

Data Visualisation CA2 - Infographic Report

on

An Analysis of Last Five Summer Olympics

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1 Background

Data used in this infographic report has been downloaded from Kaggle[2]. Though the dataset contains past 120 years of historical data on Olympics including both summer and winter Olympics ever held, but for this infographic dashboard, data for only last five summer Olympics is taken. Basically, last five summer Olympics data is filtered out (**Rio 2016, London 2012, Beijing 2008, Athens 2004 and Sydney 2000**) from entire dataset. A single row in data represents a single player, which sport has he/she participated in, in which year, whether it was a summer or a winter Olympic, gender of player, country of player, city where Olympic was held and players height, weight & age. A full description of attributes is given in the appendix.

2 Process

Initial challenge was to come up with a topic, which for this infographic report is Olympics. First website picked up to search for Olympic related dataset was Kaggle and luckily there is a rich dataset present on Kaggle w.r.t Olympics. Tableau 2018.2 was used to build the infographic report. Following steps were followed to build this infographic report:

2.1 Step 1

Dataset containing past 120 years of Olympic history was first downloaded and a quick study of data was done to look what attributes contain what information which was then filtered to get last 5 summer Olympics data. There is an attribute Season from which one can filter summer and winter Olympics. After filtering all summer Olympics from dataset, last 5 summer Olympics were filtered as mentioned in background above.

2.2 Step 2

Filtered data was copied and pasted in another excel spreadsheet. A proof check was performed to check quality of data, which was observed to be good. Excel spreadsheet was then pulled in Tableau for building the infographic report.

2.3 Step 3

A suitable title was written and a free Olympic rings png icon was downloaded[17]. Olympic rings were put beside the title. Later a free png icon with Olympic torch was downloaded and put beside title[10].

2.4 Step 4

A line dividing the title and rest of the report was put and then a short summary of last 5 summer Olympics was written in a worksheet which was put beneath the line separating title. Line separating the title and rest of report is nothing but a horizontal container which Tableau provides. Height of this container was reduced to an extent to make it look like a line.

2.5 Step 5

Five different worksheets were built to put each one of the five different Olympic logos i.e. Rio 2016[7], London 2012[1], Beijing 2008[5], Athens 2004[4], Sydney 2000[3]. Similarly, 5 different worksheets were created to write a short summary for each of the Olympics. Five different vertical containers were used to put together all 5 combinations of png icons worksheet and respective short summary. All containers were stacked beside each other.

2.6 Step 6

Again, a vertical container was pulled, reduced in height and was given a grey background to make it look like a grey line. After this, a new worksheet was created wherein title and a one-line description about female and male players was written.

2.7 Step 7

Tableau shapes were used to represent male and female and across these shapes 5 different sets of lollipop charts were put to show percentage of male and female players for each Olympic. Each set of lollipop chart has male and female percentage for respective Olympic.

2.8 Step 8

This next section was built to show how many female and male players won gold, silver and bronze medals for each Olympics. The medal icons on extreme left side is picked from flaticon[14]. These charts are divided in 5 columns, one for each Olympic and are popularly called Onion Chart[20]. A tableau public dashboard was referred to build these charts for this infographic report[22].

2.9 Step 9

On the bottom left of the report, top 6 athletes are shown based on number of medals they have won. To show this part of view, 3 separate worksheets were created along with one worksheet with a short summary. Starting from left, first worksheet contains

png images of all 6 athletes. Starting from top Michael Phelps[15], Natalie Coughlin[16], Ryan Lochte[18], Allyson Felix[6], Ian Thorpe[13] and Leisel Jones[8]. Second worksheet is showing total number of medals won by each athlete with respective sport png icon[21][19]. Third worksheet shows number of medals won by type of medal.

2.10 Step 10

Last section at the bottom right of the contains a total of 3 worksheets, first a short summary of top 3 countries by medal won, second worksheet contains flag of those countries and the third one is a table showing number of medals bagged each country by medal type. Flags were picked up from[11][12][9]

3 Specification

As the title states, this infographic dashboard built in Tableau shows an analysis of last five summer Olympics. The report starts by stating overall figures of all the last five summer Olympics combined and then smoothly flows down to show actual figures for each of those Olympics. In the middle section, report then focuses on gender of all players involved in those Olympics and shows number of athletes who participated by gender. Further, it shows number of gold, silver and bronze medals won by players based on gender. After this, report tries to show a more interesting fact about last five summer Olympics i.e. it shows the top performing athletes in last five summer Olympics combined while also showing total number of medals won and number of medals won by each type of medal (gold, silver and bronze).

