



# SELLS REPORT

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## STAR SCHEME

Adventure Works is a fictional company dedicated to manufacturing and selling bicycles, as well as cycling apparel, equipment, and accessories.

The purpose of this document is to generate a sales report for the company, with the fact table representing these sales.

To complete this sales report, the following dimensions are generated, all with one-to-many relationships:

- Products Sold: Primary Key: ProductID.
- Customer, which can be:
  - Customer for online sales: Primary Key: CustomerID.
  - Reseller for in-person sales: Primary Key: CustomerID.
- Salesperson who manages the order and delivery: Primary Key: SalespersonID.
- Date on which the transaction occurred:
  - Primary Key: AW\_Ventas\_v2(ordate) = Date\_Sales(Date).

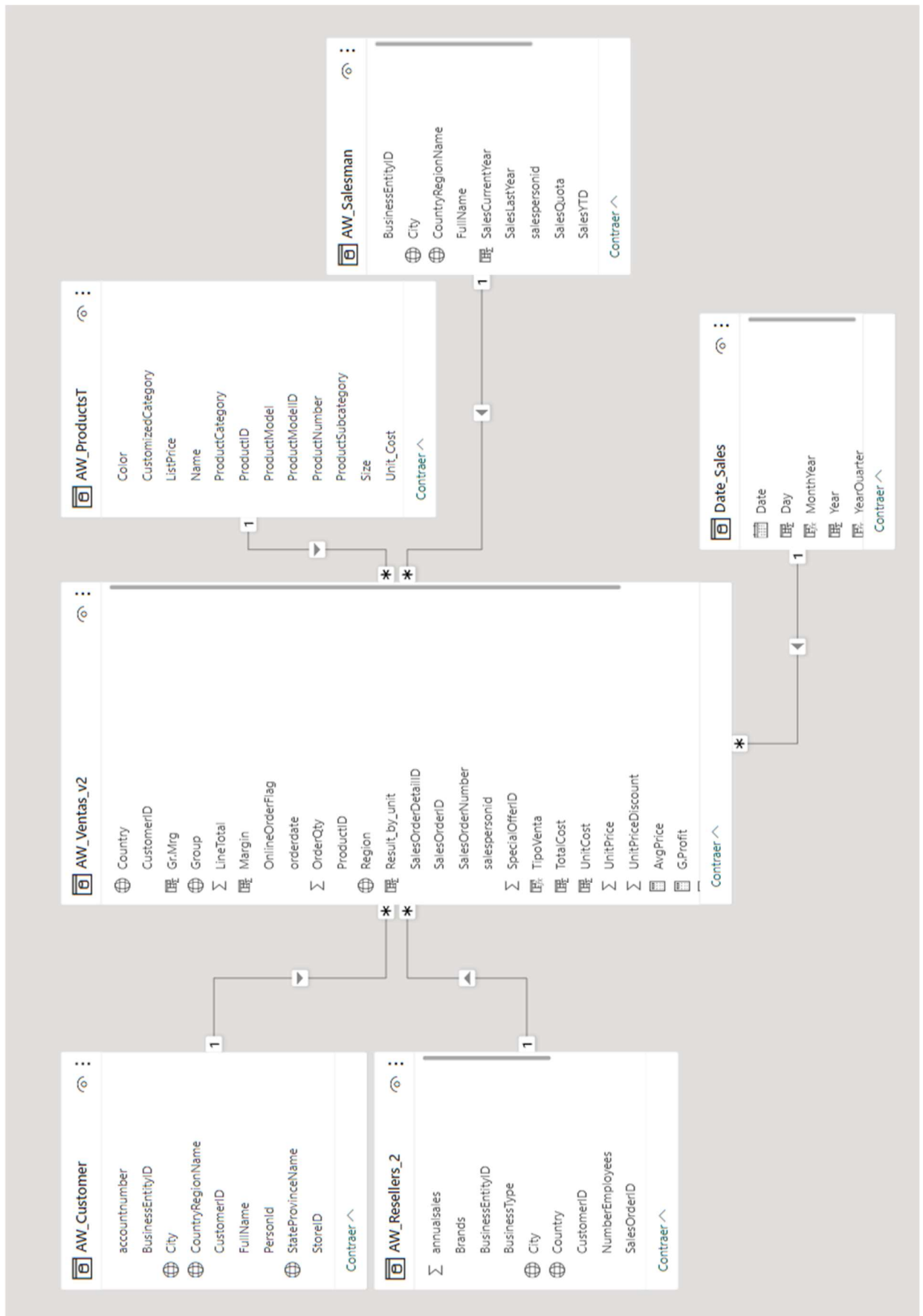


Figure 1 – Star Scheme Sells.

## Dimension Fact : Sells (Ventas)

```
CREATE VIEW [dbo].[AW_Ventas_v2] as

SELECT
    a.SalesOrderDetailID,
    a.SalesOrderID,
    b.orderdate,
    a.OrderQty,
    a.ProductID,
    a.SpecialOfferID,
    a.UnitPrice,
    a.UnitPriceDiscount,
    a.LineTotal,
    b.OnlineOrderFlag,
    b.SalesOrderNumber,
    b.CustomerID,
    --b.TerritoryID,
    c.Name AS Region,
    c.CountryRegionCode AS Country,
    c.[Group]
FROM
    [Sales].[SalesOrderDetail] AS a
JOIN
    [Sales].[SalesOrderHeader] AS b
ON a.SalesOrderID = b.SalesOrderID
JOIN
    [Sales].[SalesTerritory] AS c
ON b.TerritoryID = c.TerritoryID;
GO
```

SELECT \*  
FROM [Adventureworks2019].[dbo].[AW\_Ventas\_v2];

