

# Performance Analysis of the 2020 Tokyo Olympics Medal Standings

Prepared for: The Olympic Steering Committee

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Date: September 16, 2025

## 1. Executive Summary

This report details the performance analysis of the 2020 Tokyo Olympic Games medal table. The primary objective was to move beyond simple rankings to uncover deeper insights into national performance, global participation, and competitive efficiency. Using data scraped from Wikipedia and analyzed in Microsoft Power BI, this project successfully developed a dynamic dashboard that reveals key trends. Major findings include the broad participation of 93 medaling nations, the exceptional performance efficiency of the host nation Japan, and a significant number of "underdog" nations securing a single medal, highlighting the global spirit of the Games.

## 2. Project Objective (The Problem)

The official Olympic medal table answers "who won?" but fails to address more complex strategic questions. The Olympic Committee required a deeper analysis to understand:

The true balance of power between top-performing nations.

The efficiency of medal wins (i.e., a high ratio of gold medals).

The overall global reach and success stories beyond the top of the leaderboard.

This project was commissioned to transform the raw medal data into a strategic decision-making tool.

## 3. Methodology & Process (The Steps)

A systematic approach was taken to ensure the accuracy of the findings:

**Data Acquisition:** The dataset was acquired by web scraping the 2020 Summer Olympics medal table from Wikipedia directly into Power BI.

**Data Transformation (in Power Query):** The raw data was cleaned and transformed. Steps included promoting headers, changing data types, and handling null values.

**Metric Creation:** New columns were engineered directly in Power Query to support the analysis. This included calculating the Total Percent of medals and the components for the Gold Dominance Ratio.

**DAX Calculations:** The final Gold Dominance Ratio was created as a calculated column in Power BI's data model.

**Visualization:** An interactive dashboard was built in Power BI, featuring KPI cards, bar charts, a donut chart, and a table to present the findings.

## 4. Key Findings & Insights (The Story)

The analysis yielded several key insights that tell the story of the 2020 Games:

**Insight 1: Broad & Inclusive Global Participation.** The analysis revealed that 93 unique nations earned at least one medal. This powerful KPI immediately confirms the Games' extensive global reach and demonstrates that success is distributed across a wide array of countries.

**Insight 2: The Elite Performers.** The United States led the world in both total medals (113) and gold medals (39), reaffirming its position as a sporting superpower. The top 5 nations (USA, China, ROC, Great Britain, Japan) accounted for a significant portion of the total medals, highlighting the concentration of success at the very top.

Insight 3: The "Underdog" Story. A table isolating nations that won exactly one medal showcases the inspiring stories of achievement from smaller delegations. This provides the Committee with powerful human-interest stories for marketing and for inspiring developing national sports programs.

Insight 4: Host Nation Efficiency. The "Gold Dominance" chart revealed that the host nation, Japan, had one of the highest ratios of gold medals to other medals. This indicates a highly efficient and targeted performance, converting top-tier opportunities into gold on home soil.

## **5. Challenges & Solutions**

The project encountered several technical hurdles, which were systematically overcome:

Challenge: Initial difficulties in creating DAX formulas, specifically in understanding the difference between a Calculated Column and a Measure.

Solution: Through methodical troubleshooting, the correct DAX logic for a Calculated Column was applied to create the Gold Dominance Ratio.

Challenge: Filtering a visual to show a specific count (the "Underdog" KPI) proved difficult.

Solution: The correct filtering context ("Filters on this visual") was applied to the underlying Total medals field, allowing the card to display the accurate count.

## **6. Conclusion**

This project has successfully transformed a static data table into a dynamic strategic asset. By focusing on metrics beyond the simple medal count, we have uncovered a richer story about the 2020 Games—one of broad participation, elite dominance, underdog triumphs, and host nation efficiency. The resulting dashboard provides a clear, multi-faceted view of the Games' performance.