	699	749	799	999	1099	1199	1299	1999	2499
2	Warranty Claims	5097	74	36	1811	659	1906	1978	1885	444	32	1374	2411	763	2250	4207	2220	320	381	668	675
3																					
4	CORRELATION	-0.18337																			
5																					
6	A correlation of -0.183 means that there is a slightly negative relationship between product price and warranty claims.																				
7	As the price of a product goes up, the number of warranty claims tends to go down just a little.																				
8	However, this relationship is very weak. It's not a strong trend, so the price of a product doesn't really have a big impact on how many warranty claims it gets.																				
9																					

19) Identify the store with the highest percentage of "Paid Repaired" claims relating to total claims filed.

	store_id	store_name	total_claims	total_paid_repaired	percent_of_total_claims
1	ST-26	Apple Kurfürstendamm	160	60	37.5
2	ST-28	Apple Champs-Élysées	151	53	35.099
3	ST-24	Apple Bluewater	259	86	33.205
4	ST-23	Apple Covent Garden	267	86	32.21
5	ST-27	Apple Amsterdam	163	52	31.902
6	ST-22	Apple Regent Street	1214	377	31.054
7	ST-25	Apple Munich	481	147	30.561
8	ST-29	Apple Lyon	184	50	27.174
9	ST-30	Apple Milan	1691	417	24.66
10	ST-31	Apple Dubai Mall	5838	1427	24.443
11	ST-32	Apple Mall of the Emirates	5978	771	12.897

20) Write a query to calculate the monthly running total of sales for each store over the past four years and compare trends.

	store_id	store_name	month	year	revenue	running_total
1	ST-27	Apple Amsterdam	January	2019	103,117	103,117
2	ST-27	Apple Amsterdam	February	2019	156,066	259,183
3	ST-27	Apple Amsterdam	March	2019	188,670	447,853
4	ST-27	Apple Amsterdam	April	2019	99,757	547,610
5	ST-27	Apple Amsterdam	May	2019	131,395	679,005
6	ST-27	Apple Amsterdam	June	2019	115,103	794,108
7	ST-27	Apple Amsterdam	July	2019	124,232	918,340
8	ST-27	Apple Amsterdam	August	2019	164,224	1,082,564
9	ST-27	Apple Amsterdam	September	2019	170,583	1,253,147
10	ST-27	Apple Amsterdam	October	2019	194,750	1,447,897
11	ST-27	Apple Amsterdam	November	2019	250,056	1,697,953
12	ST-27	Apple Amsterdam	December	2019	240,721	1,938,674
13	ST-27	Apple Amsterdam	January	2020	339,404	2,278,078
14	ST-27	Apple Amsterdam	February	2020	320,381	2,598,459

- 21) Analyze product sales trends over time, segmented into key periods: from launch to 6 months, 6-12 months, 12-18 months, and beyond 18 months.

product_name	launch_sale_interval	total_sales
iPhone 14	0-6 months	26487
iPhone 14	6-12 months	3783
iPhone 14	12-18 months	1674
iPhone 14 Pro	0-6 months	26362
iPhone 14 Pro	6-12 months	3722
iPhone 14 Pro	12-18 months	1644
iPhone 15	0-6 months	14104
iPhone 15	6-12 months	771
iPhone 15 Pro	0-6 months	14241
iPhone 15 Pro	6-12 months	713
iPhone 15 Pro Max	0-6 months	14171
iPhone 15 Pro Max	6-12 months	689