100 %

	SalesOrderDetailID	SalesOrderID	orderdate	OrderQty	ProductID	SpecialOfferID	UnitPrice	UnitPriceDiscount	LineTotal	OnlineOrderFlag	SalesOrderNumber	CustomerID	Region	Country	Group
1	1	43659	2011-05-31 00:00:00.000	1	776	1	2024.994	0.00	2024.994000	0	SO43659	29825	Southeast	US	North America
2	2	43659	2011-05-31 00:00:00.000	3	777	1	2024.994	0.00	6074.982000	0	SO43659	29825	Southeast	US	North America
3	3	43659	2011-05-31 00:00:00.000	1	778	1	2024.994	0.00	2024.994000	0	SO43659	29825	Southeast	US	North America
4	4	43659	2011-05-31 00:00:00.000	1	771	1	2039.994	0.00	2039.994000	0	SO43659	29825	Southeast	US	North America
5	5	43659	2011-05-31 00:00:00.000	1	772	1	2039.994	0.00	2039.994000	0	SO43659	29825	Southeast	US	North America

**Figure 2 Dimension Fact: Sells**

## Dimension Table: ProductsT

```
CREATE VIEW [dbo].[AW_ProductsT] as

SELECT
    a.ProductID,
    c.Name AS ProductCategory,
    b.Name as ProductSubcategory,
    a.ProductModelID,
    a.Name,
    a.ProductNumber,
    d.ProductModel,
    a.Color,
    a.Size,
    a.StandardCost,
    a.ListPrice
FROM
    [Production].[Product] as a
JOIN    [Production].[ProductSubcategory] AS b
on a.ProductSubcategoryID = b.ProductSubcategoryID
JOIN    [Production].[ProductCategory] AS c
on b.ProductCategoryID = c.ProductCategoryID
join    [Production].[vProductAndDescription] as d
on a.ProductID = d.ProductID

GO
```

SELECT \*  
FROM [AdventureWorks2019].[dbo].[AW\_ProductsT];

100 %

Results Messages

	ProductID	ProductCategory	ProductSubcategory	ProductModelID	Name	ProductNumber	ProductModel	Color	Size	StandardCost	ListPrice
1	680	Components	Road Frames	6	HL Road Frame - Black, 58	FR-R928-58	HL Road Frame	Black	58	1059,31	1431,50
2	680	Components	Road Frames	6	HL Road Frame - Black, 58	FR-R928-58	HL Road Frame	Black	58	1059,31	1431,50
3	680	Components	Road Frames	6	HL Road Frame - Black, 58	FR-R928-58	HL Road Frame	Black	58	1059,31	1431,50
4	680	Components	Road Frames	6	HL Road Frame - Black, 58	FR-R928-58	HL Road Frame	Black	58	1059,31	1431,50
5	680	Components	Road Frames	6	HL Road Frame - Black, 58	FR-R928-58	HL Road Frame	Black	58	1059,31	1431,50

**Figure 3 Dimension Fact: ProductsT**

## Dimension Table Salesman

Create view [dbo].[Aw\_Salesman] as

```
select
    c.CustomerID as salespersonid,
    p.BusinessEntityID,
    concat(p.FirstName, ' ', p.LastName) as FullName,
    p.City,
    p.StateProvinceName,
    p.CountryRegionName,
    p.TerritoryName,
    p.TerritoryGroup,
    p.SalesQuota,
    p.SalesYTD,
    p.SalesLastYear

from
    [Sales].[vSalesPerson] as p
join
    Sales.Customer c
ON c.CustomerID = p.BusinessEntityID
GO
```

SELECT \*  
FROM [AdventureWorks2019].[dbo].[Aw\_Salesman];

100 %

	salespersonid	BusinessEntityID	FullName	City	StateProvinceName	CountryRegionName	TerritoryName	TerritoryGroup	SalesQuota	SalesYTD	SalesLastYear
1	274	274	Stephen Jiang	Redmond	Washington	United States	NULL	NULL	NULL	559697.5639	0.00
2	275	275	Michael Blythe	Detroit	Michigan	United States	Northeast	North America	300000.00	3763178.1787	1750406.4785
3	276	276	Linda Mitchell	Nevada	Utah	United States	Southwest	North America	250000.00	4251368.5497	1439156.0291
4	277	277	Jillian Carson	Duluth	Minnesota	United States	Central	North America	250000.00	3189418.3662	1997186.2037
5	278	278	Garrett Vargas	Calgary	Alberta	Canada	Canada	North America	250000.00	1453719.4653	1620276.8966

Figure 4 Dimension Fact: Salesman

## Dimension Table: customers.

```
CREATE VIEW [dbo].[AW_Customers] AS
SELECT
    c.CustomerID,
    c.PersonID,
    c.StoreID,
    c.AccountNumber,
    p.BusinessEntityID,
    CONCAT(p.FirstName, ' ', p.LastName) AS FullName,
    i.City,
    i.StateProvinceName,
    i.CountryRegionName
FROM
    Sales.Customer c
INNER JOIN
    Person.Person p
    ON c.PersonID = p.BusinessEntityID
INNER JOIN
    Sales.vIndividualCustomer i
    ON p.BusinessEntityID = i.BusinessEntityID;
GO
```

```
SELECT *
FROM [AdventureWorks2019].[dbo].[AW_Customers];
```

100 %

Results Messages

	CustomerID	PersonID	StoreID	AccountNumber	BusinessEntityID	FullName	City	StateProvinceName	CountryRegionName
1	15531	9196	NULL	AW00015531	9196	Calvin Raji	Bothell	Washington	United States
2	21353	17400	NULL	AW00021353	17400	Karen Wu	Bothell	Washington	United States
3	20281	5124	NULL	AW00020281	5124	Karl Xie	Bothell	Washington	United States
4	14255	17691	NULL	AW00014255	17691	Jonathan Jackson	Bothell	Washington	United States
5	18689	4073	NULL	AW00018689	4073	Miguel Miller	Bothell	Washington	United States

