Q1.Data Importing and Preliminary Examination
-Import both datasets into Power BI. Perform a preliminary examination of the data. Are there any anomalies or inconsistencies?

Q2.Cleaning: Handling Missing and Irrelevant Data
-Identify and address missing data in both datasets. Address duplicate entries and irrelevant data points, ensuring data quality.

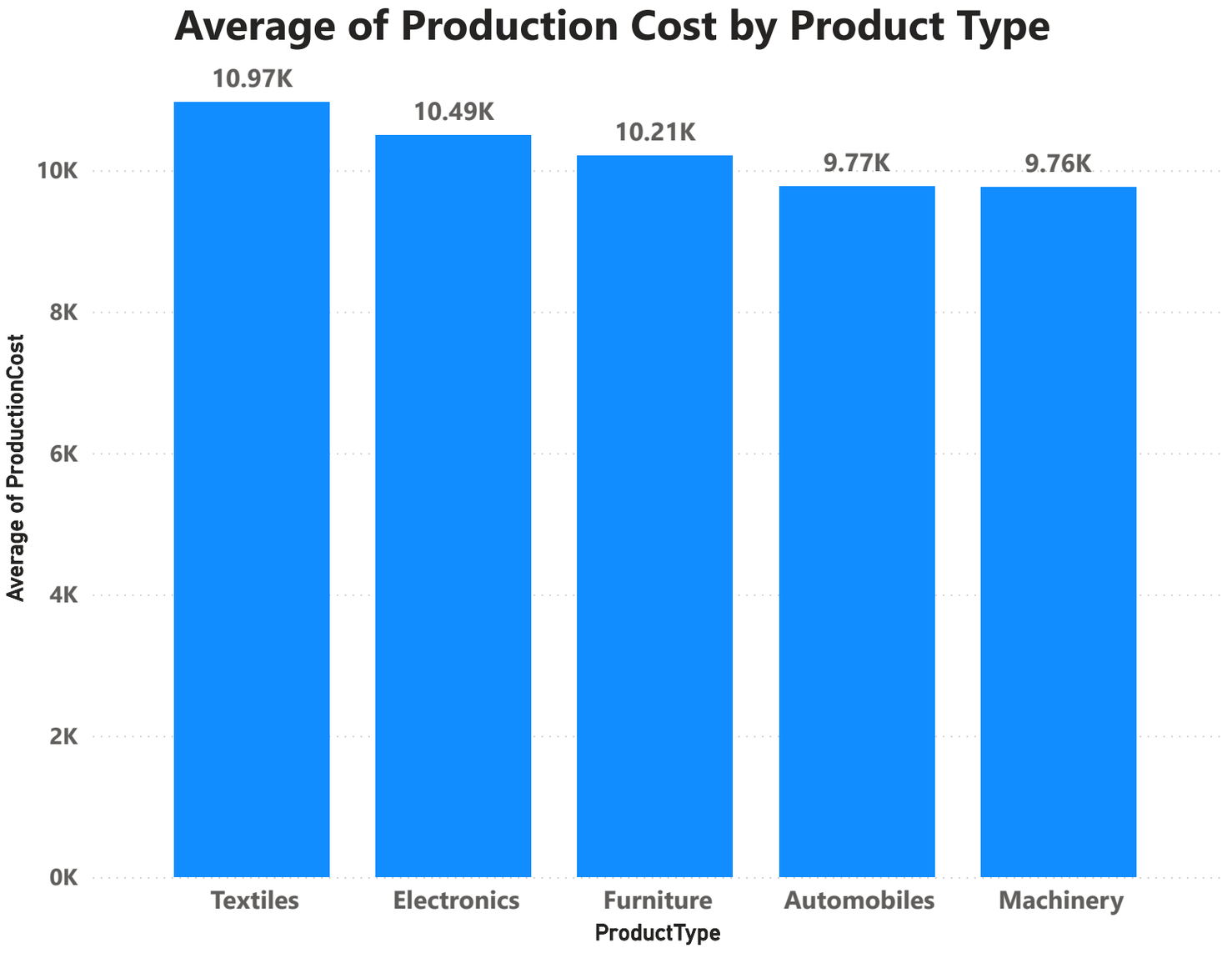
Q3.Merging and Relating Datasets
-Merge the datasets using a suitable column as a key. Ensure that the merge is accurate and retains all necessary information.

Q4.Data Type Conversion
-Transform and normalize data where necessary for consistency across datasets.

Q5.Categorizing Product Types
-Create a new column categorizing products into broader categories based on 'ProductType'. What categories did you create?

Q6.Analysis of Production Costs

-Calculate the average production cost for each product type. Which product type has the highest average cost?

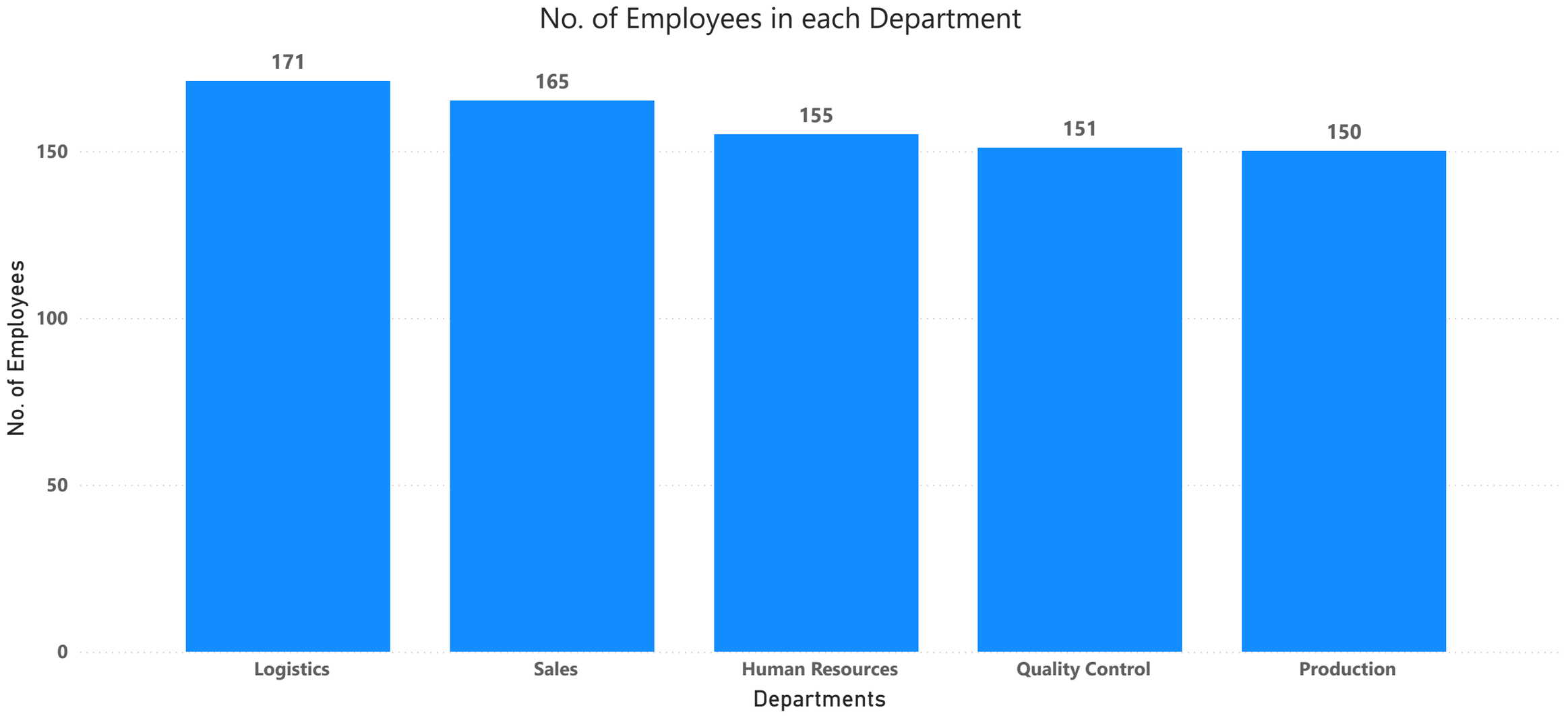


Average Cost by Product Type

ProductType	Average of ProductionCost
Textiles	10,966.43
Electronics	10,494.53
Furniture	10,205.17
Automobiles	9,773.85
Machinery	9,755.21
Total	**10,260.83**

