INF-552 Data Visualization Project Report

Visualization of World Migration 1950-2100

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Abstract

This project aims to visualize the migration of people across the globe from 1950-2015 and estimated migration from 2015-2100. This is achieved by using the application Tableau 2020.3. This project intends to display the change in migration over the years through a world map and also visualize the migrate rate among the developed and less-developed countries. Another view of the migration is among the high income and low income countries.

The data utilized for this project is from the database: UN: Net Migration Rate on data.world. Data visualization best practices have been followed throughout the project which is described in the sections below.

The data is divided into two categories depicting migration over the years 1950-2015 and 2015-2100. Users can toggle between these two dashboards with ease using a click of the button.

Chapter 1

Introduction

Visualization of World Migration project developed on Tableau 2020.3 has two dashboards displaying migration rate from 1950-2015 and 2015-2100. These two categories are primarily visualized as a world map. Other categories include development based, income based and migration estimate across the continents and country with the highest migration rate every year. These features are depicted using bar charts and lines.

The data source is UN: Net Migration Rate from https://data.world. The indicator Migration Estimate, widely used in this project is the number of immigrants minus the number of emigrants over a period, divided by the person-years lived by the population of the receiving country over that period. It is expressed as average annual net number of migrants per 1,000 population.

The tableau workbook is published at:
https://dub01.online.tableau.com/#/site/datavisualizationprojectsinisuresh/workbooks/530007?:origin=card_share_link

Chapter 2

Design

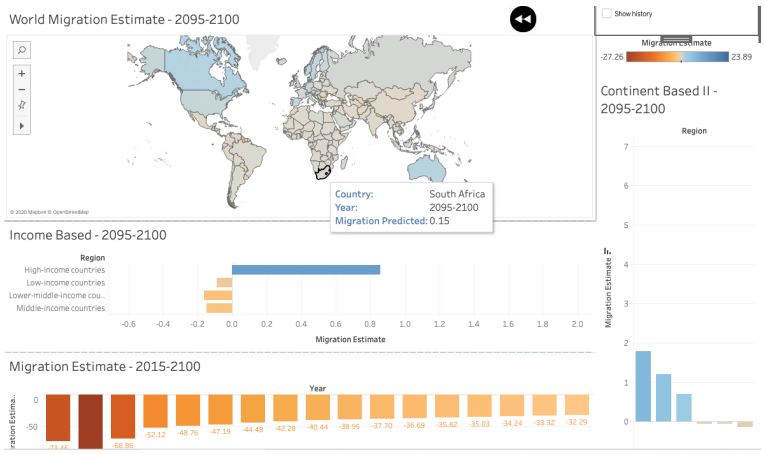
The dashboards are designed in a way that anybody can gather insights described in the next chapter. Tags are applied to every element on the dashboard for better understanding of information.

Considering the color-blindness, color palette chosen is of the range orange-blue. The same color palette is followed throughout the project.

Users can switch between the dashboards by clicking the button with an icon forward (»)/ backward («) that represents migration estimate from 1950-2015 and 2015-2100.

The title of the dashboards and individual chart titles are self-explanatory.

A video capture of the dashboard features is attached along with this report.



Chapter 3

Insights

Following are the insights gathered from the visualization of data on world migration rate:

1. Over the years starting from 1950 to 2010, we see that migration has significantly increased especially in the developed countries, with minor drop around the years 1980-1985.

2. It can also be observed that least developed countries have also seen an increase in migration rate during 1990-1995. However, Lesser developed countries seem to stay more or less around the central value.

3. Among all the continents, Australia has seen the highest migration rate followed by North America. Continents like Asia, Africa and South America has lesser migration rate. On the same context, Europe does not seem to have high fluctuations.

4. Coming to the estimated migration from 2015-2100, migrate rate tends to reduce gradually. Although, High-income countries tend to have a positive migration score.

5. Similarly in the case of Continents, as seen previously, Australia has the highest migration rate followed by North America and Europe. Over the years from 2015-2100, migration rate drops gradually across all the continents proportional to their migration rate from the previous years.

6. Based on countries, from 1950-2015, Middle-East countries have the highest rate of migration whereas from 2015-2100, Singapore and Syria tends to have the highest rate of migration.

Chapter 4

Conclusion

This project, Visualization of World Migration, visualizes migration rate across the world over the years 1950-2100. This duration is categorized into two and displayed in two different dashboards. Navigation between these dashboards is made easy with the help of a button.

In the design perspective, a user-friendly interface and primarily the color palette is chosen in favor of audience with low vision/ color-blindness.

The visualization of data from the UN clearly shows the migration rate increases until 2010 and starts to decrease gradually and this trend continues until 2100.

The dashboards visualize the change in migration across the continents, where we see that Australia has the highest migration rate. Countries with highest migration rate for every year is also depicted.

The variation of migrants across the developed nations and less developed nations is displayed. Similarly, across the high income countries and low income countries can be observed.

Bibliography

[1] INF-552 Data Visualization course materials

[2] https://data.world

[3] https://cfpb.github.io/design-system/guidelines/data-visualization-guidelines