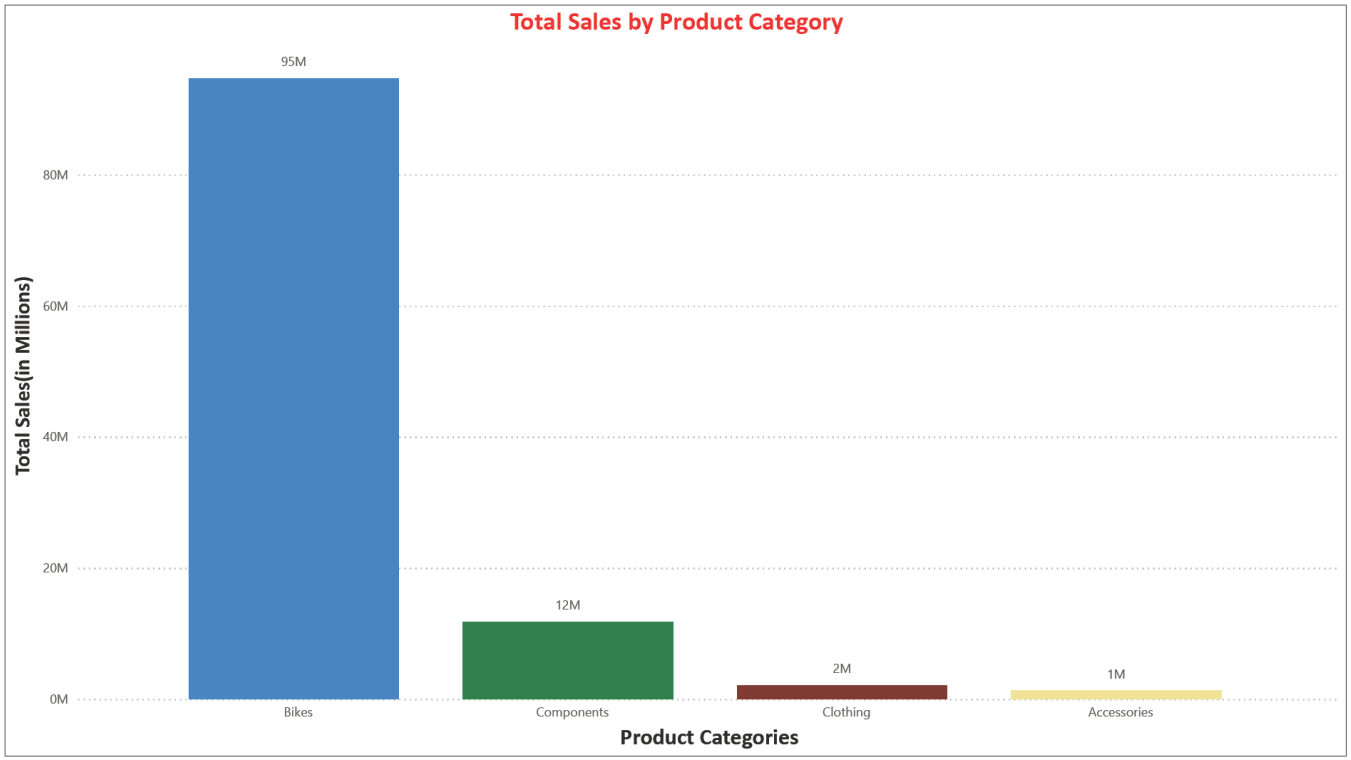
Title: Total Sales by Product Category

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.