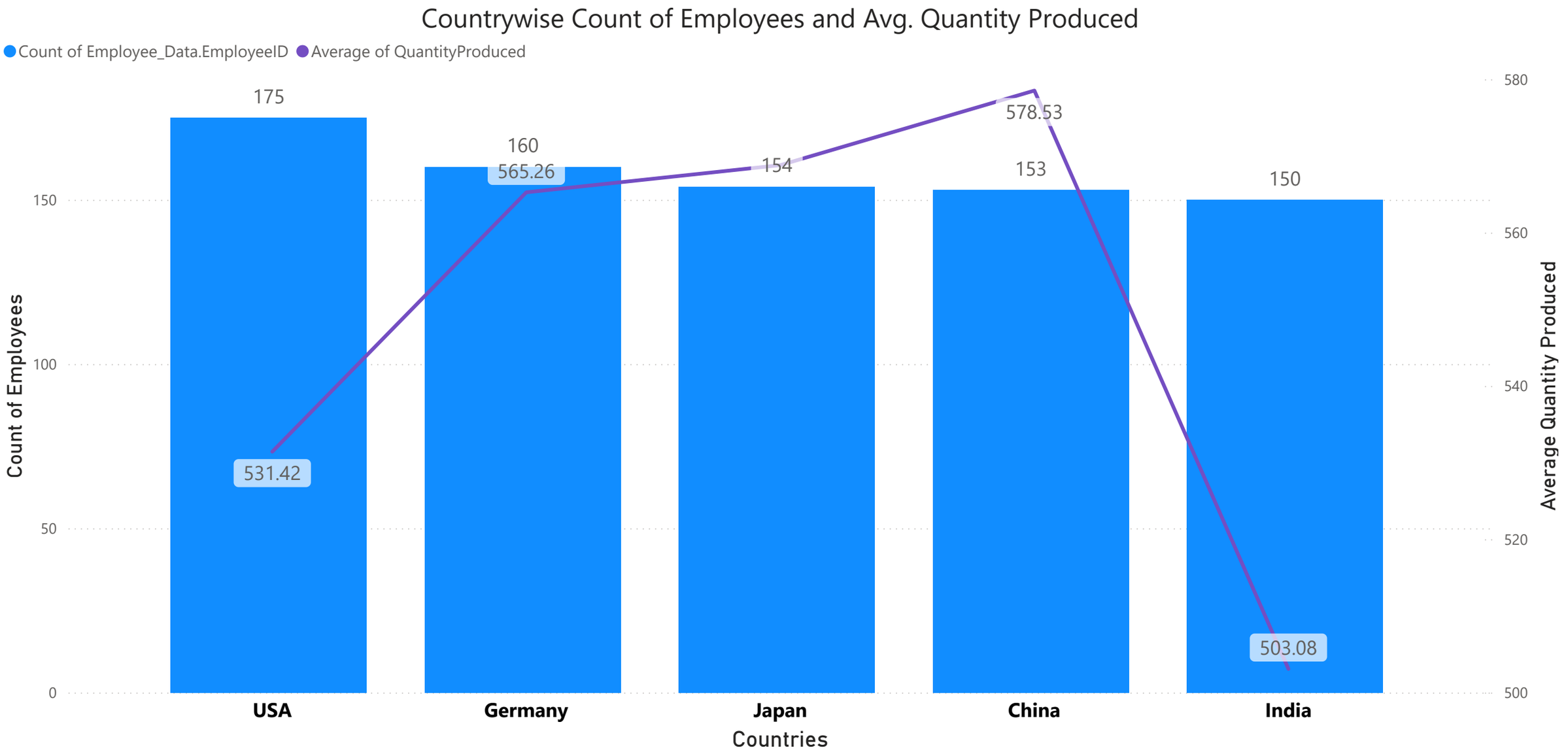
Q7.Employee Distribution Across Departments

-Analyze the distribution of employees across different departments. Which department has the most employees?



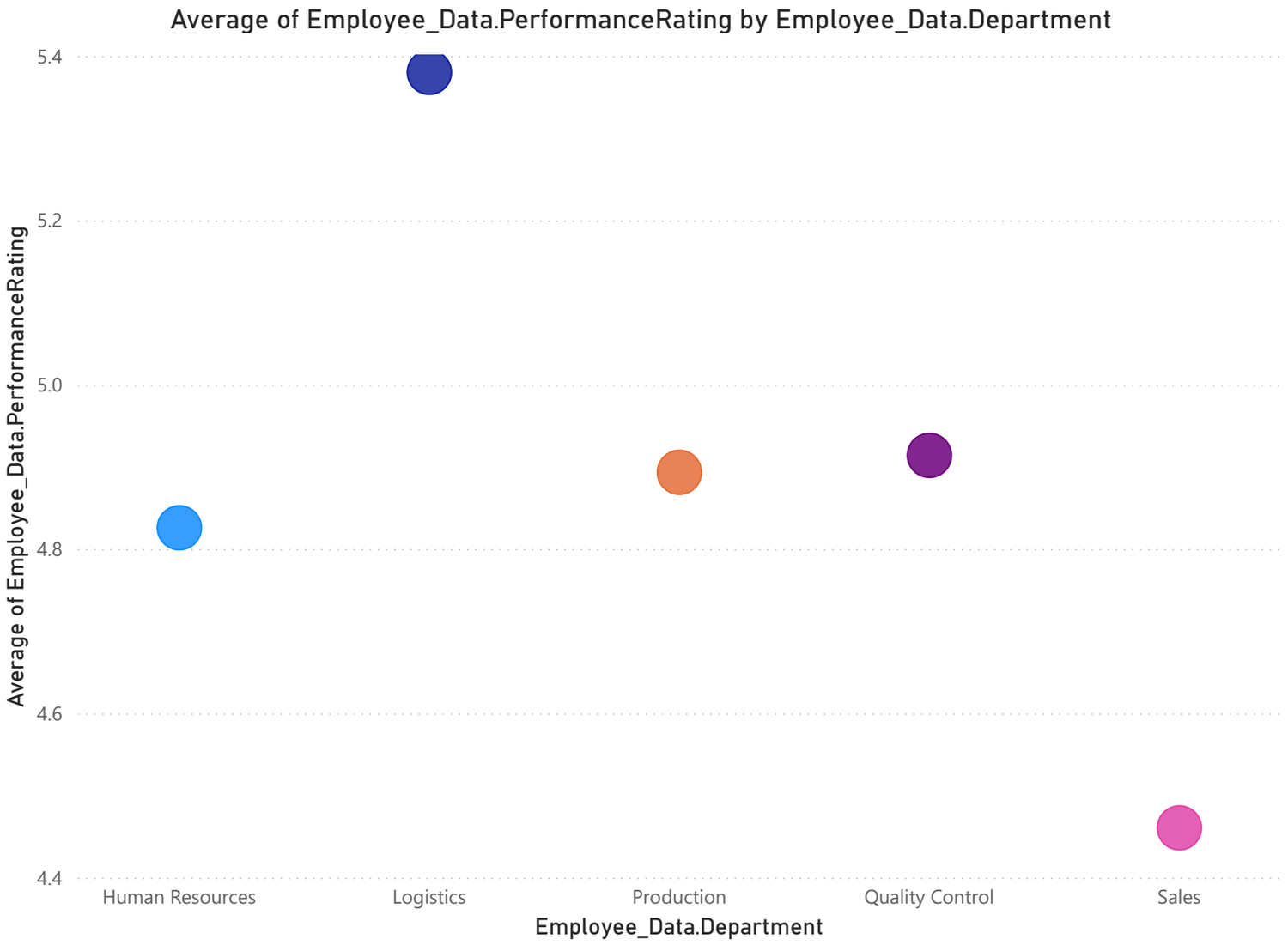
Q8.Country-Based Analysis of Operations

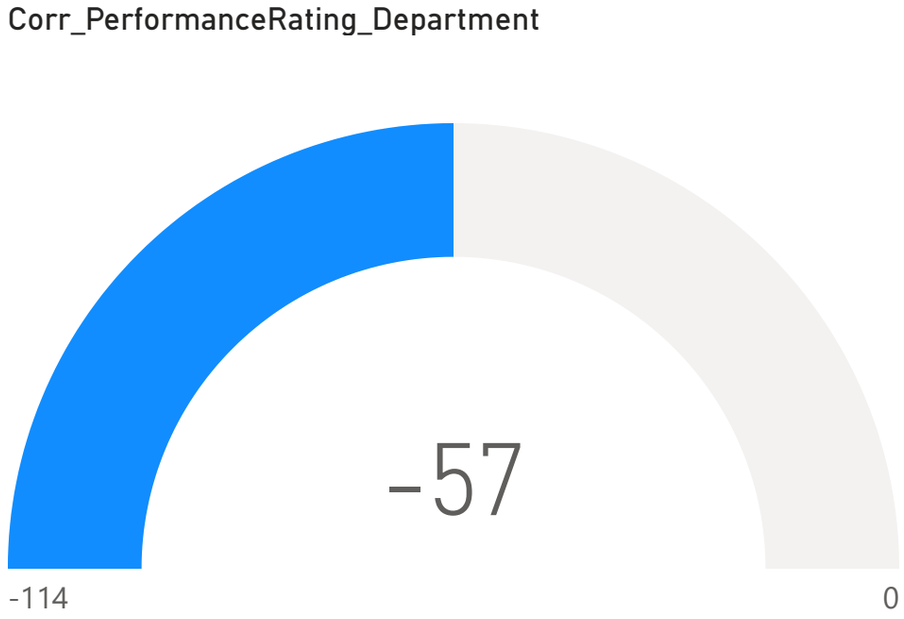
-Investigate which country has the highest number of employees and the highest average production.



Q9.Performance Rating Analysis

-Using DAX, analyze the average performance rating by department. Is there a correlation between department and performance rating?