**Figure 5 Dimension Fact: customers**



## Dimension Table: Resellers

```

CREATE VIEW [dbo].[AW_Resellers_2] AS
SELECT
    s.BusinessEntityID,
    soh.SalesOrderID,
    c.CustomerID,
    c.StoreID,
    --s.Name AS StoreName,
    sd.Name AS StoreName,
    sa.City,
    sa.StateProvinceName,
    sa.CountryRegionName,
    sd.annualsales,
    sd.BusinessType,
    sd.YearOpened,
    sd.Specialty,
    sd.SquareFeet,
    sd.Brands,
    sd.NumberEmployees
FROM
    Sales.SalesOrderHeader soh
JOIN
    Sales.Customer c ON soh.CustomerID = c.CustomerID
JOIN
    Sales.Store s ON c.StoreID = s.BusinessEntityID

join
    [Sales].[vStoreWithDemographics] sd on s.BusinessEntityID = sd.BusinessEntityID

join [Sales].[vStoreWithAddresses] sa on sd.BusinessEntityID = sa.BusinessEntityID

--SELECT * FROM [Sales].[vStoreWithAddresses]
GO

```

100 %

SELECT \*  
FROM [Adventureworks2019].[dbo].[AW\_Resellers\_2]

Results Messages

	BusinessEntityID	SalesOrderID	CustomerID	StoreID	StoreName	City	StateProvinceName	CountryRegionName	annualsales	BusinessType	YearOpened	Specialty	SquareFeet	Brands	NumberEmployees
1	292	44132	29484	292	Next-Door Bike Store	Memphis	Tennessee	United States	800000.00	BM	1996	Mountain	21000	2	13
2	292	45579	29484	292	Next-Door Bike Store	Memphis	Tennessee	United States	800000.00	BM	1996	Mountain	21000	2	13
3	292	46389	29484	292	Next-Door Bike Store	Memphis	Tennessee	United States	800000.00	BM	1996	Mountain	21000	2	13
4	292	47454	29484	292	Next-Door Bike Store	Memphis	Tennessee	United States	800000.00	BM	1996	Mountain	21000	2	13
5	292	48395	29484	292	Next-Door Bike Store	Memphis	Tennessee	United States	800000.00	BM	1996	Mountain	21000	2	13

Figure 6 Dimension Fact: Resellers

# DATA ANALYSIS

## Introduction

Adventure Works is a fictional company dedicated to manufacturing and selling bicycles, as well as cycling apparel, equipment, and accessories.

## Main Business Lines

1. Bicycle Sales - Represents 87% of total sales.
2. Bicycle Components Sales - Contributes 10% to total sales.
3. Apparel and Accessories Sales - Marginal contribution to total sales.

Adventure Works' primary business is clearly focused on bicycle sales, with a sustained growth trend and a threefold increase from the beginning. Component sales also show strong growth, having increased fivefold, while other lines remain stable in terms of sales volume.

## Markets and Regional Contribution

The company operates in three primary markets:

- North America (USA and Canada): Contributes 72% of sales.
- Europe (UK, Germany, and France): Contributes 18% of sales.
- Pacific (Australia): Accounts for the remaining 10%.

Insight: Although most sales occur in North America, the profit margin distribution is inversely proportional:

- Pacific, which accounts for only 10% of sales, yields the highest profit margin at 45%.
- Europe contributes a 35% margin.
- North America, despite being the largest market, has the lowest profit margin at 22%.

## Sales Model and Channels:

Adventure Works primarily follows an in-store sales model, representing 70% of sales, distributed across three sales channels:

1. AW (Adventure Works) - Brand-owned stores.
2. BS (Bike Shops) - Cycling specialty stores or chains.
3. OS (Other Specialty) - General sports retail chains.

The dominance of in-store sales suggests that Adventure Works has successfully consolidated its physical sales presence, supported by its brand-owned stores and a network of cycling specialty stores. This approach leverages both brand presence and local market expertise.

## Bicycles

The bicycle sales business is divided into three lines:

- Mountain - Represents 39% of sales but accounts for 62% of total profit.
- Road - Contributes 46% of sales and 35% of total profit.
- Touring - A minor category, accounting for 15% of sales and only 3% of profit.

The profit margin for this business line stands at 8.5%. With a 10% benchmark for product performance, here's the breakdown:

- Mountain: Consists of five models, with three models below the threshold.
- Road: Comprises seven models, of which three fall below the threshold.
- Touring: Contains three models, all of which are below the threshold.

The Mountain line is the most profitable, primarily due to the second best-selling model, the Mountain-200, which delivers the highest unit profit of \$268 with a 24.5% margin.

The Road line, which has the highest sales volume, is not the most profitable. A quick summary reveals that the company's best-selling model, the Road-650, with 17,609 units sold, incurs an average loss of \$26 per unit, resulting in a total loss of \$457,000. Addressing this issue should be a priority for the company's management.

Similarly, the Touring line is underperforming with a 1.5% margin, due to the Touring-3000. With 5,700 units sold, it generates a negative return of \$32.76 per unit, totaling a \$187,000 loss.

General Summa						
Category	Qty	Sales	Margin	AvgPrice	UnitCost	Gr.Mgn
<b>Mountain Bikes</b>	<b>28321</b>	<b>36.445.443,9</b>	<b>13,3 %</b>	<b>1.286,87</b>	<b>1.251,98</b>	<b>688,43</b>
Mountain-400-W	1828	1.010.283,1	28,3 %	552,67	419,78	132,89
Mountain-200	14596	22.245.174,6	24,5 %	1.526,87	1.251,98	268,07
Mountain-300	2947	1.907.249,4	7,6 %	647,18	598,44	48,75
Mountain-100	4951	9.910.079,3	-4,4 %	2.001,63	1.898,09	96,51
Mountain-500	3999	1.331.657,5	-12,8 %	333,00	308,22	31,60
<b>Road Bikes</b>	<b>47196</b>	<b>43.909.437,5</b>	<b>8,1 %</b>	<b>930,36</b>	<b>713,08</b>	<b>45,66</b>
Road-150	2652	7.913.701,9	28,9 %	2.984,05	2.171,29	812,76
Road-750	4442	1.745.285,2	19,6 %	392,91	343,65	49,26
Road-350-W	4579	5.246.152,0	14,2 %	1.145,70	1.082,51	63,19
Road-250	8587	13.833.995,4	10,0 %	1.611,04	1.554,95	56,09
Road-550-W	7183	5.183.006,2	7,4 %	721,57	713,08	8,49
Road-450	2144	1.874.406,5	-1,1 %	874,26	884,71	-10,45
Road-650	17609	8.112.890,2	-4,6 %	460,72	486,71	-25,98
<b>Touring Bikes</b>	<b>14751</b>	<b>14.296.291,3</b>	<b>2,2 %</b>	<b>969,17</b>	<b>755,15</b>	<b>214,02</b>
Touring-2000	2690	2.133.111,9	9,1 %	792,98	755,15	37,83
Touring-1000	6352	9.715.802,1	6,7 %	1.529,57	1.481,94	47,63
Touring-3000	5709	2.447.377,3	-6,6 %	428,69	461,44	-32,76
<b>Total</b>	<b>90268</b>	<b>94.651.172,7</b>	<b>8,8 %</b>	<b>1.048,56</b>	<b>884,71</b>	<b>335,48</b>