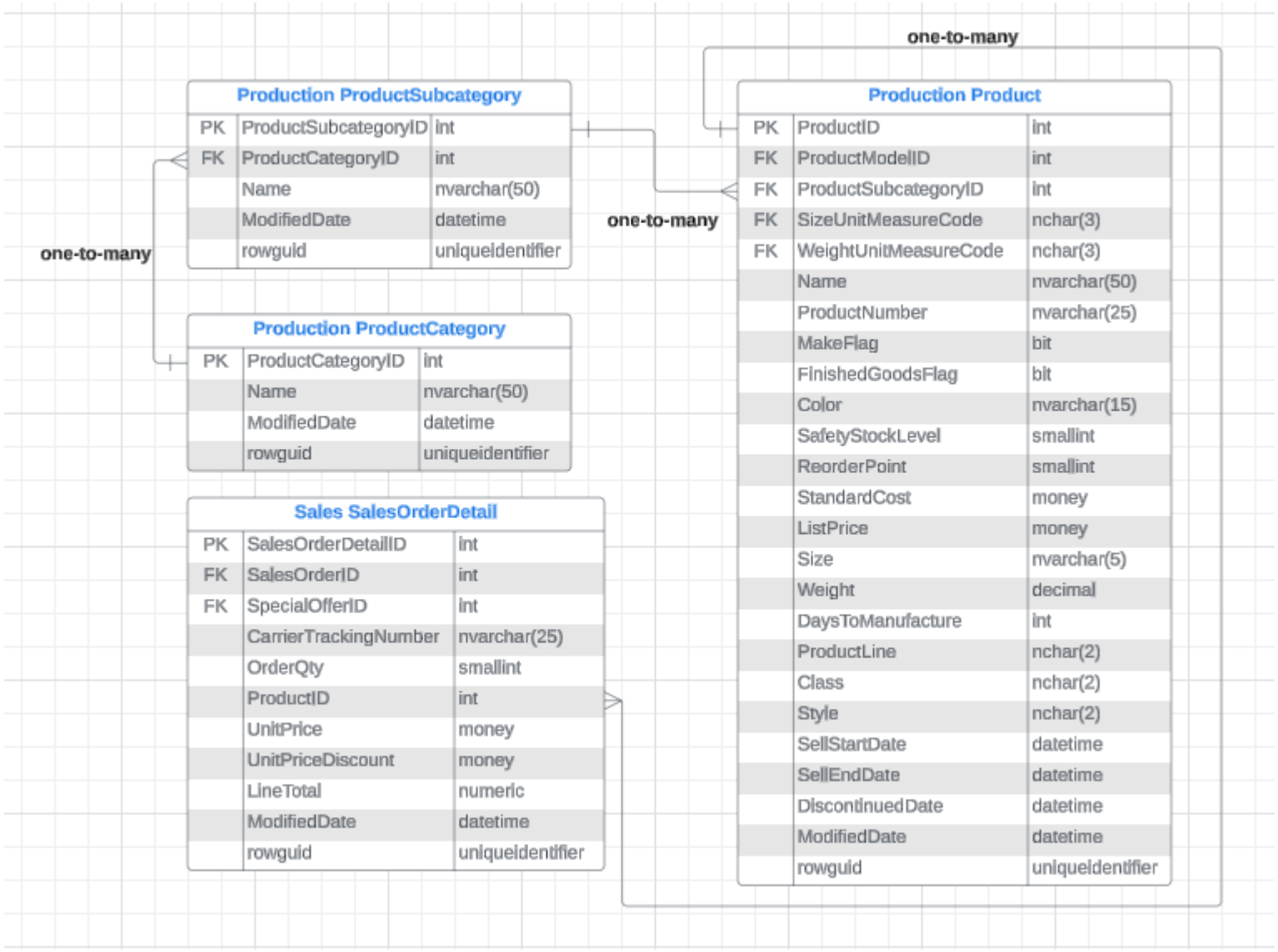


As shown in the chart, **Bikes** lead total sales with over **$90 million**, while **Accessories** trail with around **$1 million** in sales.

