2021 TOKYO OLYMPICS ANALYSIS

Introduction

The 2021 Tokyo Olympics, originally scheduled for 2020 but postponed due to the COVID-19 pandemic, marked an unprecedented chapter in Olympic history. Held from July 23 to August 8, 2021, the event faced numerous challenges, including the absence of spectators, strict health protocols, and uncertainty about athlete participation. Despite these obstacles, the Tokyo Olympics became a symbol of resilience, bringing together over 11,000 athletes from 206 nations to compete across 33 sports.

This global sporting event showcased not only athletic excellence but also the adaptability of athletes and organizers in navigating the impact of a global crisis. While the Olympics have always been a platform to celebrate sportsmanship, international collaboration, and human endurance, the 2021 edition offered a unique opportunity to analyze the broader effects of external factors, such as public health crises, on athlete performance and the overall organization of such events.

This project aims to conduct an in-depth analysis of the 2021 Olympics, focusing on key aspects like:

- Medal distribution across countries and sports.
- Athlete performance based on demographic factors (age, gender, country).
- Comparative analysis of the performance of countries under varying pandemic conditions.

In addition, the analysis will explore emerging trends in the types of sports that saw greater success, the role of technological innovations like virtual audiences, and shifts in the traditional dominance of certain countries in the medal tallies. By studying these patterns, this project will offer insights into how external disruptions impact international sporting events and help build frameworks for better preparation for future global sports competitions in unpredictable circumstances.

Problem Focus:

The primary focus of this analysis is to identify key trends and insights from the 2021 Olympics. These include investigating:

- Medal distribution across countries and sports.
- Athlete performance based on factors like age, gender, and event type.
- Identifying countries or regions that outperformed or underperformed based on historical data.

Need of Study:

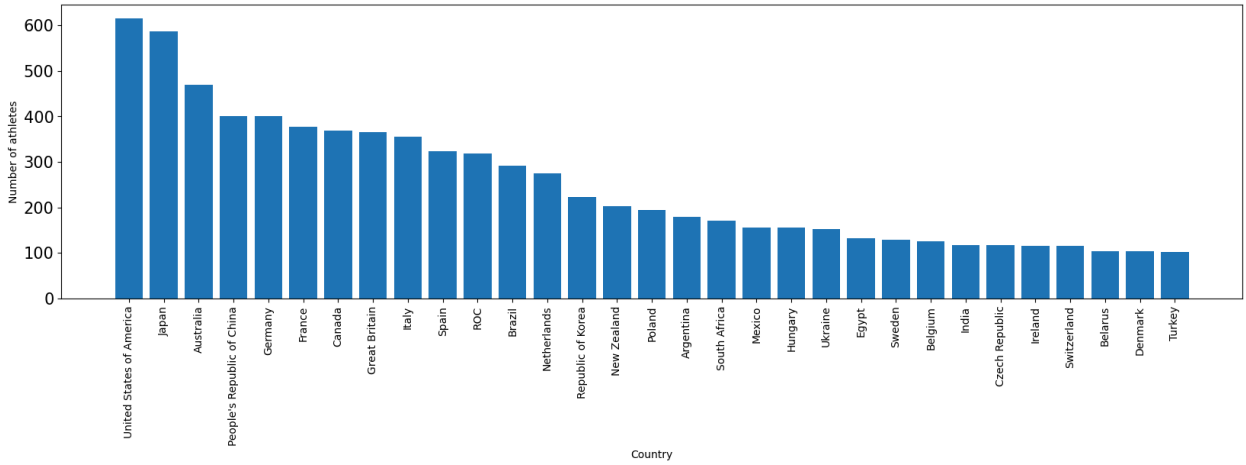
This study is essential for understanding how global events, like the COVID-19 pandemic, impact large-scale sporting competitions. By analyzing the 2021 Olympics, we can gain insights into how different countries adapted to challenges, how athletes' performances were affected, and how the games evolved. This data can be valuable for sports organizations, governments, and stakeholders preparing for future global events.