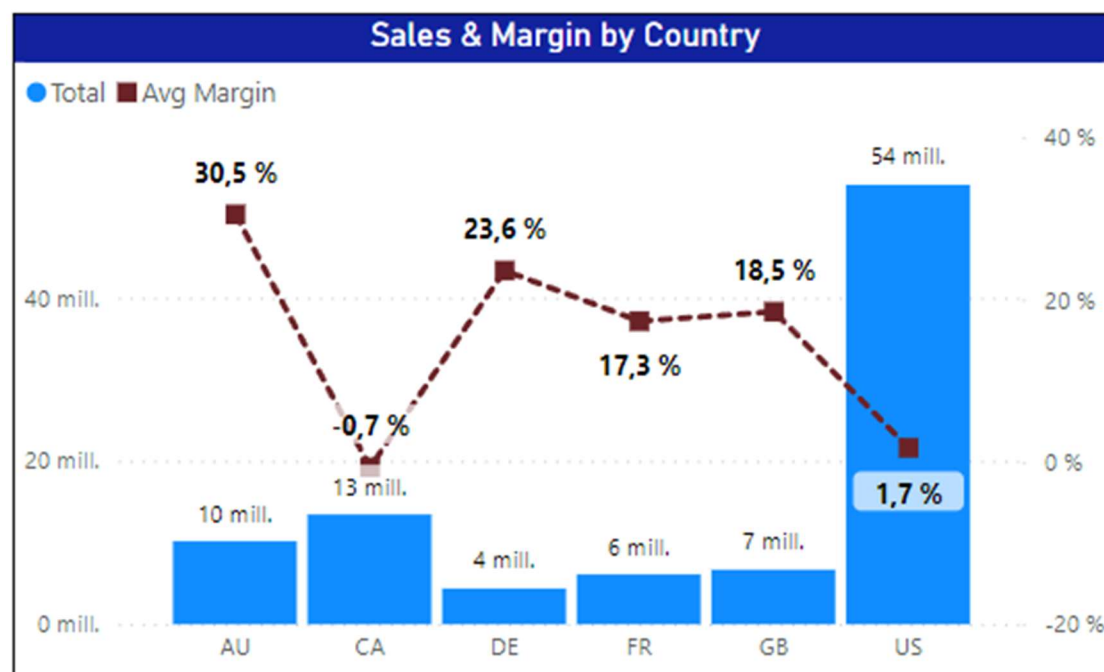


Figure 7 Product: Bikes

## Performance by Sales Channel

Since Adventure Works operates through both in-store and online sales, identifying the weaker channel is essential.

The online sales channel is performing strongly, with a consistent 38% margin across all three markets. Additionally, margins for various product lines exceed 30%.

All products in all lines are performing above 30% online, indicating that production costs are well absorbed by online pricing, which provides uniform and optimal margins. Notably, total profit for both markets (in-store and online) amounts to \$7.9 million, but online alone, accounting for 30% of total sales, generates \$11.1 million in profit. Therefore, all reductions in final profit come from the in-store market.

Key Point: The company's best-selling product, Road-450, is not available online.

