

Task 2: Sale analysis – revenue decline in ROW region

The dataset spans two main regions: ROW (Rest of World) and the US. Within the ROW region, data is available for eight countries, while the US region includes data for two countries.

Table - 1

Region	ROW	ROW	ROW	US
Currency	EUR	GBP	USD	USD
SalesOwnCurr2018H1	53,653,794	4,136,134	6,182,484	47,254,526
SalesOwnCurr2019H1	53,812,744	4,124,091	6,085,746	47,111,630
DifferenceOwnCurr	158,950	-12,043	-96,738	-142,896
DifferencePercentageOwnCurr	0.30	-0.29	-1.56	-0.30
SalesUsd2018H1	64,984,960	5,694,845	6,182,484	47,254,526
SalesUsd2019H1	60,796,902	5,334,303	6,085,746	47,111,630
DifferenceUSD	-4,188,058	-360,543	-96,738	-142,896
DifferencePercentageUSD	-6.44	-6.33	-1.56	-0.30
Total_Difference_USD	-4,645,339	-4,645,339	-4,645,339	-142,896

As shown in Table 1, sales in both the ROW (Rest of the World) and US regions have decreased when measured in USD. However, the decline in the ROW region is more pronounced than in the US region. To address this issue, we will investigate the factors contributing to this decline in three parts, focusing specifically on the currencies within each region.

Chart - 1

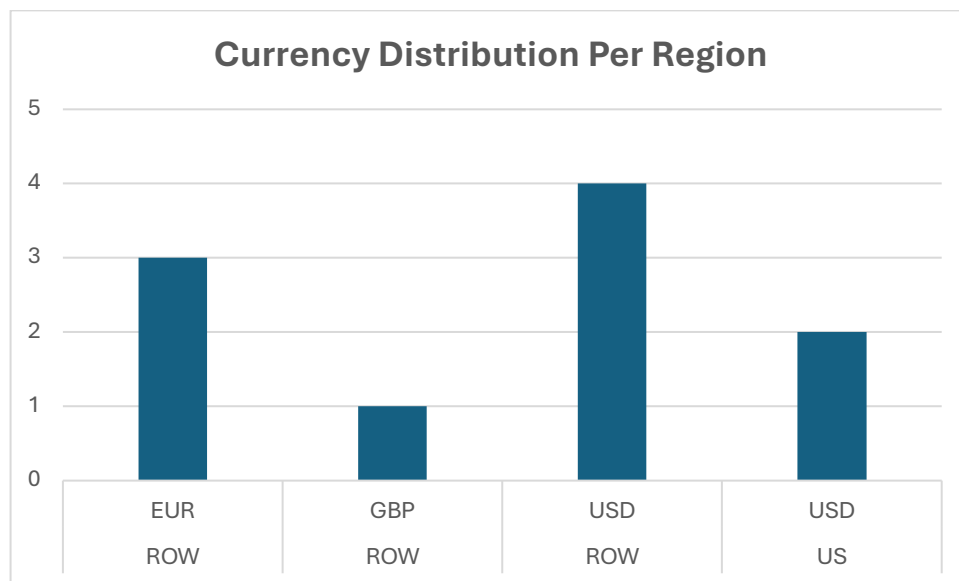


Chart 1 illustrates that there are four countries operating in USD, three countries in EUR, and one country in GBP. To begin the investigation, I will focus on the countries with the highest representation, starting with the four countries that use USD.

USD Currency Countries in ROW Region

As shown in the Table-2, the number of items sold across all product families has declined in all countries within the ROW region. Furthermore, when comparing the Year-over-Year (YoY) changes in Quantity and USD, it is evident that the drop in USD sales is greater than the decline in the quantity sold.

Table-2

Country	Australia	Israel	Korea	New Zealand
Quantity Sold In 2018	62,622	64,121	29,841	28,699
Quantity Sold In 2019	62,587	62,636	29,671	28,667
%YoY Quantity	-0.06	-2.32	-0.57	-0.11
USD Made 2018	2,097,816	2,153,740	986,463	944,465
USD Made 2019	2,052,908	2,092,294	976,445	964,099
%YoY USD	-2.14	-2.85	-1.02	2.08
Country_Change	-44,908	-61,446	-10,018	19,634
Total_Change	-96,738	-96,738	-96,738	-96,738

This issue prompts me to examine the quantity sold per product family for Australia and New Zealand, particularly those with varying price points. By doing so, I aim to determine whether the decline in sales is attributed to an increase in the sale of cheaper products at the expense of more expensive ones.

1.1 Australia

Upon reviewing the product families, it is evident that the quantity of cheaper products sold exceeds that of the more expensive ones. This creates a noticeable gap between the number of items sold and the revenue generated. Even though we sold almost the same amount, our revenue was 2.1% lower than in 2018.