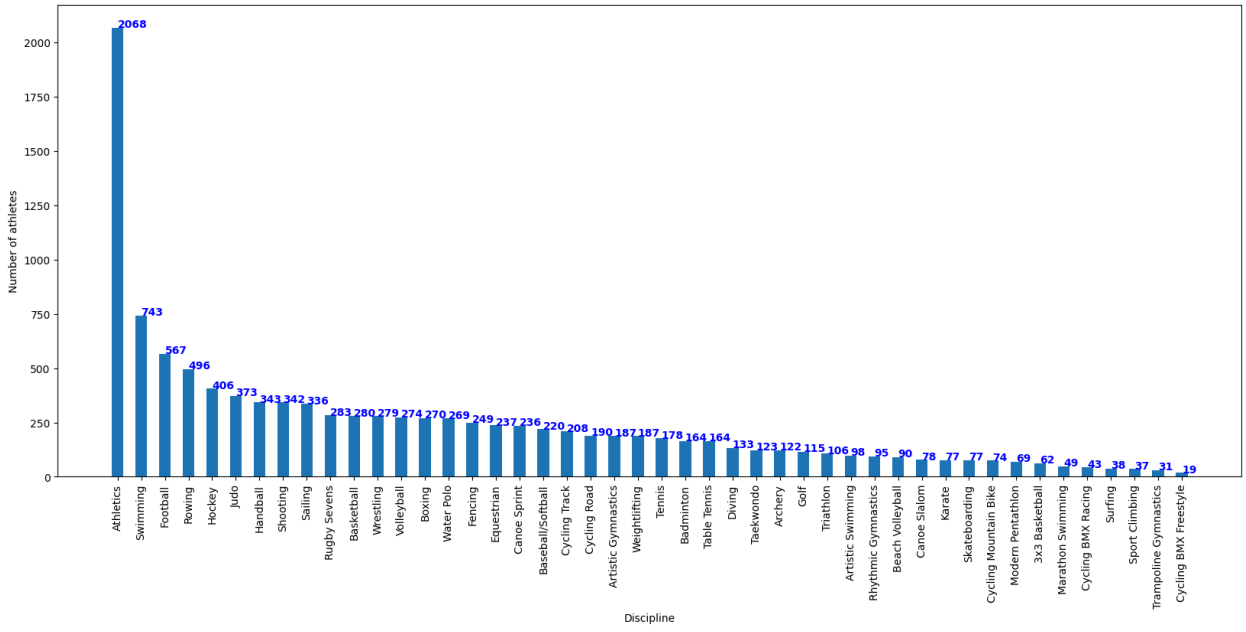
Methodology:

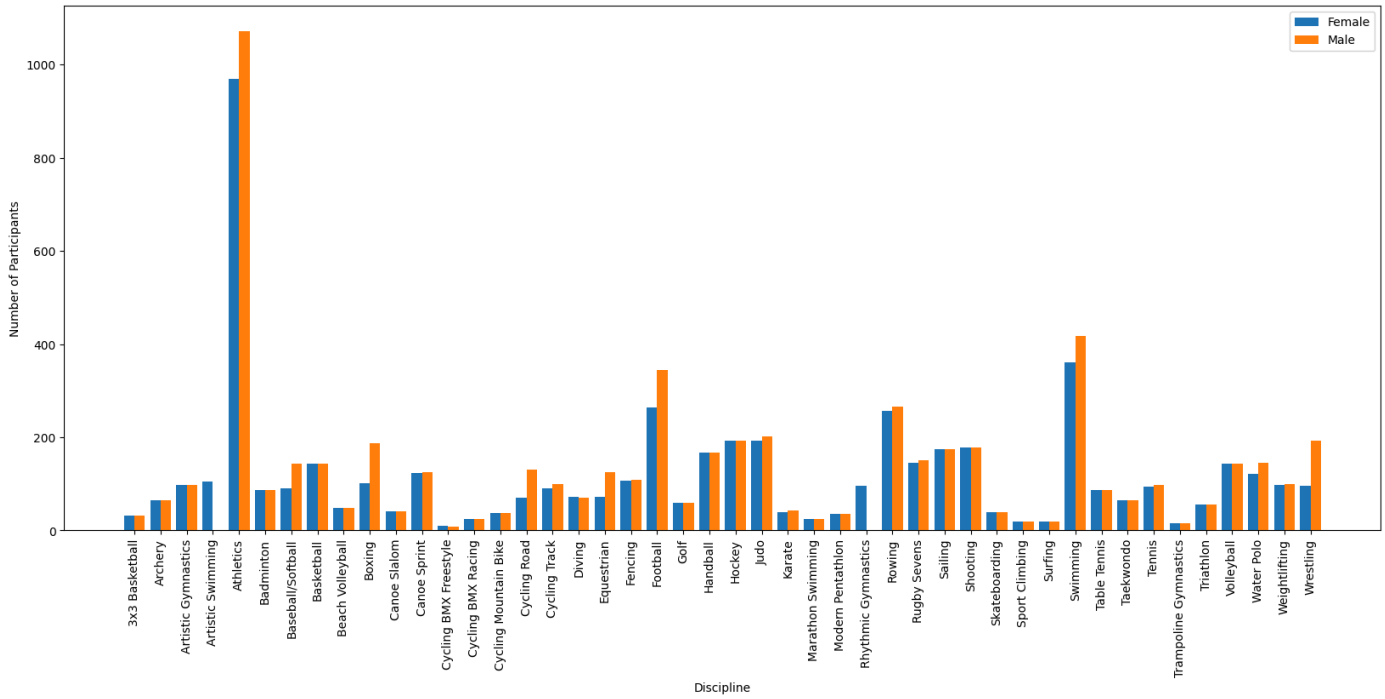
1. **Data Collection**: Historical data on the 2021 Olympics is gathered, including medal counts, athlete demographics, event-specific performance metrics, and data on COVID-19 cases.
2. **Data Preprocessing**: The collected data is cleaned, removing any inconsistencies or missing values, and structured for analysis.
3. **Exploratory Data Analysis (EDA)**: Initial analysis to explore trends in the data, such as country-wise medal counts, gender-wise participation, athlete performance comparisons, and any notable trends related to the pandemic.
4. **Visualization**: Creating visual representations (graphs, charts, heatmaps) to better understand patterns in the data.

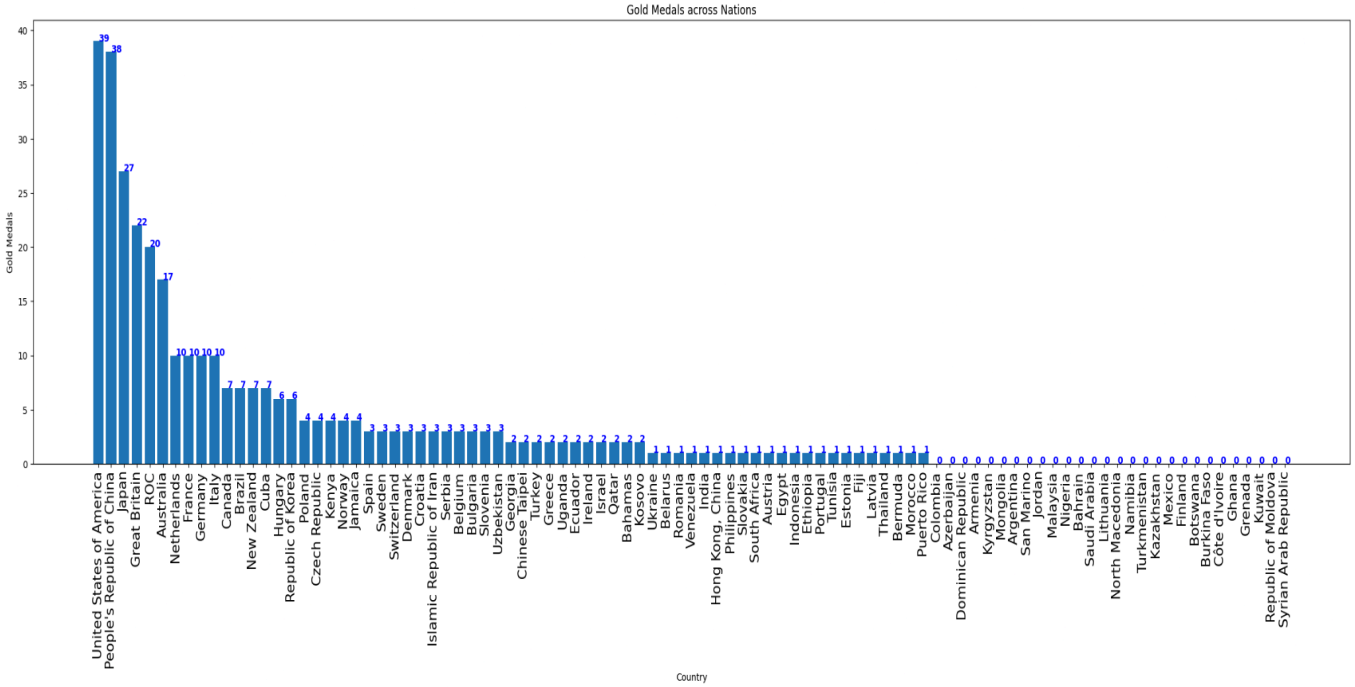
5. **Predictive Modeling**: Using regression models or machine learning algorithms to predict future performance trends based on the data from the 2021 Olympics.