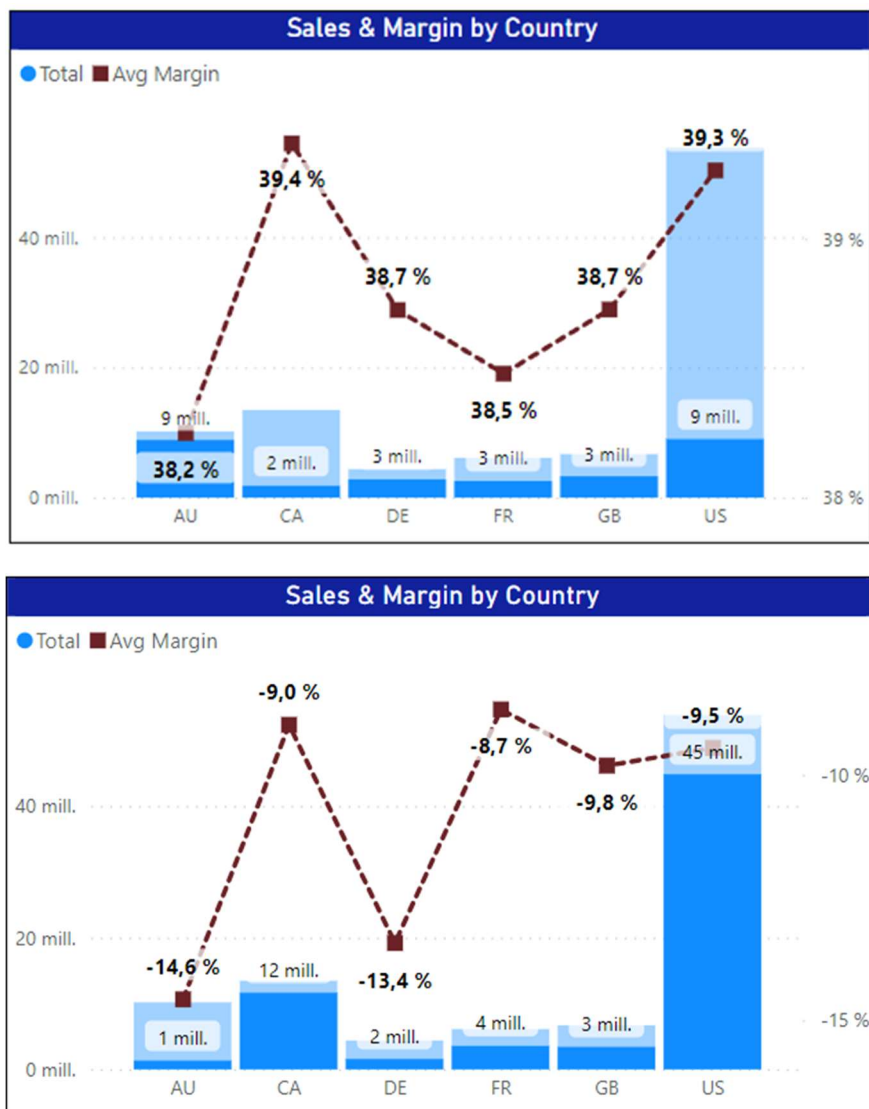


Figure 8 Product: Bikes Sales Online VS Inline Channel



General Summary						
Category	Qty	Sales	Margin	AvgPrice	UnitCost	Gr.Mgn
▣ Mountain Bikes	4970	9.952.759,6	43,9 %	2.002,57	1.251,98	1.404,13
Mountain-500	479	264.330,2	45,4 %	551,84	294,58	250,44
Mountain-400-W	543	417.833,1	45,4 %	769,49	419,78	349,71
Mountain-100	396	1.341.121,0	43,8 %	3.386,67	1.898,09	1.481,54
Mountain-200	3552	7.929.475,2	43,5 %	2.232,40	1.251,98	973,60
Mountain-300						-598,44
▣ Touring Bikes	2167	3.844.801,0	37,8 %	1.774,25	1.481,94	1.019,10
Touring-1000	1255	2.992.007,8	37,8 %	2.384,07	1.481,94	902,13
Touring-2000	372	451.924,2	37,8 %	1.214,85	755,15	459,70
Touring-3000	540	400.869,0	37,8 %	742,35	461,44	280,91
▣ Road Bikes	8068	14.520.584,0	35,9 %	1.799,77	1.082,51	915,07
Road-150	1551	5.549.896,8	39,3 %	3.578,27	2.171,29	1.406,98
Road-750	1443	779.205,6	36,4 %	539,99	343,65	196,34
Road-350-W	929	1.580.219,7	36,4 %	1.700,99	1.082,51	618,48
Road-650	852	645.379,5	35,6 %	757,49	486,71	270,78
Road-550-W	1390	1.514.622,4	34,4 %	1.089,66	713,08	376,58
Road-250	1903	4.451.260,1	33,7 %	2.339,08	1.554,95	784,13
Road-450						-884,71
<b>Total</b>	<b>15205</b>	<b>28.318.144,7</b>	<b>38,8 %</b>	<b>1.862,42</b>	<b>1.251,98</b>	<b>1.149,34</b>

**Figure 9 Product: Bikes Sales General Summary**

In in-store markets, all lines are operating at a loss except for Mountain Bikes. The breakdown of losses is as follows:

- Road - \$2.5 million in losses.
- Touring - \$1.23 million in losses.

#### Recommendations for Management:

1. Boost Online Sales: The company should prioritize online sales, where it consistently achieves strong margins and profitable results.
2. Enhance Sales in Brand-Owned Stores: Focusing on sales in Adventure Works' own stores can help improve profitability by leveraging brand loyalty and reducing reliance on third-party retailers.
3. Revise Pricing Strategy: To address in-store losses, management should consider adjusting the pricing strategy across product lines, especially for the Road and Touring categories, to close the gap between cost and sales price.

[illegible]

### Figure 10 Product: Bikes Profit Detail by Channels

Adventure Works operates through three main sales channels outside of online retail: Bike Shops (BM), Company-Owned Stores (BS), and General Sports Retailers (OS).

Number Shop By Reseller Type				
Country	BM	BS	OS	Total
⊕ Australia	12	12	10	34
⊕ Canada	36	33	37	106
⊕ France	9	12	13	34
⊕ Germany	11	9	12	32
⊕ United Kingdom	11	12	15	38
⊕ United States	137	122	132	391
<b>Total</b>	<b>216</b>	<b>200</b>	<b>219</b>	<b>635</b>

**Figure 11 Number of shops by reseller type.**

Adventure Works face substantial challenges across all physical retail channels, which are collectively incurring losses. Let's start by reviewing each channel individually:

1. BM – Bike Shops

- These are specialized bike retailers, yet they report an overall loss of \$1.4 million, yielding a profit margin of -3.9%.
- A deeper dive shows that within this channel, the Road and Touring bike lines are underperforming significantly, with negative profit margins of -8.2% and -10%, respectively.
- Particularly problematic are three specific models in the Road line: Road-250 (-\$608K), Road-550W (-\$255K), and Road-650 (-\$238K), which together account for a total loss of \$1.1 million or 90% of the losses in this segment.
- Similarly, the Touring line suffers from severe losses concentrated in the Touring-1000 (-\$233K) and Touring-3000 (-\$121K), contributing a combined loss of \$354K.

2. BS – Business-Owned Stores

- These are Adventure Works' own retail outlets. They show an overall profit margin of -3.9%, like BM. However, despite having a comparable number of stores as other channels, BS has the lowest sales volume.
- Additionally, Business-Owned Stores do not offer the full range of Mountain bikes. They exclusively sell high-end models, excluding the Mountain 300, 400-W, and 500 models, which could be limiting sales potential in this category.



- The Road line, fully stocked across all models, is proving unprofitable in every case, with Road-650 (-\$95K) and Road-350W (-\$37K) driving 87% of the total losses in this category, amounting to -\$130K.

### 3. OS – Other Sports Retailers

- This channel is the most problematic for Adventure Works, incurring the highest losses across all channels.
- Mountain bike sales are underperforming, notably with the Mountain-100 model, which alone generates a -\$165K loss.
- The Road line is especially challenging here, with four high-loss models: Road-250 (-\$331K), Road-350W (-\$175K), Road-550W (-\$202K), and Road-650 (-\$355K). These models account for 95% of the Road line's total losses within this channel.
- OS is also the largest seller of Touring bikes, yet the Touring line's performance is weak, particularly with the Touring-1000 (-\$513K) and Touring-3000 (-\$187K) models. These two models alone account for 95% of the losses in the Touring category within this channel.