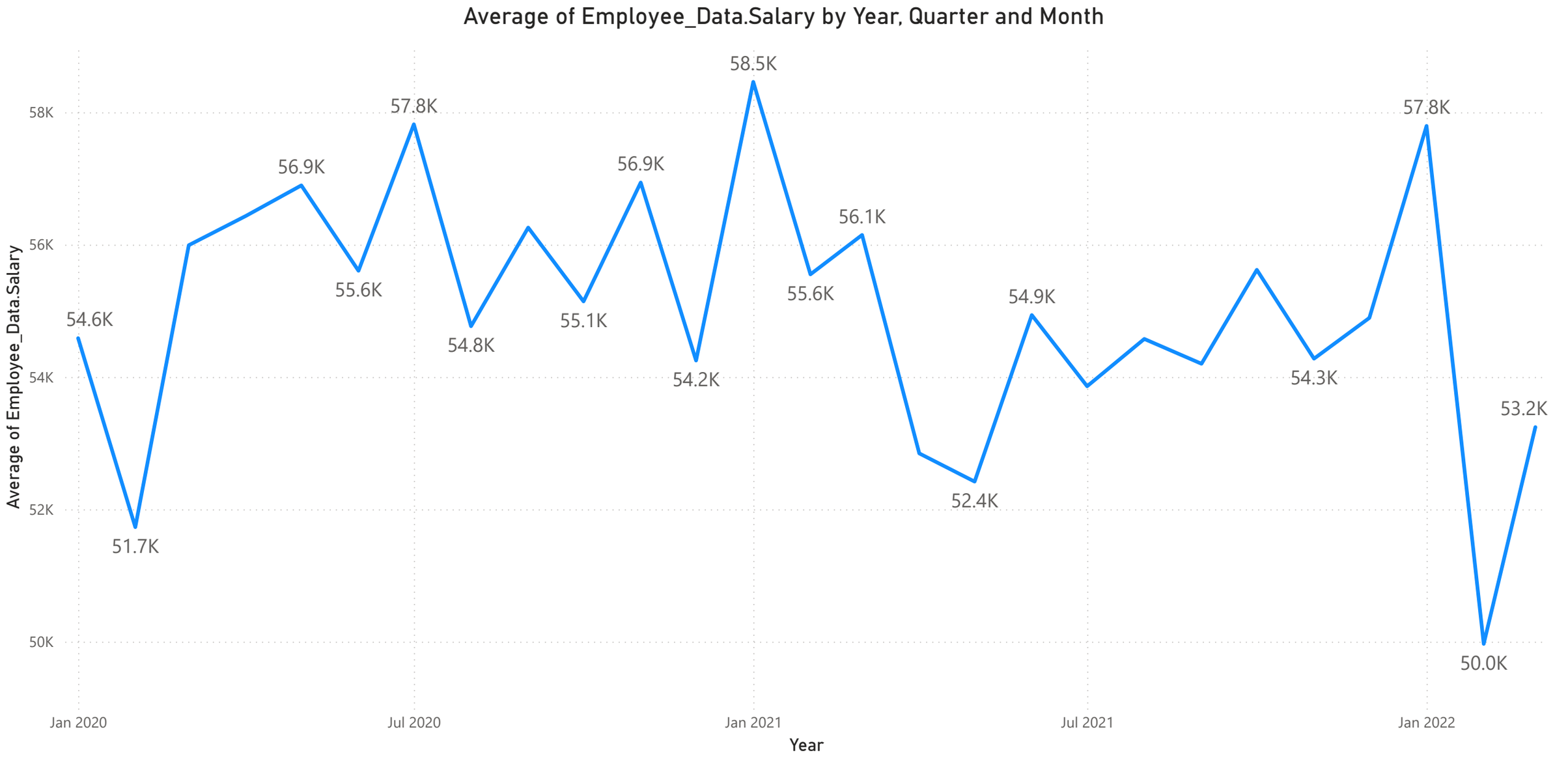


Q10.Warehouse Efficiency Analysis

Calculate the average quantity of products stored in each warehouse location. Which warehouse location is utilized the most?

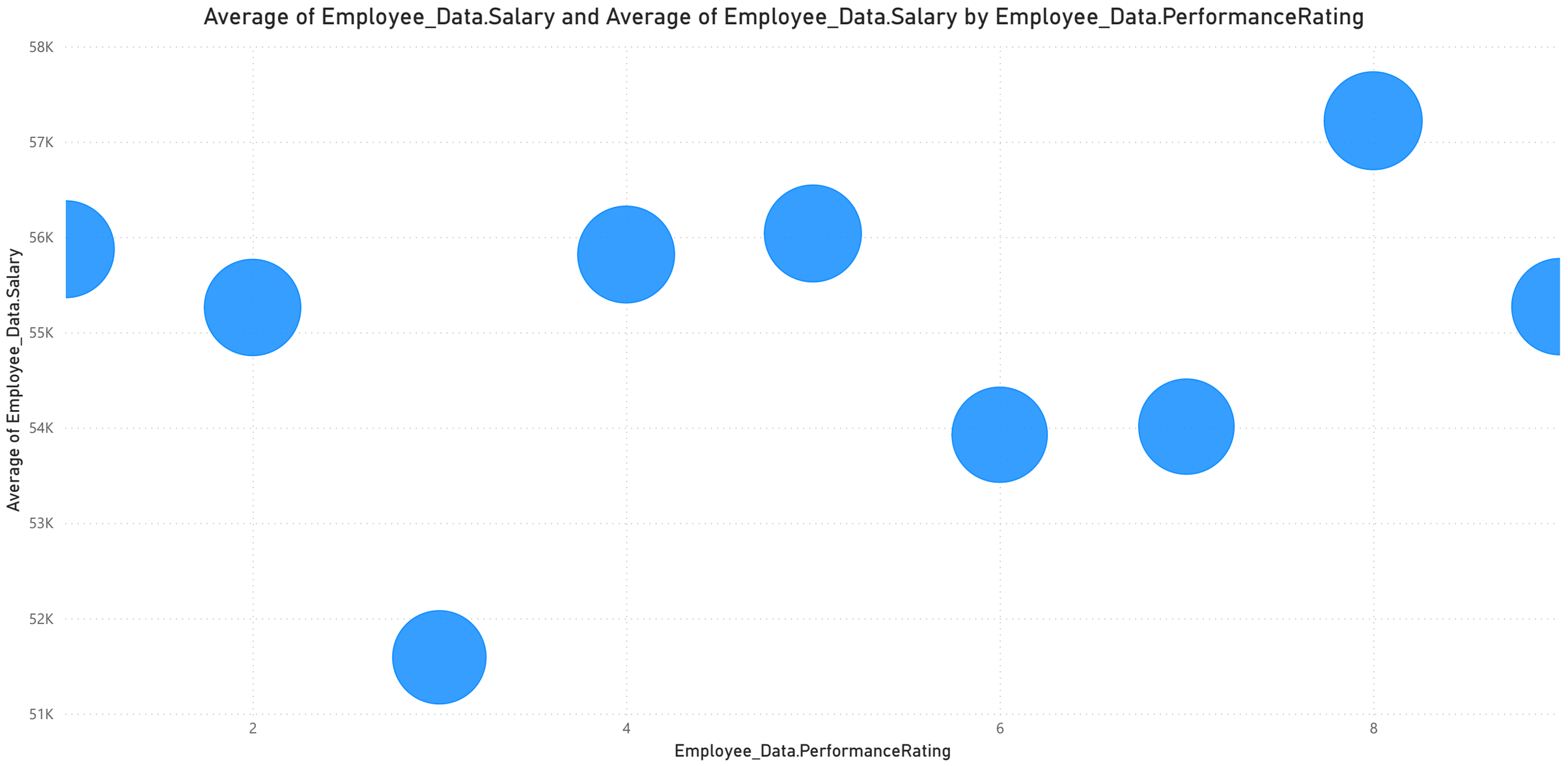
Q11.Salary Trends Over Time

-Analyze the trends in salaries over time. Are there noticeable increases or disparities?



Q12.Correlation Between Salary and Performance

-Explore if there's a correlation between employees' salaries and their performance ratings.



Q13.Product Manufacturing Trends

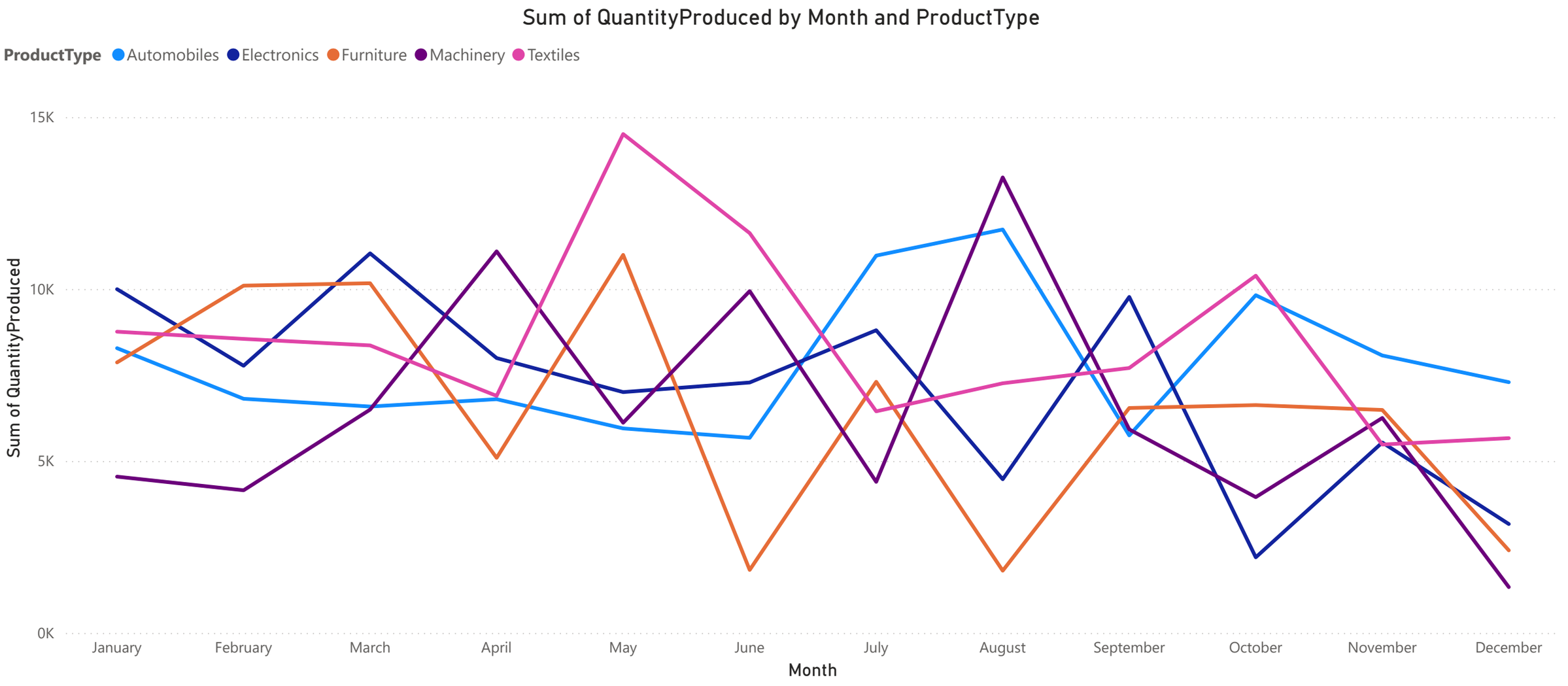
-Analyze how the manufacturing of different product types has trended over time. Are there seasonal patterns?