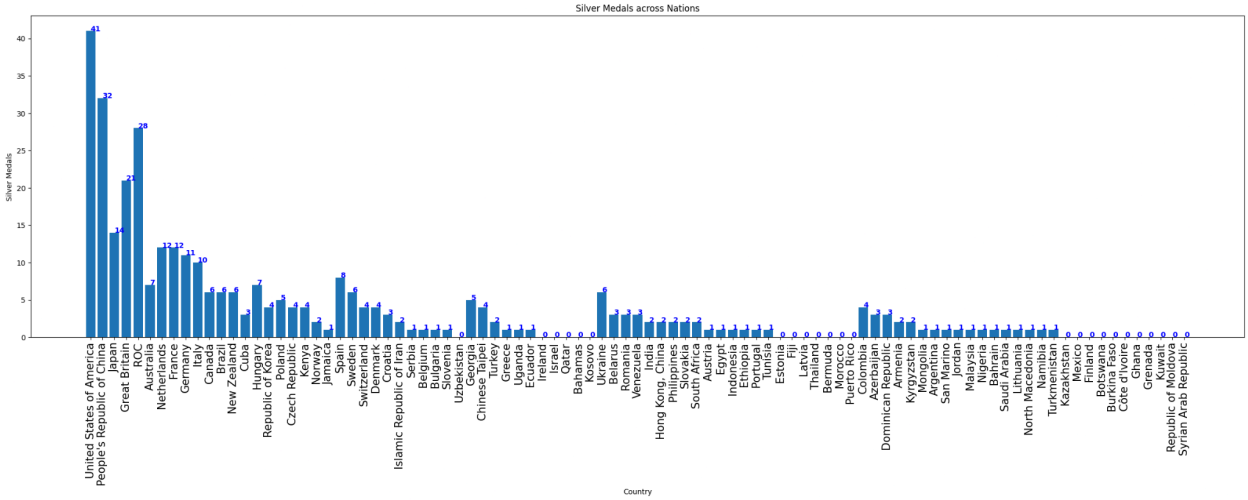
RESULTS AND DISCUSSIONS

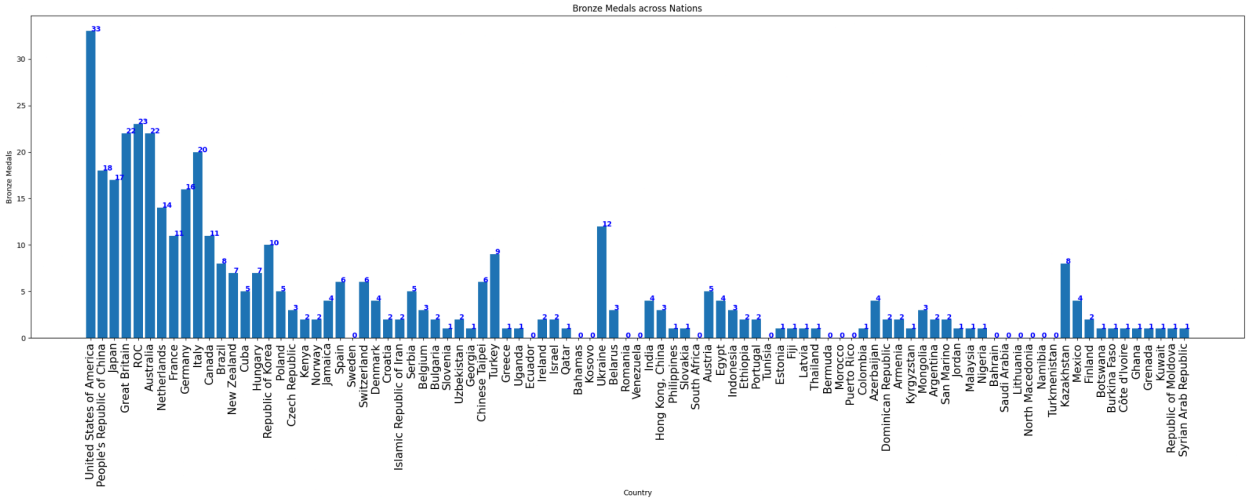





Female
Male
Number of Participants
Discipline
0
200
400
600
800
1000
3x3 Basketball
Archery
Artistic Gymnastics
Artistic Swimming
Athletics
Badminton
Baseball/Softball
Basketball
Beach Volleyball
Boxing
Canoe Slalom
Canoe Sprint
Cycling BMX Freestyle
Cycling BMX Racing
Cycling Mountain Bike
Cycling Road
Cycling Track
Diving
Equestrian
Fencing
Football
Golf
Handball
Hockey
Judo
Karate
Marathon Swimming
Modern Pentathlon
Rhythmic Gymnastics
Rowing
Rugby Sevens
Sailing
Shooting
Skateboarding
Sport Climbing
Surfing
Swimming
Table Tennis
Taekwondo
Tennis
Trampoline Gymnastics
Triathlon
Volleyball
Water Polo
Weightlifting
Wrestling


Gold Medals across Nations
Gold Medals
Country
United States of America
People's Republic of China
Japan
Great Britain
ROC
Australia
Netherlands
France
Germany
Italy
Canada
Brazil
New Zealand
Cuba
Hungary
Republic of Korea
Poland
Czech Republic
Kenya
Norway
Jamaica
Spain
Sweden
Switzerland
Denmark
Croatia
Islamic Republic of Iran
Serbia
Belgium
Bulgaria
Slovenia
Uzbekistan
Georgia
Chinese Taipei
Turkey
Greece
Uganda
Ecuador
Ireland
Israel
Qatar
Bahamas
Kosovo
Ukraine
Belarus
Romania
Venezuela
India
Hong Kong, China
Philippines
Slovakia
South Africa
Austria
Egypt
Indonesia
Ethiopia
Portugal