## Insights and Analysis

From this analysis, several clear patterns emerge:

- **Profitability is Negative Across Channels:** Excluding online retail, all channels are running at a loss, with OS representing the most significant deficit. The profitability issues extend across almost all product lines, signaling a need for targeted restructuring.
- **Product Line Masking Effects:** The Mountain line, despite having certain high-selling models, masks deeper profitability issues across other lines. Adventure Works needs to analyze whether the high sales volume in Mountain is sustainable or simply covering up broader inefficiencies.
- **Critical Loss Concentration in Specific Models:** The losses are not evenly distributed but rather concentrated in particular models, notably the Road-250, Road-550W, and Road-650 in the Road line and Touring-1000 and Touring-3000 in the Touring line. Identifying and addressing these underperforming models is key to improving profitability.

## Final Recommendations

In conclusion, we suggest a strategic pivot based on these insights:

1. **Review and Rationalize Product Offerings:** Given the high losses associated with specific Road and Touring models, a careful evaluation should be conducted to determine whether these models should be retained, adjusted, or phased out. Focus on strengthening models with positive or near-positive margins.

2. **Channel-Specific Inventory Adjustments:** Especially for the Business-Owned Stores (BS), which lack Mountain models 300, 400-W, and 500, offering a broader product range could stimulate demand and diversify revenue streams. Meanwhile, OS, which incurs the highest losses, may benefit from selective reduction or changes in product offerings to mitigate further financial drain.
3. **Focus on the Mountain Line and Profitability Testing:** Given that the Mountain line shows some resilience across channels, consider testing profitability improvements in this line, potentially through targeted pricing or promotional strategies.
4. **Channel Realignment:** It may be worth re-evaluating the role of each channel. For instance, while OS has higher volume sales, it is a significant source of losses. A channel restructuring or transition towards more profitable online sales could help mitigate ongoing losses.

In sum, Adventure Works has an opportunity to turn around its retail operations by strategically adjusting product offerings, fine-tuning channel inventory, and refocusing on sustainable, profitable models. With these adjustments, the company can move toward a more balanced and profitable retail portfolio.

## Components

This is Adventure Works' second most important business activity, representing 10.73% of the company's total revenue.

To consolidate information effectively, components have been grouped into several categories:

- Frames and Forks: for various types of bicycles.
- Wheels.
- Drivetrain: All transmission components.
- Cockpit: Handlebars.
- Seating: Seats.

Insight: Margins across all markets remain steady at around 10-15%, and all component sales occur online. It is noteworthy that the company does not conduct any in-store sales, even for larger components like frames and wheels.

Performance across lines is also consistent, with a roughly 25% margin in each category except for Frames and Forks. This key category has a flat performance, pulling down the overall average margin significantly.

Additional Observation: Frames, like bicycles, are incurring losses, particularly in road frames, with a total loss of \$200K. Touring frames also need monitoring, as they currently yield no margin.

Recommendation: Excluding Frames and Forks from this line would increase the average margin to 25%, which could improve overall profitability.

Sales Quantity	Total Sales	Total Cost	Profit	Margin Profit
48,8 mil	11,8 mill.	11,3 mill.	0,5 mill.	4,1 %

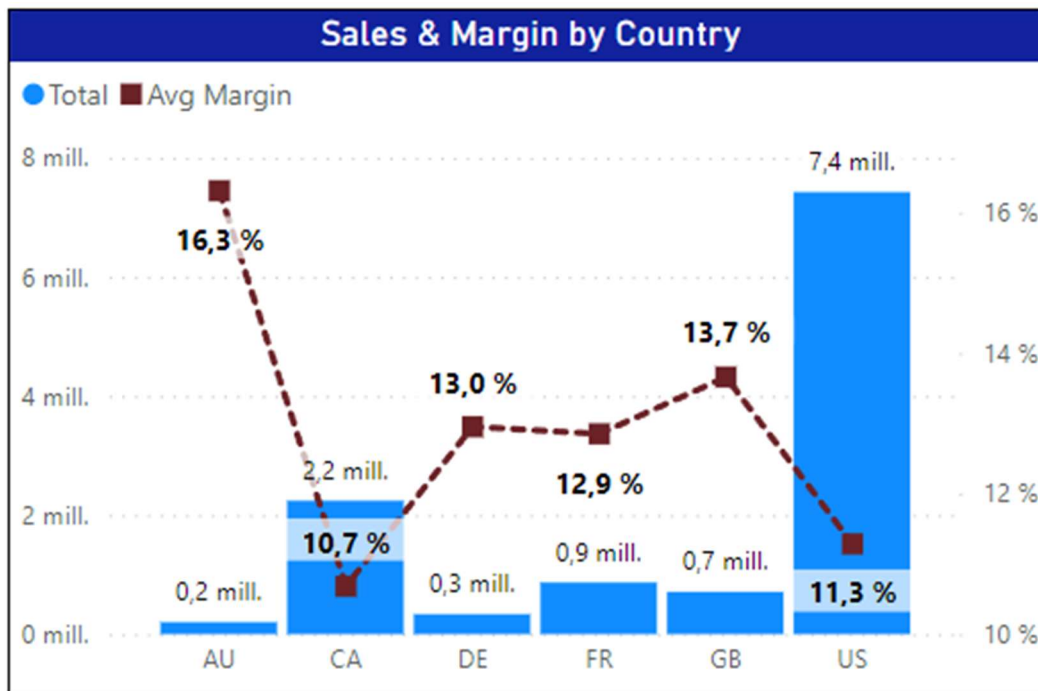


Figure 12 Product: Components margins by country

General Summary						
Category	Qty	Sales	Margin	AvgPrice	UnitCost	Gr.Mgn
Frames & Forks	27733	10.285.540,2	1,7 %	370,88	204,63	166,25
Wheels	5273	680.831,4	26,0 %	129,12	104,80	22,33
Drivetrain	7899	482.840,1	26,0 %	61,13	35,96	25,17
Cockpit	4959	231.533,5	23,1 %	46,69	27,49	19,20
Seatings	2145	55.829,4	26,0 %	26,03	23,37	8,65
Brakes	789	50.299,3	26,0 %	63,75	47,29	16,46
<b>Total</b>	<b>48798</b>	<b>11.786.873,9</b>	<b>11,6 %</b>	<b>241,54</b>	<b>185,82</b>	<b>55,72</b>

