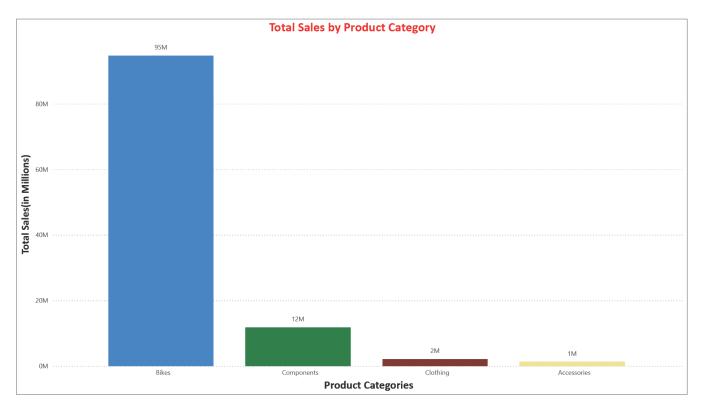
Title: Total Sales by Product Category

This report analyzes total sales across product categories for AdventureWorks, a fictional manufacturing company. Using the AdventureWorks sample database, the report provides insights into sales performance for categories such as Bikes, Components, Clothing, and Accessories. The goal is to help decision-makers identify top-performing products and uncover opportunities for growth. Power BI's data visualization tools allow for interactive exploration and analysis.



As shown in the chart, Bikes lead total sales with over \$90 million, while Accessories trail with around \$1 million in sales.

Key Data Insights:

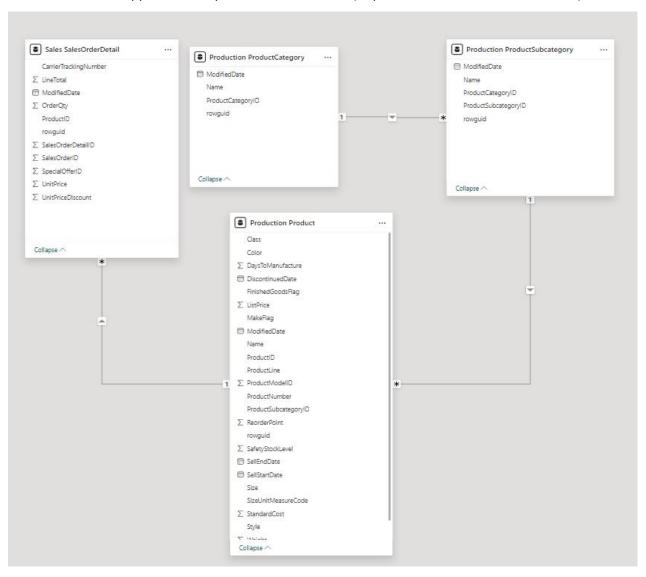
- Bikes generated the highest sales revenue, contributing over \$90 million to the total sales.
- Components came in second with total sales of approximately \$11.8 million.
- Clothing and Accessories had lower sales, contributing \$2.1 million and \$1.27 million respectively.
- Bikes dominate the product sales, indicating a key area of revenue generation for AdventureWorks, while Accessories appear to be a lower-performing category, potentially signaling an area for improvement or targeted marketing.

Here's the Entity Relationship Diagram (ERD) description for the AdventureWorks data model:

	Production ProductSubcategory					Production Product		
		PK	ProductSubcategoryID	int	H	PK	ProductID	int
	4	FK	ProductCategoryID	int		FK	ProductModelID	int
			Name	nvarchar(50)		FK	ProductSubcategoryID	int
			ModifiedDate	datetime	one-to-many	FK	SizeUnitMeasureCode	nchar(3)
one-to-many	1		rowguld	uniqueldentifier		FK	WeightUnitMeasureCode	nchar(3)
							Name	nvarchar(50)
			Production Product	Category			ProductNumber	nvarchar(25)
		DV		int			MakeFlag	bit
	٦	PK					FinishedGoodsFlag	bit
	_			nvarchar(50) datetime			Color	nvarchar(15)
	_						SafetyStockLevel	smallint
	l		rowguid	uniqueidentifier			ReorderPoint	smallint
		Sales SalesOrderDetail			5		StandardCost	money
		PK	SalesOrderDetailID	int	_		ListPrice	money
		FK	SalesOrderID	int			Size	nvarchar(5)
		FK	SpecialOfferID	int			Weight	decimal
		FK	CarrierTrackingNumber				DaysToManufacture	int
	-		_	smallint			ProductLine	nchar(2)
	-		OrderQty ProductID	int			Class	nchar(2)
	-		UnitPrice				Style	nchar(2)
	-		UnitPriceDiscount	money			SellStartDate	datetime
	4		LineTotal	numeric			SellEndDate	datetime
	4		ModifiedDate	datetime			DiscontinuedDate	datetime
							ModifiedDate	datetime
	Ų		rowguid	uniqueidentifier	J		rowguid	uniqueldentifier

Entity Relationship Diagram Description:

- 1. Production.ProductCategory has a one-to-many relationship with Production.ProductSubcategory.
 - o Each Product Category can have multiple Product Subcategories.
- 2. Production.ProductSubcategory has a one-to-many relationship with Production.Product.
 - o Each Product Subcategory can have multiple Products.
- 3. Production.Product has a one-to-many relationship with Sales.SalesOrderDetail.
 - o Each Product can appear in multiple Sales Order Details (as part of different sales transactions).



SQL Query to validate the results of Power BI

```
SELECT w.Name, SUM(w.lineTotal_Sum) 'Total Sales'
from
FROM (
 SELECT v.ProductId, v.lineTotal Sum, v.ProductSubcategoryID, v.ProductCategoryID, c.Name
 FROM (
    SELECT u.ProductId, u.lineTotal Sum, u.ProductSubcategoryID, s.ProductCategoryID
    FROM (
      SELECT t.ProductId, t.lineTotal_Sum, p.ProductSubcategoryID
      FROM (
        SELECT ProductId, SUM(lineTotal) AS lineTotal_Sum
        FROM Sales.SalesOrderDetail
        GROUP BY ProductId
     ) t
      INNER JOIN Production.Product p ON p.ProductID = t.ProductId
    ) u
    INNER JOIN Production.ProductSubcategory s ON s.ProductSubcategoryID = u.ProductSubcategoryID
 INNER JOIN Production.ProductCategory c ON c.ProductCategoryID = v.ProductCategoryID
) w
GROUP BY w.Name;
```

Category	Total Sales				
Accessories	1, 272, 072.883926				
Bikes	94, 651, 172.704731				
Clothing	2, 120, 542.524801				
Components	11, 802, 593.286430				