Year

2023 | 2024 | 2025

ProductType

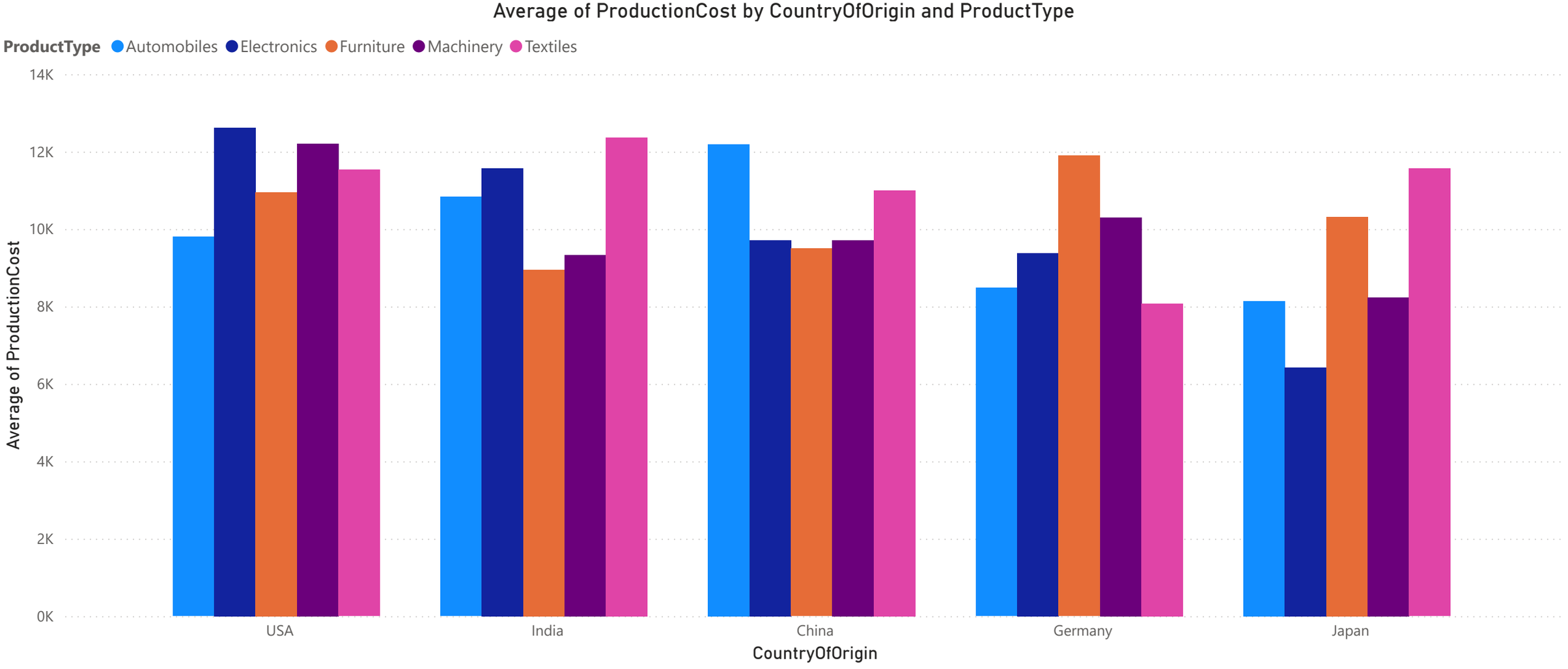
Automobiles | Electronics | Furniture | Machinery | Textiles



Q14.Cost Analysis by Country of Origin

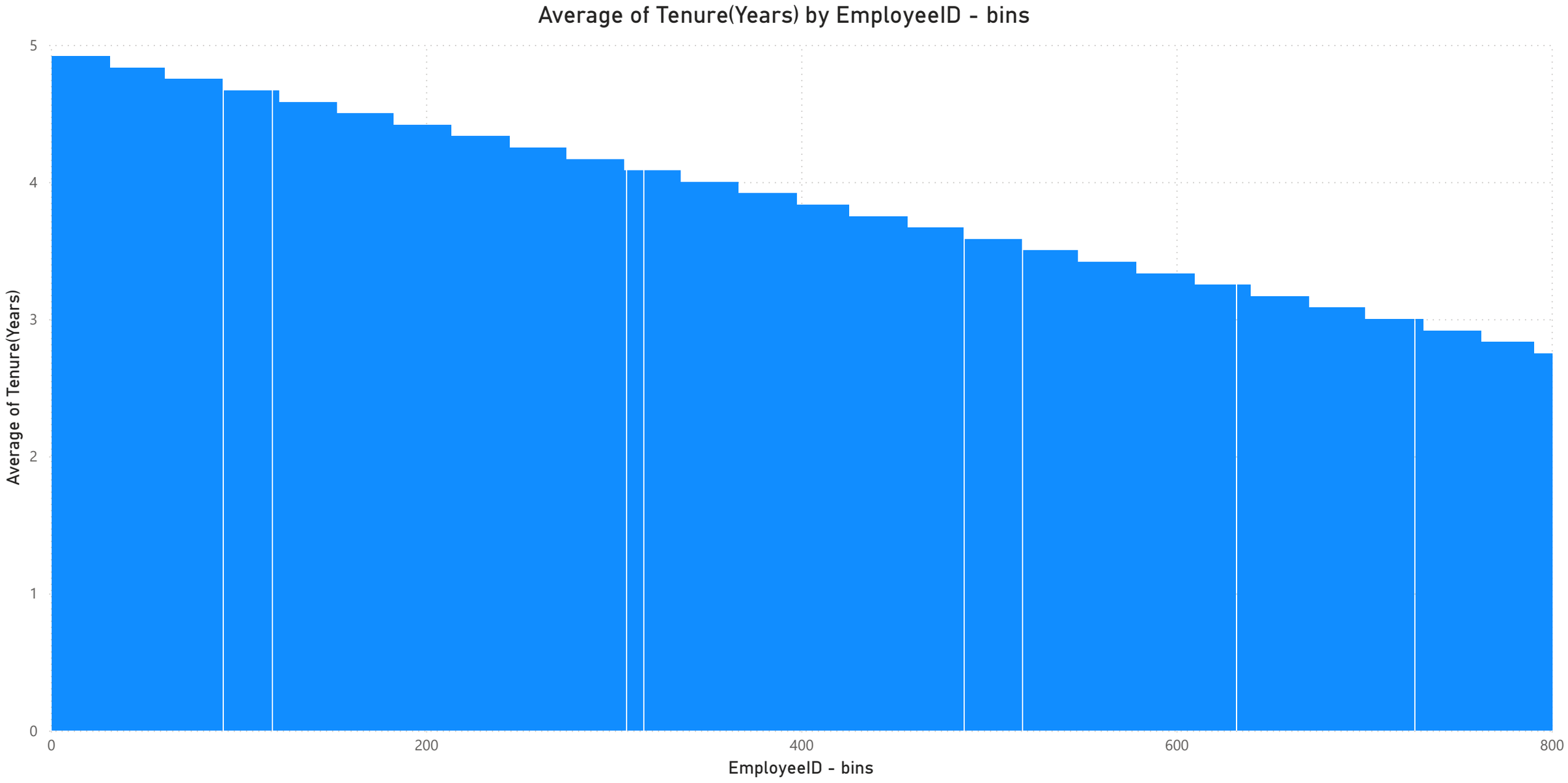
-Investigate the average production cost per product in each country of origin. Which country has the highest and lowest costs?

ProductType	China	Germany	India	Japan	USA	**Total**
Automobiles	353,550.10	254,402.66	389,875.85	350,066.76	333,206.79	**1,681,102.17**
Electronics	145,656.11	375,103.05	508,916.00	115,568.75	491,903.52	**1,637,147.43**
Furniture	313,355.73	261,724.36	277,293.25	268,277.92	328,482.55	**1,449,133.82**
Machinery	271,791.15	370,605.06	317,063.84	230,571.86	195,207.56	**1,385,239.47**
Textiles	406,869.20	266,476.65	457,496.82	485,615.36	357,500.05	**1,973,958.08**
Total	**1,491,222.30**	**1,528,311.79**	**1,950,645.76**	**1,450,100.66**	**1,706,300.47**	**8,126,580.97**



Q15.Employee Tenure Analysis

-Calculate the tenure of employees in the company and analyze its distribution.