Tunisia
Estonia
Fiji
Latvia
Thailand
Bermuda
Morocco
Puerto Rico
Colombia
Azerbaijan
Dominican Republic
Armenia
Kyrgyzstan
Mongolia
Argentina
San Marino
Jordan
Malaysia
Nigeria
Bahrain
Saudi Arabia
Lithuania
North Macedonia
Namibia
Turkmenistan
Kazakhstan
Mexico
Finland
Botswana
Burkina Faso
Côte d'Ivoire
Ghana
Grenada
Kuwait
Republic of Moldova
Syrian Arab Republic


Silver Medals across Nations
Silver Medals
Country
United States of America
People's Republic of China
Japan
Great Britain
ROC
Australia
Netherlands
France
Germany
Italy
Canada
Brazil
New Zealand
Cuba
Hungary
Republic of Korea
Poland
Czech Republic
Kenya
Norway
Jamaica
Spain
Sweden
Switzerland
Denmark
Croatia
Islamic Republic of Iran
Serbia
Belgium
Bulgaria
Slovenia
Uzbekistan
Georgia
Chinese Taipei
Turkey
Greece
Uganda
Ecuador
Ireland
Israel
Qatar
Bahamas
Kosovo
Ukraine
Belarus
Romania
Venezuela
India
Hong Kong, China
Philippines
Slovakia
South Africa
Austria
Egypt
Indonesia
Ethiopia
Portugal
Tunisia
Estonia
Fiji
Latvia
Thailand
Bermuda
Morocco
Puerto Rico
Colombia
Azerbaijan
Dominican Republic
Armenia
Kyrgyzstan
Mongolia
Argentina
San Marino
Jordan
Malaysia
Nigeria
Bahrain
Saudi Arabia
Lithuania
North Macedonia
Namibia
Turkmenistan
Kazakhstan
Mexico
Finland
Botswana
Burkina Faso
Côte d'Ivoire
Ghana
Grenada
Kuwait
Republic of Moldova
Syrian Arab Republic