Key Data Insights:

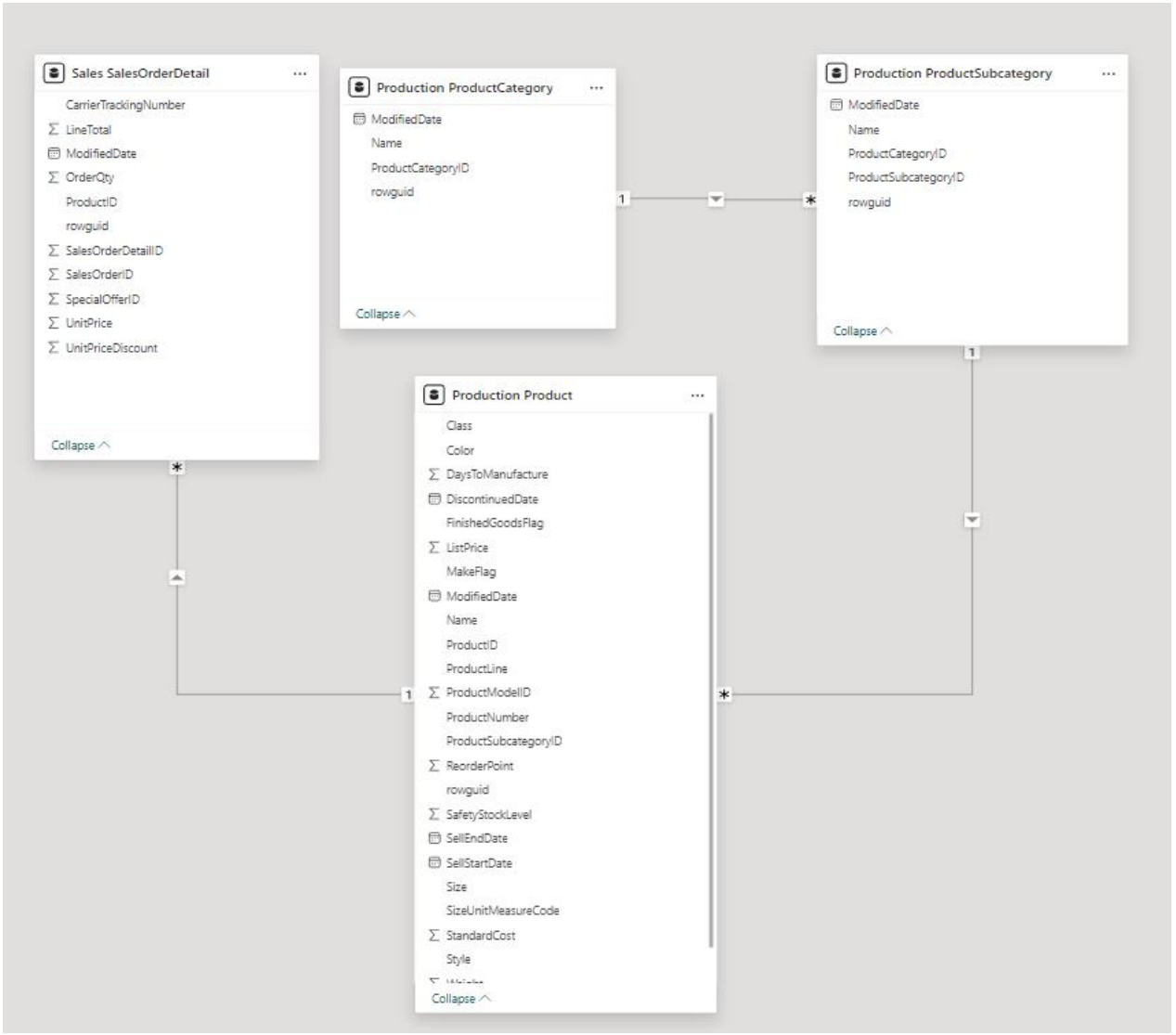
- Bikes generated the highest sales revenue, contributing over $90 million to the total sales.
- Components came in second with total sales of approximately $11.8 million.
- Clothing and Accessories had lower sales, contributing $2.1 million and $1.27 million respectively.
- Bikes dominate the product 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:



Entity Relationship Diagram Description:

1. Production.ProductCategory has a one-to-many relationship with Production.ProductSubcategory.
    - Each Product Category can have multiple Product Subcategories.
2. Production.ProductSubcategory has a one-to-many relationship with Production.Product.
    - Each Product Subcategory can have multiple Products.
3. Production.Product has a one-to-many relationship with Sales.SalesOrderDetail.
    - 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
   ) v
   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