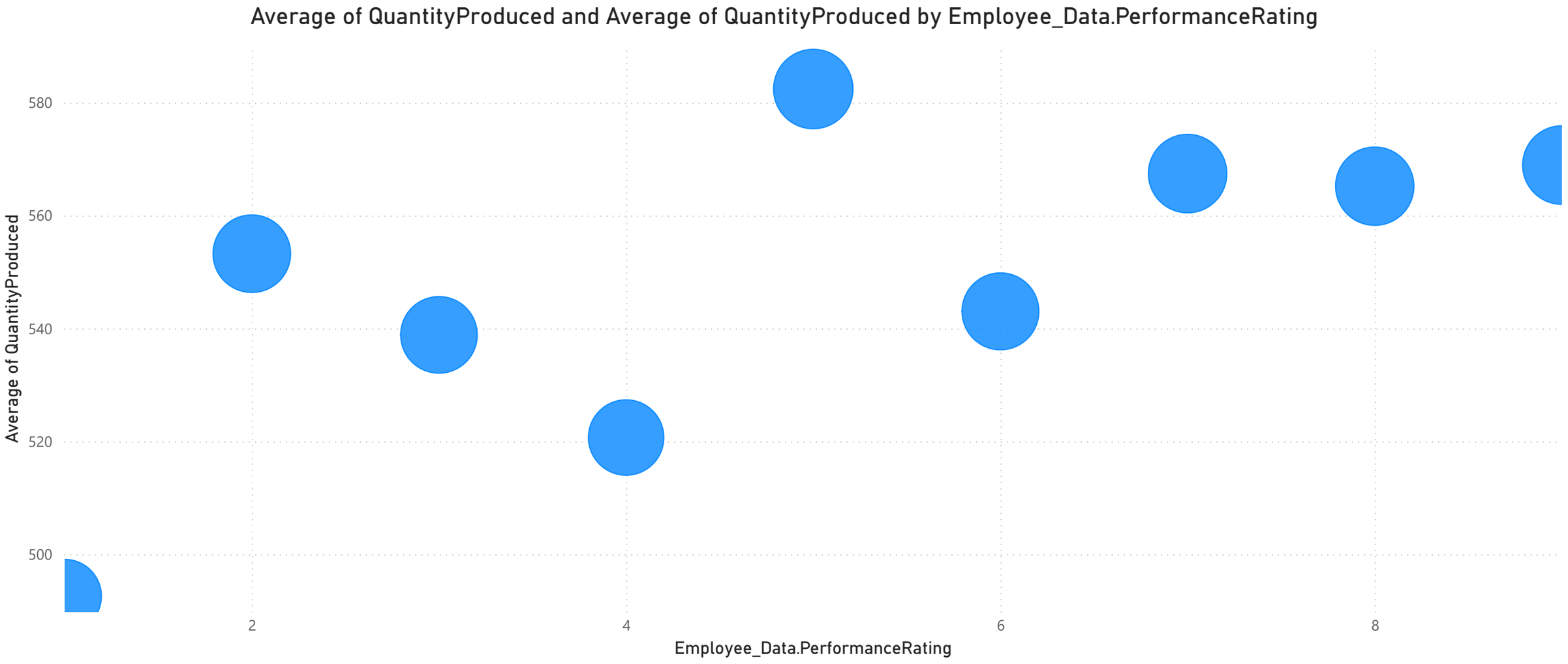


Q16.Production and Sales Correlation

-Create a measure to analyze the correlation between quantity produced and employee performance in sales.

51.05

Correlation



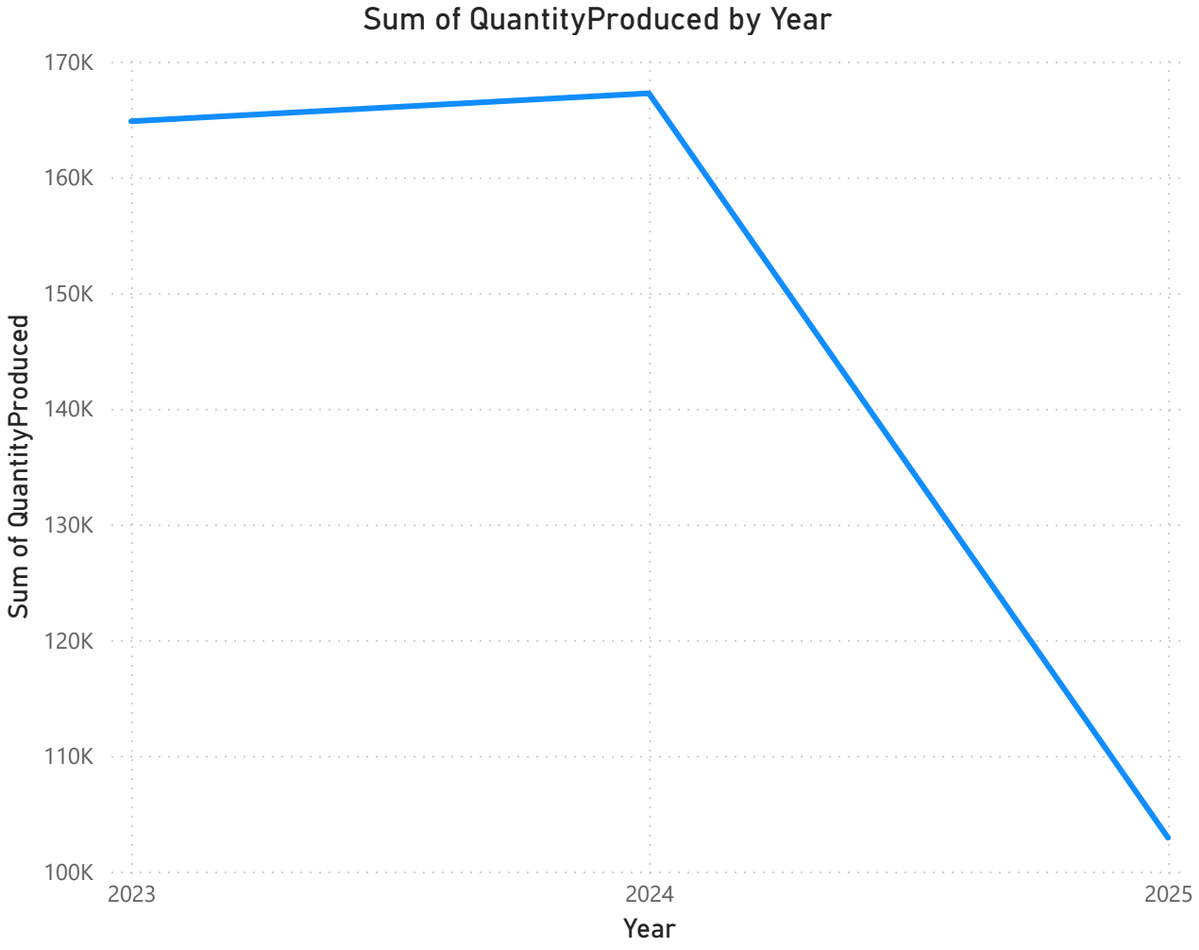
Q17.Analyzing Product Lifecycle

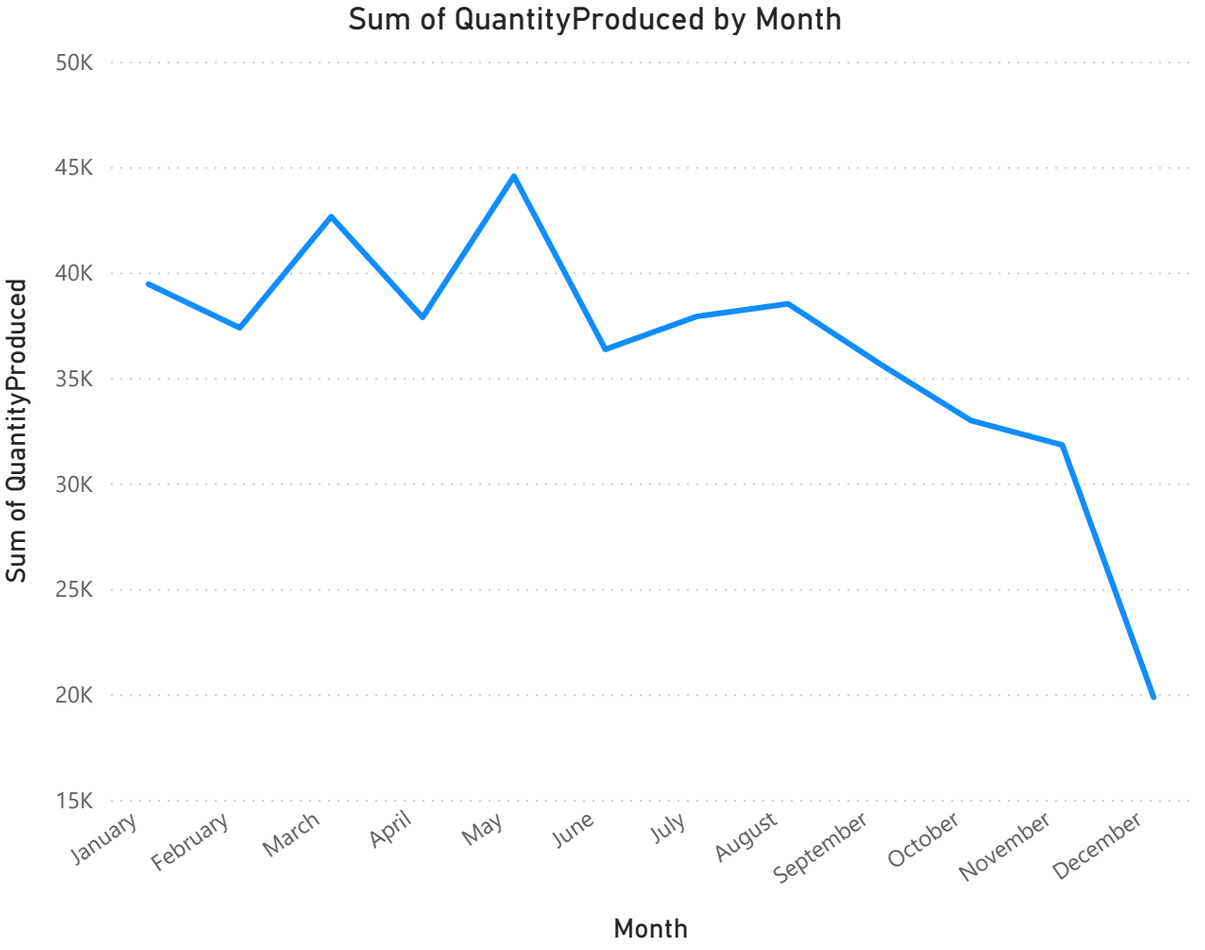
-Analyze the lifecycle of products based on their production date and quantities.

