THE ASTONISHING WORLD OF DATA VISUALIZATION

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A B S T R A C T

Data visualization is the training of translating records into a visible context, which includes a map or graph, to make data less difficult for the human mind to understand and pull insights from. The main aim of information visualization is to make it less difficult to become aware of patterns, tendencies, and outliers in massive datasets. Information visualization is very essential in every professional field. It can be used by instructors to show pupil check results, by way of computer scientists exploring new innovations in synthetic intelligence (AI), or via executives seeking to share facts with shareholders. statistics visualization offers a quick and powerful manner to speak statistics in a typical way by the use of visuals statistics. The coaching can also assist organizations to become aware of which factors affect patron behaviour; pinpoint regions that need to be advanced or want more interest; making facts extra memorable for stakeholders; recognizing while and where to place unique products; and predict income volumes. Here we are taking a dataset to show how to do data visualisation

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1. INTRODUCTION

The tool with which the report has been based upon is data studio as its helps in visualization of the datasets in an easier way. With people relying on a variety of sources to carry out their digital marketing strategies, Google Data Studio Reports can be of great help to consolidate all of the data and improve your analysis of it. Whether you are using Google Analytics, YouTube Analytics, LinkedIn Ads, Google Search, or another tool, you can customize and combine the data into a dashboard to help your team better visualize what's going on. Google Data Studio is a platform that allows you to connect to multiple data sources while filtering and customizing which data you want to visualize. A data source is simply the location of the data (Google Analytics, Google Sheets, LinkedIn, YouTube, Search Console, etc.). it's not as complicated as it sounds; developer skills aren't required at all, and Google has constructed it that simple for beginners to begin building reports. It is critical to structure the work correctly. Its critical to keep things simple to read and understand while also make sure it is providing more detail if you or a team member want to dig deeper into the data. You will want to engage the viewers and ensure that your reports are easy to understand in the same way that you would structure a PowerPoint or Keynote. The purpose of these reports is to assist you and your team in better visualizing and making sense of data. Whether you are distributing these reports to direct reports or C-level executives, you will want the most important information to appear on the first page. We have shown that clearly on the first page of the report for the report we created to track User Sessions vs. Average Position, and we have also used a scorecard to make the average position even more visible. Tracking your top competitors (via Excel sheets), average duration on your site, and conversions that is doe in the visualization will also help you to understand the actions a user takes online better. This makes the report accessible to all audiences. Management may not be as concerned with the level of detail that the technical SEO team is. Google Data Studio includes theme and layout tabs for customizing and organizing the look and feel of the report. You don't have to have a designer ability to make the reports look appealing, but you should use colour schemes that are going along with the data in the report. For example, if your first page has a time series chart that breaks down how many users are using your website, and the second page shows the timeline of the same users being on your website, viewers of the report may find it useful to look at the same colour on each chart because they are highlighting the same data and so will be at ease. Begin by familiarizing yourself with how the actual reporting works by using the sample reports that are already provided. You can get more granular and improve your reporting once you understand how to customize the data. The way you measure your online presence will change as your reports evolve. You will be able to improve your reporting as you continue to build and measure it using the data visualization and convenience that Google Data Studio reports providing.

2. PROCEDURE

We got to get a dataset from any of the online sites that would provide you one. If one is doing it based on any particular dataset, they can take that as their research material. The data is then added to any of the data visualization tools like data studio, tableau, wrapper, google charts, sisense etc. If one opted for data studio which is user friendly, they got to sign up to the site and add the certain dimensions based on the dataset you have taken. The same is repeated till all the data collected is visualized as a graph for better understanding. Several operations are done on the data and represented in graph format in every case. one can also use various themes and layout for the representation of the data

3.   IMPLEMENTATION

STEP 1-The data are gathered from the Kaggle

STEP 2-Then the data is added to the data studio

STEP 3-By adding the name of the country as dimension. And the population as metric

STEP 4-The selected data is visualised into chart for better understanding

The same process is repeated for various year population data

STEP 5-Then the total population of the years are represented just below the charts

The area of the world is visualised as similar but instead of including various data only one data is added