▢ Road Frames	11753	3.851.350,6	-3,7 %	327,69	204,63	-24,45
HL Road Frame	1648	1.344.209,6	-6,7 %	815,66	868,63	-52,97
LL Road Frame	6343	1.227.310,0	-1,8 %	193,49	187,16	-2,40
ML Road Frame-W	3422	1.158.485,7	-6,6 %	338,54	360,94	-22,40
ML Road Frame	340	121.345,3	1,3 %	356,90	352,14	4,76
▢ Touring Frames	3725	1.642.327,7	0,0 %	440,89	601,74	241,04
HL Touring Frame	2248	1.347.457,7	0,0 %	599,40	601,74	-2,34
LL Touring Frame	1477	294.869,9	0,1 %	199,64	199,85	-0,21

Figure 13 Product: Components margins by line with Frames detail

## Accessories

Accessories represent a marginal portion of the company's total revenue, at only 1.3%. Despite the high sales volume of low-priced products, this line achieves the highest profit margin of 50%. Sales volume is evenly split between in-store and online channels, with profit margins remaining stable across both.

Product Categories: Accessories are grouped into four main categories:

- Hydration – Products for cyclist hydration.
- Maintenance – Cleaning supplies and small replacement parts.
- Safety – Helmets, lights, and locks.
- Storage – Bike storage racks.

Insight: Half of the total profit in this category comes from Hydration and Maintenance products.

Top-Selling Products:

- Helmets - \$228K in sales.
- Tires and Tubes - \$77K in sales.

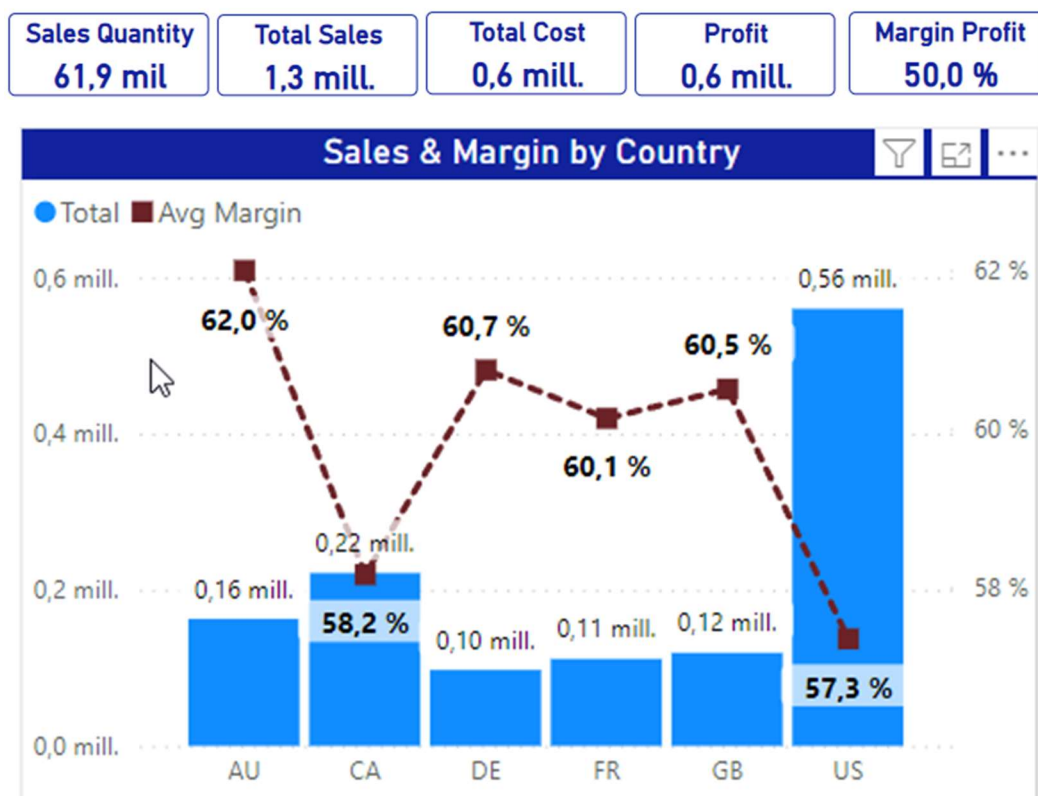


Figure 14 Product: Accessories margins by country

## Clothes

This is another high-volume, low-priced product category. In this case, 85% of sales are made in-store.

The average overall margin is 14.6%, with a significant difference between in-store and online sales margins: in-store margins are 9.7%, while online margins are much higher at 40.1%.

The decrease in in-store margins is primarily due to:

- **Long-Sleeve Jersey** - \$113K in losses.
- **Short-Sleeve Jersey** - \$75K in losses.

These two products are critical as they are among the top sellers, along with gloves and shorts.