Earliest ProductionDate
1/2/2023 12:00:00 AM

Year
2023 | 2024 | 2025

Latest ProductionDate
9/25/2025 12:00:00...





Q18.Advanced DAX: Cost Efficiency Analysis

-Using DAX, explore the cost efficiency of production (production cost per unit of product).

Production Cost Per Unit

ProductID	Automobiles	Electronics	Furniture	Machinery	Textiles	**Total**
2			25.87			**25.87**
4		28.11				**28.11**
5		75.73				**75.73**
6					52.09	**52.09**
8					15.41	**15.41**
9					42.10	**42.10**
Total	**4046.93**	**4076.36**	**4041.49**	**3749.92**	**5066.70**	**20981.40**

Total Quantity Produced

ProductID	Automobiles	Electronics	Furniture	Machinery	Textiles	**Total**
2			513			**513**
4		384				**384**
5		4815				**4815**
6					1506	**1506**
8					1462	**1462**
9					1660	**1660**
12			746			**746**
14			112			**112**
19				249		**249**
20					760	**760**
Total	**93714**	**85026**	**77214**	**77424**	**101635**	**435013**

Total Production Cost

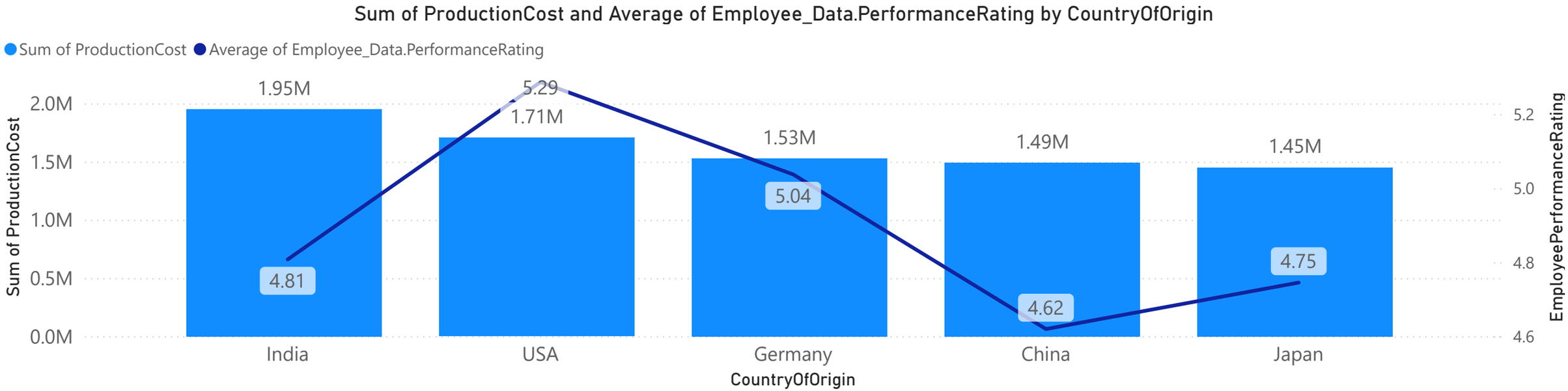
ProductID	Automobiles	Electronics	Furniture	Machinery	Textiles	**Total**
2			13,271.45			**13,271.45**
4		10,795.60				**10,795.60**
5		72,931.04				**72,931.04**
6					39,221.14	**39,221.14**
8					11,268.11	**11,268.11**
9					34,942.51	**34,942.51**
12			18,672.59			**18,672.59**
14			19,746.34			**19,746.34**
19				9,100.72		**9,100.72**
20					14,410.08	**14,410.08**
Total	**1,681,102.17**	**1,637,147.43**	**1,449,133.82**	**1,385,239.47**	**1,973,958.08**	**8,126,580.97**

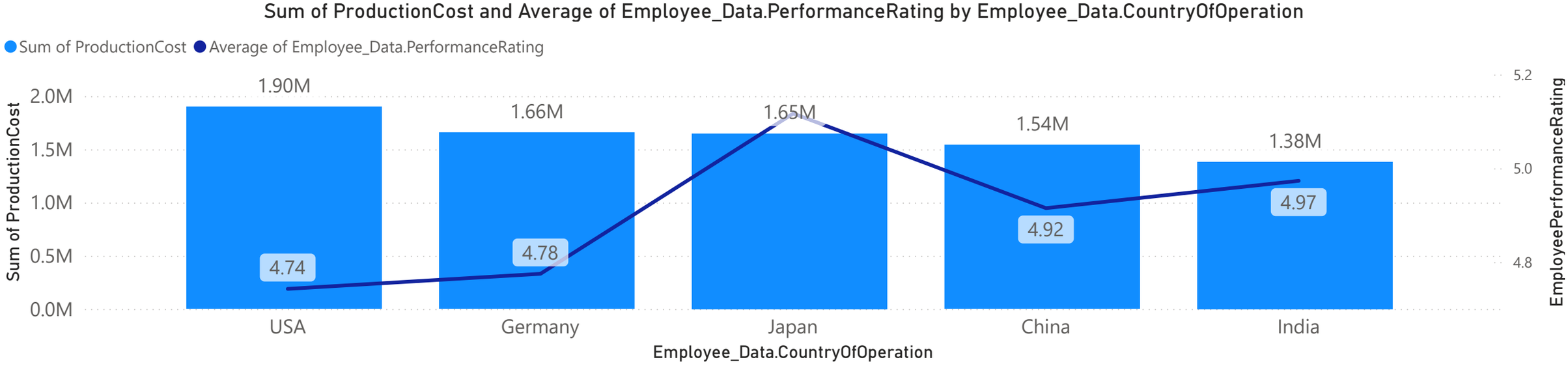
Q19.Extracting Key Information

-"Using the 'Employee Training Record' column in the Manufacturing Dataset 2, create two new columns. One column should list the dates of all training sessions for each employee, and the other should list the types of training sessions (e.g., Sales Techniques Workshop, Leadership Skills Seminar)."

Q20.Country of Operation vs. Country of Origin

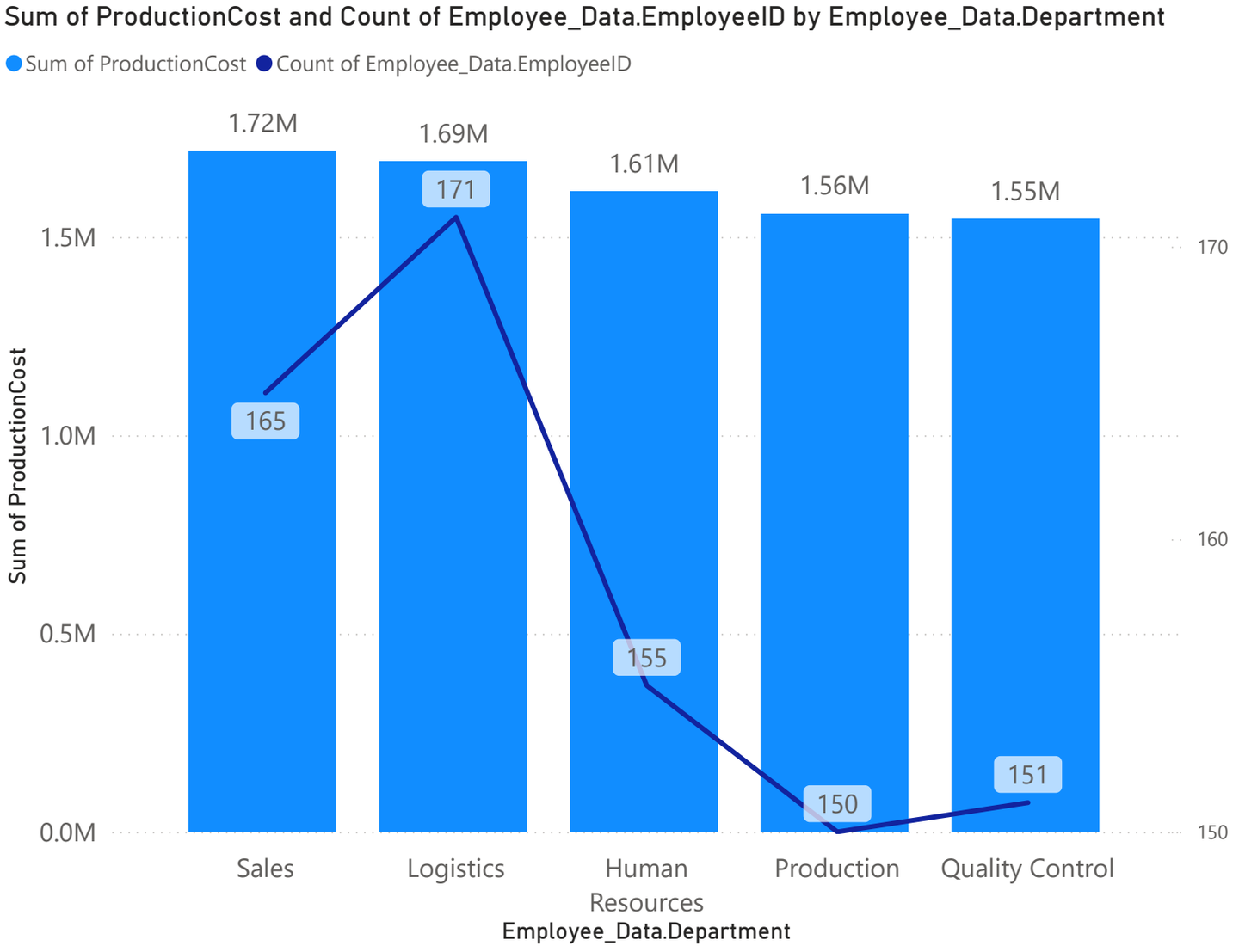
_Compare the countries of operation and origin in terms of production and employee performance.