Table-3

Country	Australia	Australia	Australia	Australia
Product Family	.NET products	All Products Pack	IntelliJ-based IDE	Server Tools
Unit Price	14	65	30	50
Quantity 2018	17,589	9,052	26,849	9,132
Quantity 2019	18,397	8,442	26,970	8,778
Yoy Quantity	4.59%	-6.74%	0.45%	-3.88%
Difference_USD	11,312	-39,650	1,130	-17,700
Country_Balance	-44,908	-44,908	-44,908	-44,908
Currency_Balance	-96,738	-96,738	-96,738	-96,738

1.2 New Zealand

As shown in the table, the number of server tools sold in 2019 increased by 11.2%. This increase explains why, despite selling fewer units than in 2018 in total, we still achieved a revenue increase of 2.1% in New Zealand.

Table-4

Country	New Zealand	New Zealand	New Zealand	New Zealand
Product Family	.NET products	All Products Pack	IntelliJ-based IDE	Server Tools
Unit Price	14	65	30	50
Quantity 2018	8,455	4,107	12,236	3,901
Quantity 2019	8,266	4,027	12,012	4,362
Yoy Quantity	-2.24%	-1.95%	-1.83%	11.82%
Difference_USD	-2,646	-5,200	4,430	23,050
Country_Balance	19,634	19,634	19,634	19,634
Currency_Balance	-96,738	-96,738	-96,738	-96,738

The change from 2019 to 2018 in ROW region for USD based countries are showing -96,738 USD.

EUR Currency Countries in ROW Region

When comparing the number of items sold and the revenue generated in their respective currencies, the changes appear to be closely aligned. However, a deeper analysis of the USD changes reveals a significant gap in the revenue generated in EUR.

Table-5

Country	Austria	Germany	Switzerland
Quantity-2018	100,459	1,338,524	171,384
Quantity-2019	99,677	1,345,525	170,801
YoY Quantity	-0.78	0.52	-0.34
Own-Curr-2018	3,358,037	44,604,403	5,691,354
USD-2018	4,065,556	54,028,061	6,891,343
Own-Curr-2019	3,328,747	44,788,808	5,695,189
USD-2019	3,760,886	50,600,463	6,435,553
YoY-Own_Curr	-0.87	0.41	0.07
YoY-USD	-7.49	-6.34	-6.61
Country_Total	-304,670	-3,427,598	-455,790
Currency_Total	-4,188,058	-4,188,058	-4,188,058

Upon examining the exchange rate column, it is evident that the EUR has lost value against the USD. Consequently, even though the quantity sold and revenue generated in EUR have increased, there is a loss when these amounts are converted to USD.

Table-6

Currency	Avg_Curr_in_2018	Avg_Curr_in_2019	YoY Change
EUR	0.826111	0.885199	7.15%
GBP	0.726795	0.773348	6.41%
USD	1	1	0

GBP Currency Countries in ROW Region

The gap in money made in GBP and USD is quite high. The issue is caused while the quantity and the money made in its own currency increased, when converted to USD it dropped down by 6.4%

Table-7

Country	United Kingdom	United Kingdom	United Kingdom	United Kingdom
Product Family	.NET products	All Products Pack	IntelliJ-based IDE	Server Tools
Quantity-2018	35,436	17,916	52,749	17,480
Quantity-2019	34,799	17,349	53,392	18,282
YoY Quantity	-1.80	-3.16	1.22	4.59
Unit-Price	14	65	30	50
Own-Curr-2018	496,104	1,164,540	1,601,490	874,000
USD-2018	683,038	1,603,876	2,204,282	1,203,649
Own-Curr-2019	487,186	1,127,685	1,595,120	914,100
USD-2019	629,992	1,458,933	2,063,419	1,181,958
YoY-Own-Curr	-1.80	-3.16	-0.40	4.59
YoY-USD	-7.77	-9.04	-6.39	-1.80
Diff-in-Own_Curr	-53,046	-144,943	-140,863	-21,691
Country-Total	-360,543	-360,543	-360,543	-360,543

Pricing

Although product prices remained consistent in 2018 and 2019, exchange rate conversions caused price fluctuations. In 2019, this resulted in a drop in product prices when converted to USD.

Table -8

Country	Product_Family	Price	Currency	2018-USD	2019-USD	YoY_Change
Austria	.NET products	14	EUR	17	16	-6.74%
Austria	All Products Pack	65	EUR	79	73	-6.63%
Austria	IntelliJ-based IDE	30	EUR	36	34	-6.14%
Austria	Server Tools	50	EUR	61	56	-6.74%
Germany	.NET products	14	EUR	17	16	-6.72%
Germany	All Products Pack	65	EUR	79	73	-6.75%
Germany	IntelliJ-based IDE	30	EUR	36	34	-6.91%
Germany	Server Tools	50	EUR	61	56	-6.74%
Switzerland	.NET products	14	EUR	17	16	-6.71%
Switzerland	All Products Pack	65	EUR	79	73	-6.63%
Switzerland	IntelliJ-based IDE	30	EUR	36	34	-5.77%
Switzerland	Server Tools	50	EUR	61	57	-6.69%
United Kingdom	.NET products	14	GBP	19	18	-5.26%
United Kingdom	All Products Pack	65	GBP	90	84	-6.67%
United Kingdom	IntelliJ-based IDE	30	GBP	42	39	-7.14%
United Kingdom	Server Tools	50	GBP	69	65	-5.80%