STEP 6-This is similarly done to density, growth rate, world percentage

Finally, the rank of the country based on the poly is visualised using the chart

STEP 7-The theme of the overall report is changed using theme &layout
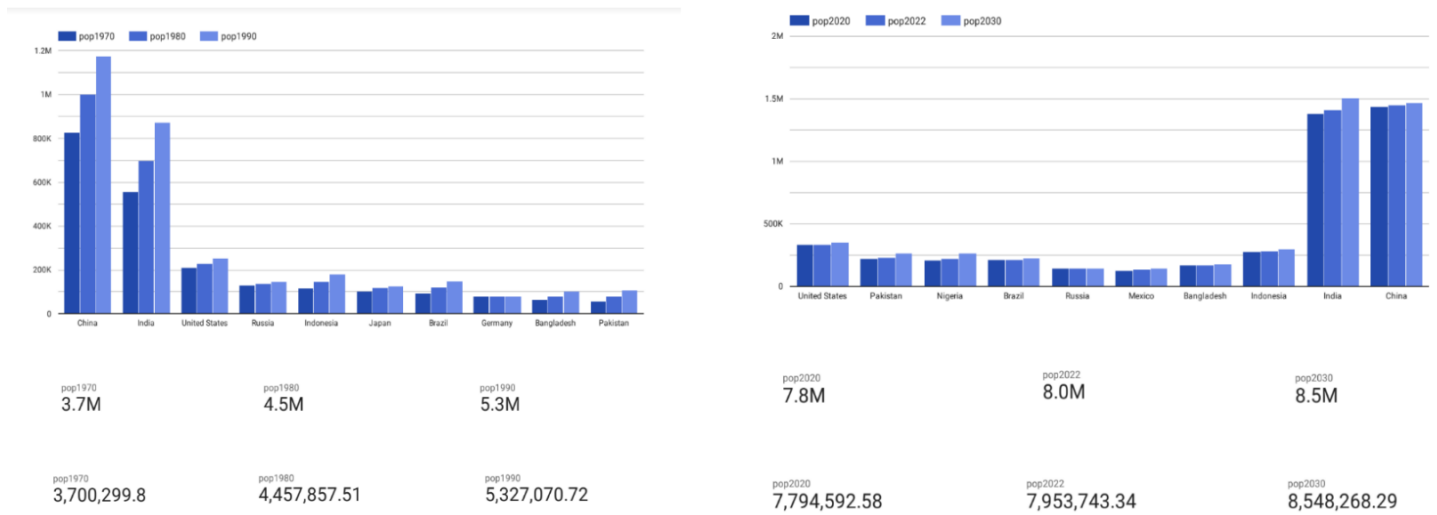
4.   IMPLEMENTION CHART

Fig. 1 - Histogram comparison between (a) 1970-1990; (b)2020-2030 representation of world population.
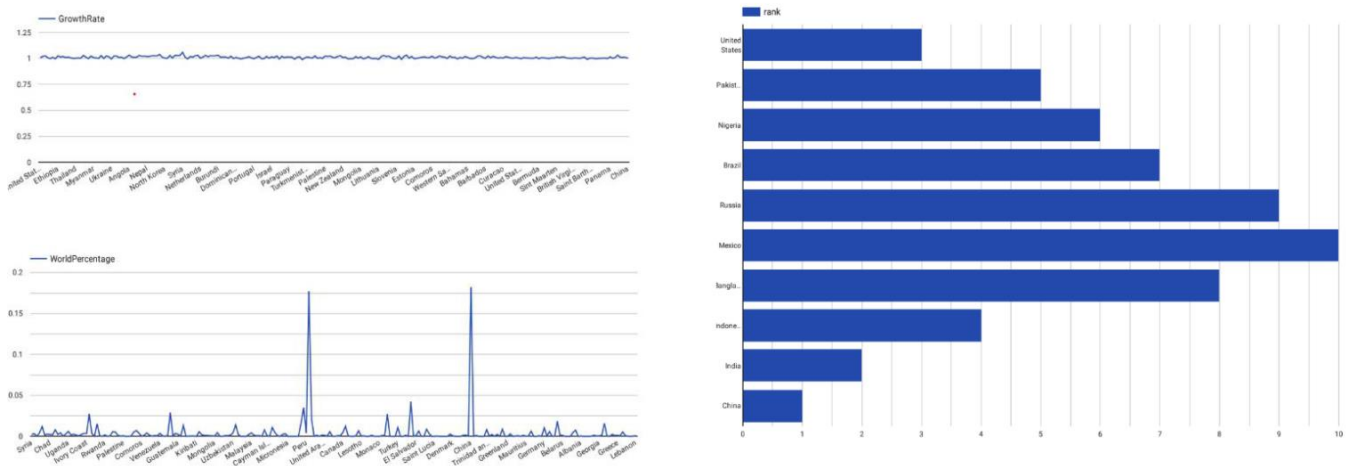

Fig. 2 - (a) line graph; (b) bar graph representation of world population.

5. CONCLUSION

Data visualization can be used to look for obvious errors inside the dataset, such as nulls, random values, awesome data, the format of dates, the sensibility of spatial information, and string and character encoding. The data visualisation helps in clear communications than any other word related reports. It's such an important technique used in various profession nowadays. Its helps in deeper understanding of concepts. And with the help of tools like data studio it makes its more user to visualise the data and explain the contents in detail. Data visualising in progressing in every profession due to its advantages

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