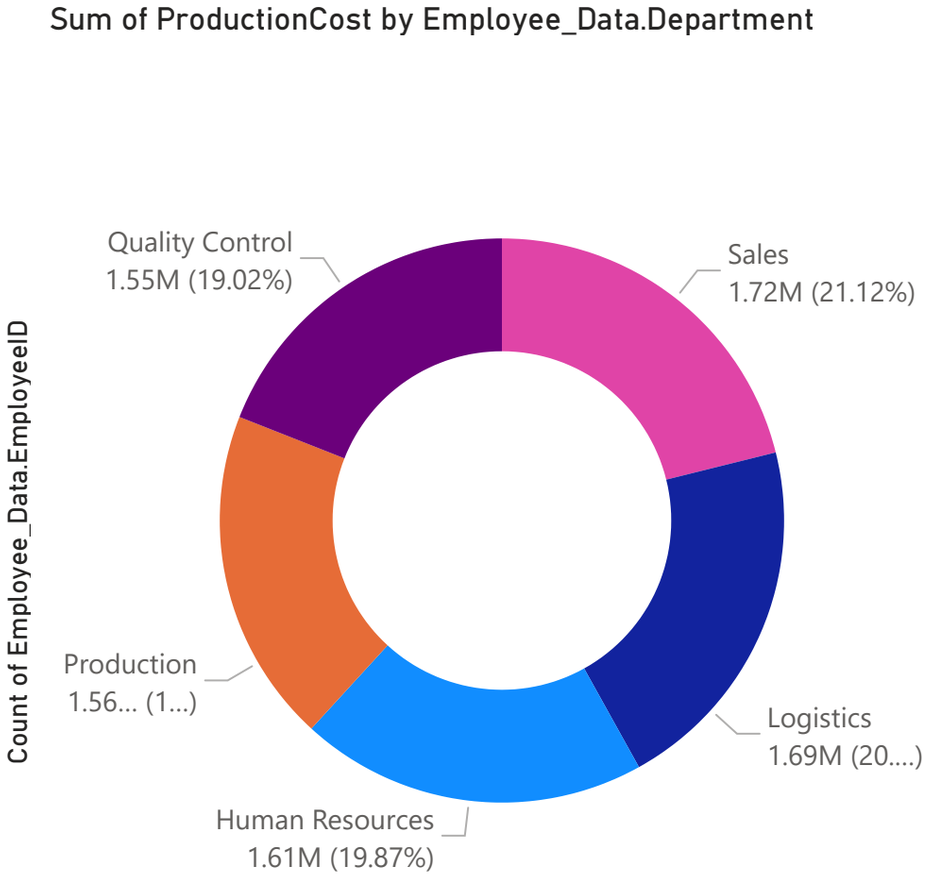




Q21.Employee Role in Production Cost

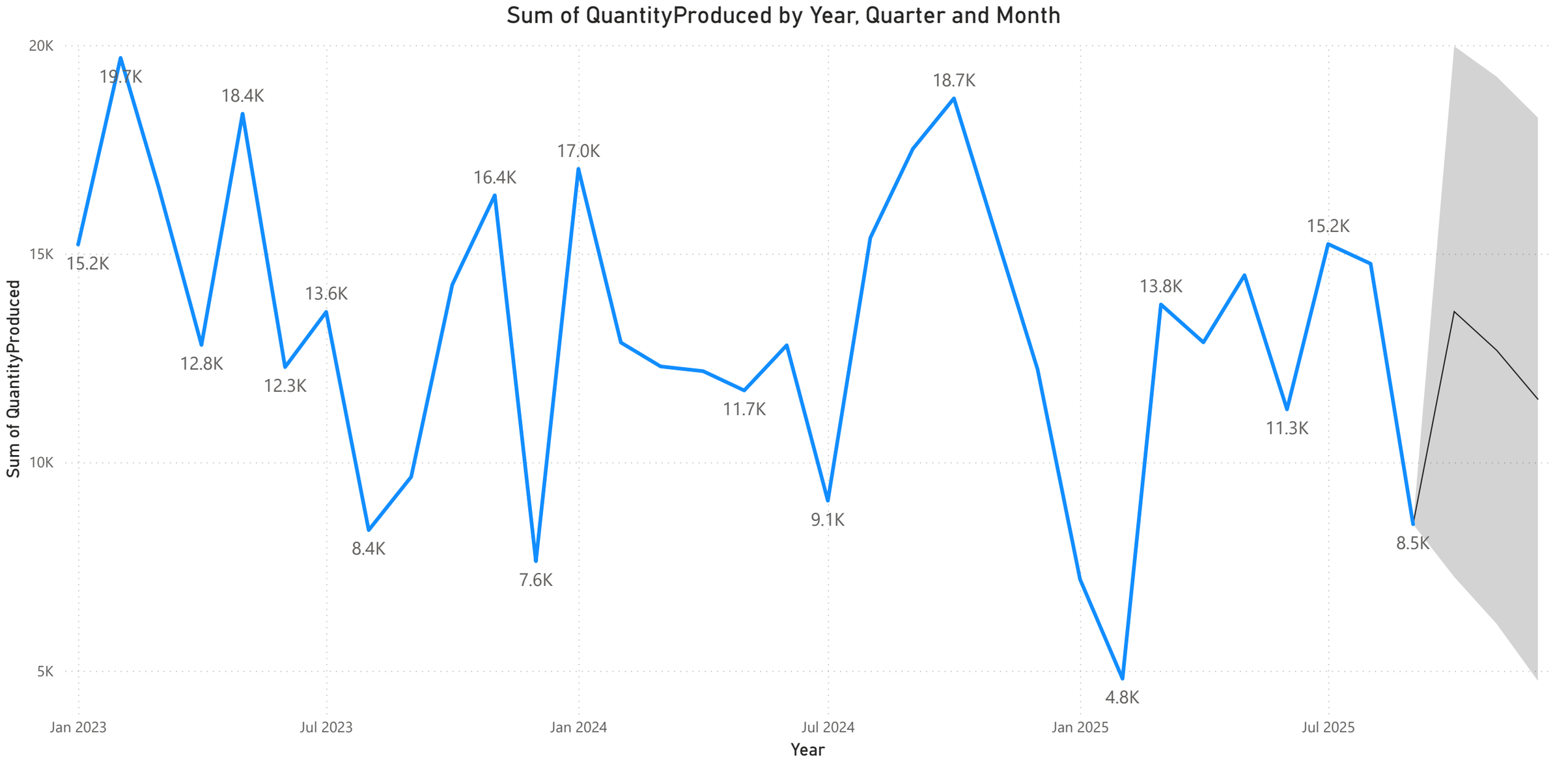
-Analyze if certain departments or employee roles have a significant impact on production costs.





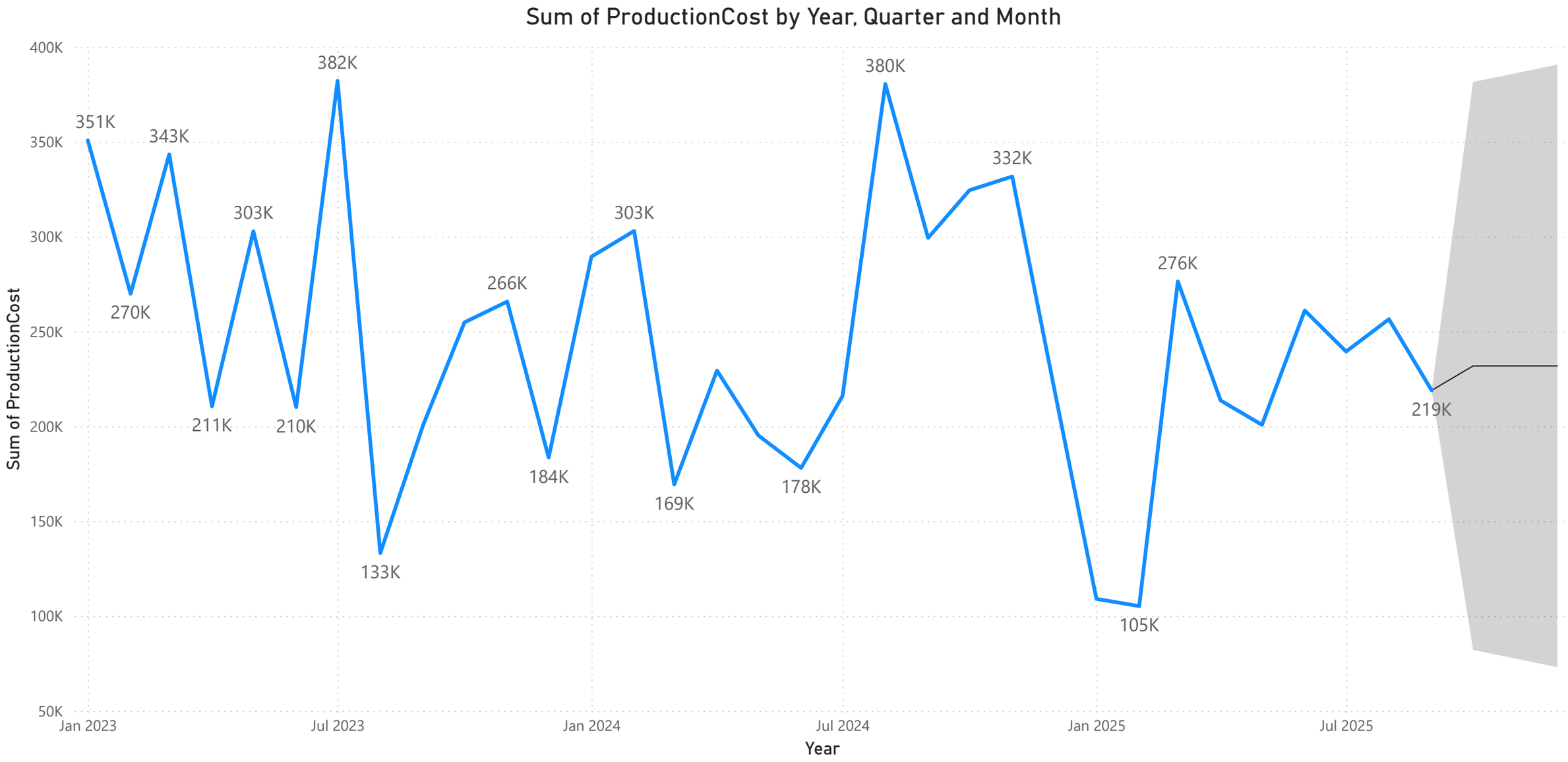
Q22.Predictive Modeling for Product Demand

-create a predictive model estimating future product demand based on historical production and sales data.