Bronze Medals across Nations
Bronze Medals
Country
United States of America
People's Republic of China
Japan
Great Britain
ROC
Australia
Netherlands
France
Germany
Italy
Canada
Brazil
New Zealand
Cuba
Hungary
Republic of Korea
Poland
Czech Republic
Kenya
Norway
Jamaica
Spain
Sweden
Switzerland
Denmark
Croatia
Islamic Republic of Iran
Serbia
Belgium
Bulgaria
Slovenia
Uzbekistan
Georgia
Chinese Taipei
Turkey
Greece
Uganda
Ecuador
Ireland
Israel
Qatar
Bahamas
Kosovo
Ukraine
Belarus
Romania
Venezuela
India
Hong Kong, China
Philippines
Slovakia
South Africa
Austria
Egypt
Indonesia
Ethiopia
Portugal
Tunisia
Estonia
Fiji
Latvia
Thailand
Bermuda
Morocco
Puerto Rico
Colombia
Azerbaijan
Dominican Republic
Armenia
Kyrgyzstan
Mongolia
Argentina
San Marino
Jordan
Malaysia
Nigeria
Bahrain
Saudi Arabia
Lithuania
North Macedonia
Namibia
Turkmenistan
Kazakhstan
Mexico
Finland
Botswana
Burkina Faso
Côte d'Ivoire
Ghana
Grenada
Kuwait
Republic of Moldova
Syrian Arab Republic

SUMMARY:

Most athletes in the Olympics reside from countries like the United States of America, Japan and Australia. This could be because these countries promote sports and athletics from a younger age, hone the youth and prepare them to compete in such higher levels and invest more behind these. Unlike countries like Tanzania or Sudan, these countries probably have a better sports culture. Athletics is the most popular discipline in the Olympics. This could be because other sports like football/basketball get other stages for players to display their merits so probably this is why athletes performing in athletics try to display their abilities in this grand stage. Japan produces the most coaches and US after them. Again this could be because of the vast culture of sports in these nations and as athletes grow preparing from a much younger age, they gain a lot of experience, resultantly becoming coaches. Females participate in all the disciplines but comparatively less than men. This cannot be because of any kinds of discrimination, rather the lack of growth of mindsets in young women to become great athletes someday in comparison to men. But, surely this statistic has developed a lot in the past years and some day, women might dominate more in these stages too. The USA has the highest number of gold, silver and bronze medals and this shows how successful the US is. The biggest reason could be wealth; more investment on athletes and their respective disciplines. Having better coaches and facilities does help create better and improved athletes so wealth could probably be why the US does so much better than other countries.

CONCLUSION:

The 2021 Tokyo Olympics, held under extraordinary circumstances, highlighted the resilience of athletes, organizers, and nations in the face of a global pandemic. Through this analysis, we have explored key trends such as medal distribution, athlete performance, and the impact of COVID-19 protocols. The findings demonstrate that despite the challenges, athletes continued to perform at an exceptional level, with some countries even surpassing expectations, while others struggled due to the pandemic's restrictions.

This study emphasizes the importance of adaptability in large-scale international events, offering valuable insights for future Olympic Games or similar global competitions. The data-driven approach reveals not only the significance of athletic preparation but also the role that external factors like public health crises play in shaping outcomes. Moving forward, the knowledge gained from the 2021 Olympics can inform better contingency planning, athlete support mechanisms, and logistical strategies to ensure the continuity and success of global sports, even in the face of unforeseen disruptions.