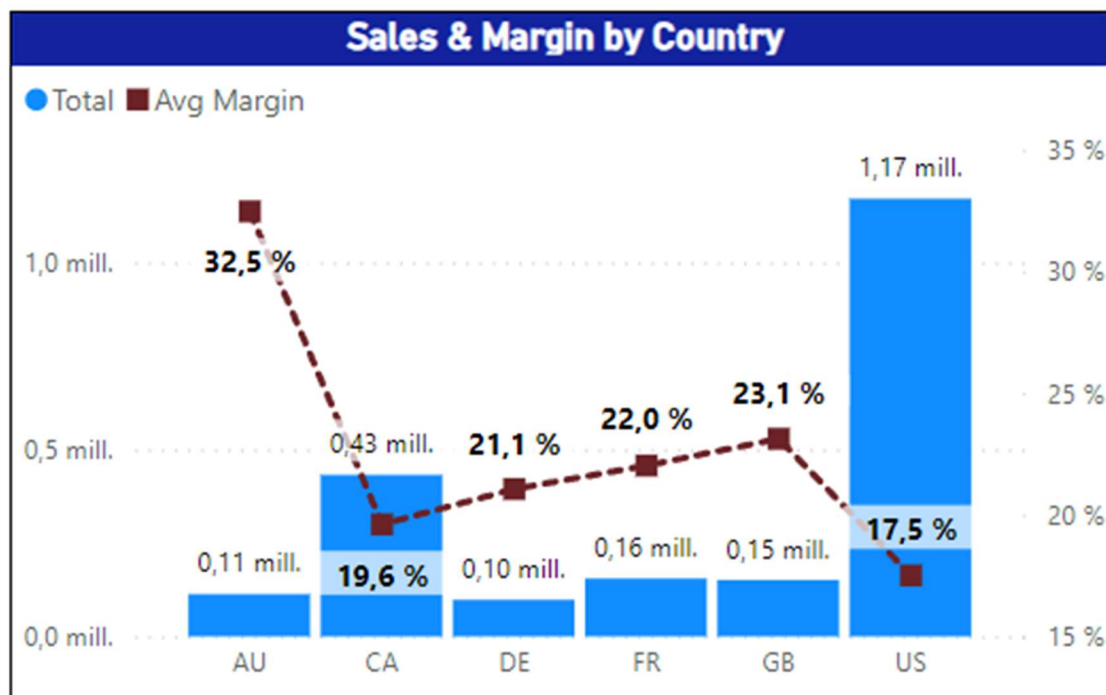


Figure 15 Product: Clothes margins by country

## FINAL CONCLUSIONS

Adventure Works, is a fictional bicycle and cycling gear company, focuses primarily on three product categories: bicycles (87% of sales), bicycle components (10% of sales), and apparel and accessories (3% of sales). Bicycle sales, the company's main revenue stream, have shown steady growth, increasing threefold. Component sales have also grown, while other lines have remained stable.

**Market and Regional Profitability** Adventure Works operate in three primary regions: North America (72% of sales), Europe (18%), and the Pacific region (10%). Despite North America being the largest market, it has the lowest profit margin (22%), whereas the Pacific region delivers the highest margin (45%). This inverse relationship between sales volume and profit margin highlights an opportunity to optimize profitability strategies across regions.

**Sales Model and Channels** Adventure Works generates 70% of its sales through physical stores, including:

1. **Brand-Owned Stores (BS)** - Adventure Works' own outlets.
2. **Bike Shops (BM)** - Specialized cycling stores.
3. **General Sports Retailers (OS)** - Broader sports retail outlets.

**Bicycles Line Analysis** The bicycle line, the company's core business, consists of three categories:

- **Mountain Bikes** - Represent 39% of sales but 62% of total profit, driven by the high-margin Mountain-200 model.
- **Road Bikes** - Comprise 46% of sales yet only 35% of profit. The best-selling Road-650 model incurs losses, pointing to a need for review.
- **Touring Bikes** - Account for 15% of sales and just 3% of profit, with the Touring-3000 model notably underperforming.

All lines are struggling in physical stores except for Mountain Bikes. The Road and Touring categories collectively produce losses of \$3.73 million across these channels, while the online channel, which accounts for 30% of total sales, consistently achieves strong margins (above 30%).

### Channel-Specific Insights

1. **Bike Shops (BM)** - Shows an overall loss of \$1.4 million, mainly due to the underperformance of Road and Touring models.
2. **Brand-Owned Stores (BS)** - This channel has the lowest sales volume. Additionally, it only offers high-end Mountain models, limiting potential sales. Road line models, such as the Road-650 and Road-350W, account for 87% of losses here.

3. **Other Sports Retailers (OS)** - This is the most problematic channel, with \$2.5 million in Road bike losses and \$700K in Touring losses, mainly concentrated in models such as the Road-250 and Touring-1000.

**Components Line** Components contribute 10.73% to total sales. Key categories include Frames and Forks, Wheels, Drivetrains, Cockpits, and Seating. Although margins are stable at 10-15%, Frames and Forks are underperforming, particularly for Road frames, which incur a \$200K loss. Excluding this subcategory would improve overall margins to around 25%.

### **Accessories and Apparel Lines**

- **Accessories** - Comprising 1.3% of sales, this line achieves a high margin (50%), with half of the profit derived from Hydration and Maintenance products.
- **Apparel** - A high-volume, low-margin line with average margins at 14.6%. In-store sales (85% of volume) generate only a 9.7% margin compared to a 40.1% online margin. High losses come from popular items like the Long-Sleeve Jersey (-\$113K) and Short-Sleeve Jersey (-\$75K).

### **Key Insights**

- **Negative Profitability in Physical Retail** - All in-store channels are incurring losses, especially within the OS channel. Strategic adjustments are needed across in-store channels.
- **Model-Specific Profitability Issues** - Losses are highly concentrated in specific models, notably the Road-250, Road-550W, and Road-650 in Road Bikes, and Touring-1000 and Touring-3000 in Touring Bikes. Addressing these models could significantly improve margins.
- **Online Sales Potential** - Online sales are profitable across all categories and regions, suggesting a shift toward prioritizing online growth.

### **Final Recommendations**

1. **Enhance Online Sales** - Focus on expanding online sales where margins are consistently higher.
2. **Optimize Brand-Owned Stores** - Adjust inventory to increase sales in BS stores, leveraging brand loyalty and possibly expanding the Mountain line.
3. **Revise Pricing Strategies** - Adjust in-store pricing for underperforming models in Road and Touring categories to better align with production costs.
4. **Rationalize Product Offerings** - Evaluate the feasibility of retaining or phasing out low-performing models to improve the overall margin structure.

In summary, Adventure Works could benefit from recalibrating its product and channel strategies, particularly by emphasizing profitable models, optimizing in-

store offerings, and expanding online sales. This approach would support sustainable, balanced growth across all sales channels and product lines.