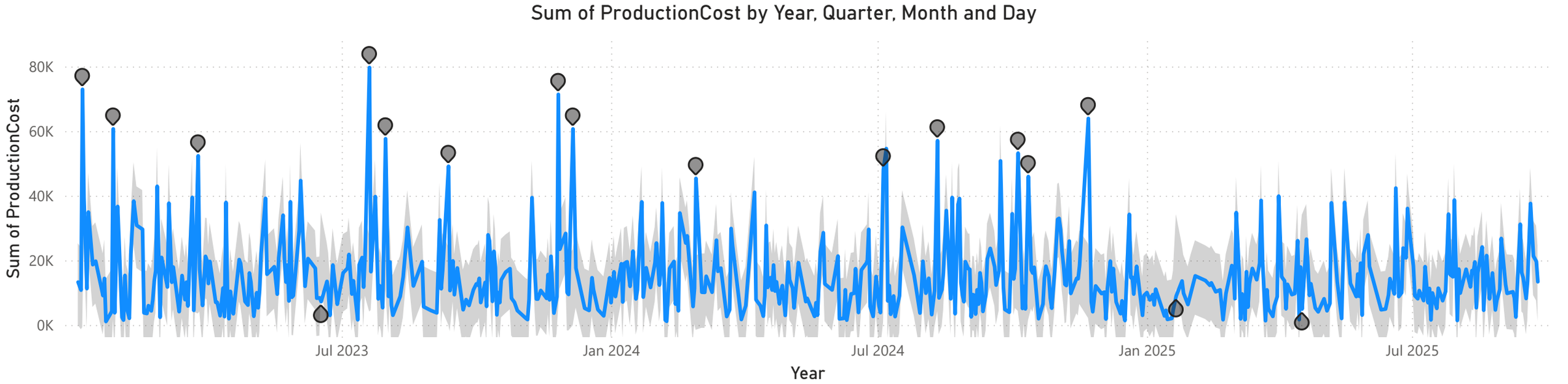
Q23.Data Modeling: Time Series Forecasting of Costs

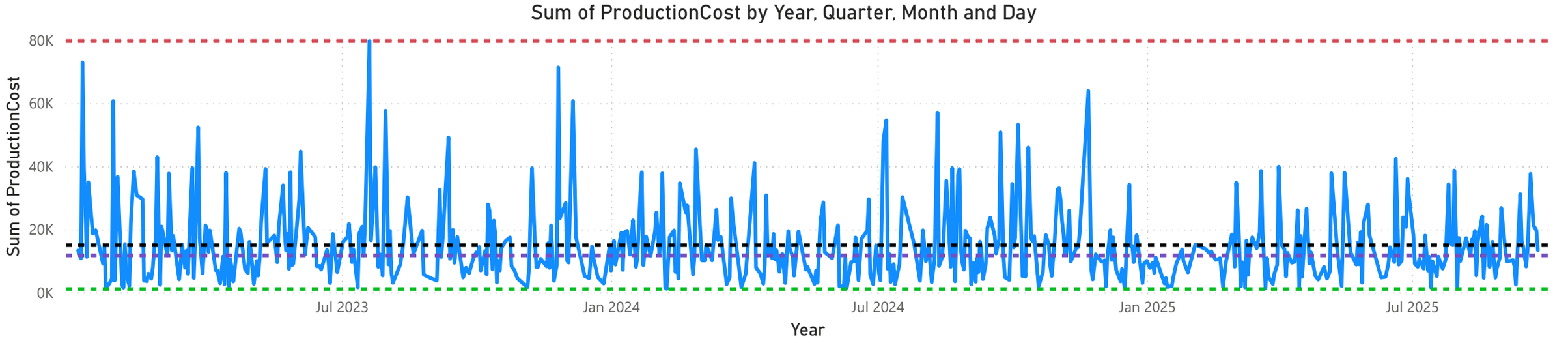
-Perform time series forecasting of production costs using historical data. What are the predicted costs for the next quarter?

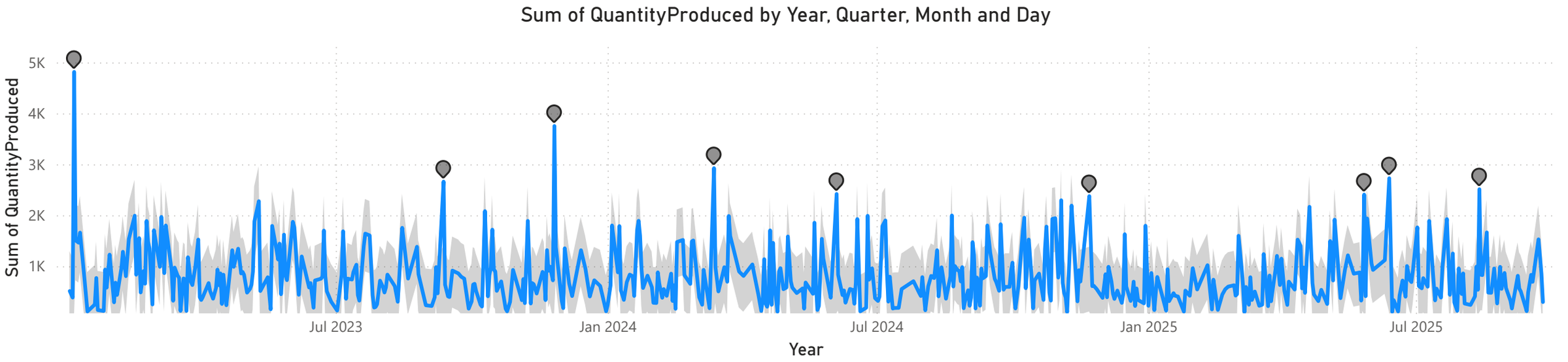


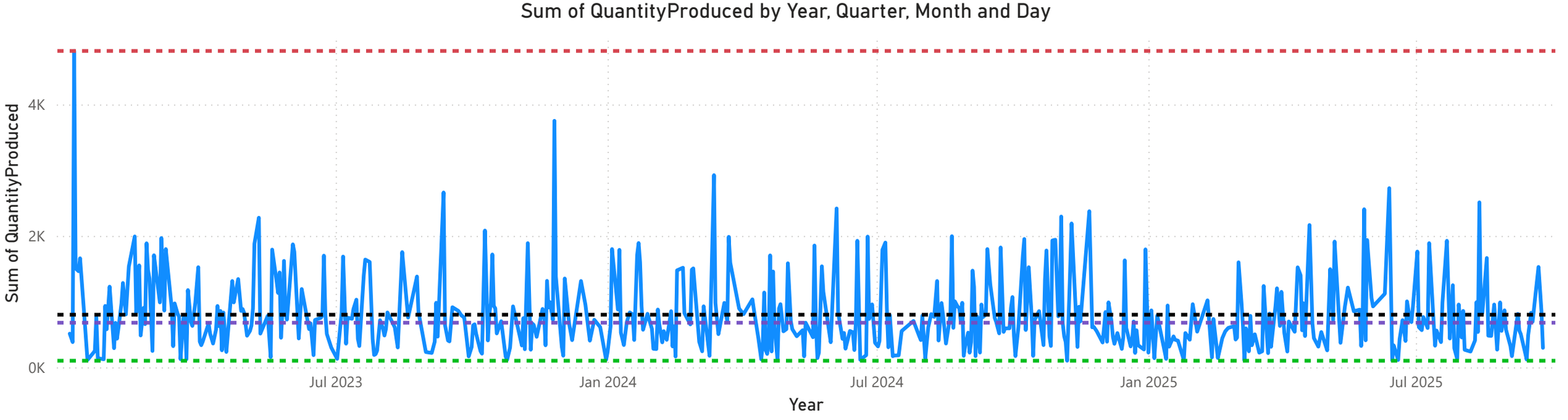
Q24.Advanced Data Transformation: Identifying Production Anomalies

-Using Power BI's data transformation capabilities, identify any anomalies in production data (e.g., unusually high costs, sudden spikes in production quantity).






Sum of QuantityProduced by Year, Quarter, Month and Day
Sum of QuantityProduced
5K
4K
3K
2K
1K
Jul 2023
Jan 2024
Jul 2024
Jan 2025
Jul 2025
Year


Sum of QuantityProduced by Year, Quarter, Month and Day
Sum of QuantityProduced
4K
2K
0K
Jul 2023
Jan 2024
Jul 2024
Jan 2025
Jul 2025
Year