Adjacent to top performing athletes, infographic dashboard also mentions top three countries whose athletes performed the best by first telling the total number of medals collected by athletes for each of the top three countries in a short summary and then showing number of medals in gold, silver and bronze category for each country. Overall, the infographic report first tells the story about how many athletes participated, from how many countries, how many events took place and how many sports were organized in those Olympics followed by gender division of medals won and then ends the report by showing figures about the top performers. So basically, the report is trying to show key aspects which anybody would be interested in to see.

4 Justification

To make this infographic dashboard look attractive, emphasis was laid on the colors, the font, png icons and the alignment of worksheets so that everything appears to be seamlessly blended in.

4.1 Layout

A thin and long layout is used rather than a wide and short layout. In Tableau, one can change the size of a dashboard as per the requirements or as needed. Dashboard layout width was set to be 1100px and height was set to be 2200px. The idea of building it slim and tall was followed because it is what which usually suggested over internet[24][25].

4.2 Colors

Attention has been paid to colors in the report. A very light pink color has been put on dashboard background and five different colors have been assigned to five different Olympics. The lollypop charts in the second section of the report is in accordance with this color code. Male and female have been given two different colors just to get a view of their proportion in onion charts while the colors of gold, silver and bronze medals have been kept same throughout. Also, titles for each section has been kept black while short summary everywhere is kept light grey with main numbers in summary black. These colors were chosen to make the dashboard look attractive and uniformity of colors was made sure across the entire dashboard.

4.3 Font

A single font has been used for every written thing which can be seen in the report. Font used to build this report is century which comes along with Tableau. There is a small thing which has been done, probably to make the titles look more attractive i.e. the first letter of every word in each title is kept bigger in size. Infographic report title is made a lot bigger as compared to titles of each sections. There is no specific reason behind selecting century font. It was selected based on a fact that everything should look decent.

4.4 Icons

There are multiple icons which are used in this report and each icon is a png icon. Png icons blend very well in a Tableau dashboard and makes it look even more attractive. Icons were basically used to make the dashboard engaging so that people not just see some bunch of charts and numbers.

4.5 Alignment

Few containers are used to properly align worksheets in the dashboard. Containers are objects provided by Tableau. All text which can be seen in the dashboard is centrally aligned except the main title of the dashboard. Containers are kept floating while the sheets which are put in it are kept tiled.

5 Technologies

This infographic report was entirely built in Tableau 2018.2 from scratch. No other tools or technologies were used. The reason behind choosing Tableau to build this report is that Tableau has been a leader in the area of data visualization from past 7 years[23]. Other reasons why Tableau was chosen to build this infographic report is because of[26] – its remarkable visual image capabilities, its thriving community, its high performance in handling data especially after introduction of hyper[27], its mobile friendly interface so that the infographic could be viewed on a mobile also, and, its ease of use with just a task of dragging and dropping required fields to build a simple bar chart.

6 Reflection

Tableau is an excellent tool to build interactive and insightful stories in the form of a dashboard. Getting hold of the dataset was fairly an easy task. Major challenge was to come up with an attractive design which could show the story in the best possible way it was intended to. Writing short summaries was not a difficult task but finding all the relevant png icons over the internet was. Building the onion charts was time taking as it involves writing down several calculations and manipulating data itself (Data Densification). Another time taking task was to align all sheets so that they are in their correct places.

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Appendix

Data Description

Dataset downloaded from kaggle was filtered to just get data w.r.t last 5 summer olympics. Filter was applied on attributes "season" and "city" for values "summer" and cities where last 5 summer olympics were held respectively. Following is the list of attributes:

Serial No.	Attribute	Description
1	Name	Name of the Athlete
2	Sex	Gender of the Athlete
3	Age	Age of Athlete
4	Height	Height of Athlete
5	Weight	Weight of Athlete
6	Team	Country of Athlete
7	NOC	Country Code
8	Year	Olympic year in which he/she participated
9	Season	Two types of Olympics are usually held i.e. Summer and Winter
10	City	City where Olympic was held
11	Sport	Sport in which the athlete participated
12	Event	Event under that sport in which the athlete competed. An athlete may or may not participate in multiple events of the same sport. Example: 100m race, 400m race
13	Medal	Type of medal athlete won, if any. If athlete has won no medals then this field is N/A