Rakshit Sharma

19BCE2649

VIT Vellore Campus

SmartInternz Project

Topic: World Population Data Analytics Using IBM Cognos

The 2019 Revision of World Population Prospects is the twenty-sixth round of official United Nations population estimates and projections that have been prepared by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat.

The main results are presented in a series of Excel files displaying key demographic indicators for each UN development group, World Bank income group, geographic region, Sustainable Development Goals (SDGs) region, sub region and country or area for selected periods or dates within 1950-2100.

List of sources of empirical data used or considered and the methods applied in revising past estimates of population and components of demographic change (fertility, child, adult and overall mortality, international migration) are presented in tabular form for each demographic component and country or area for the period 1950-2020.

Goal of the case study:

To find and analyze United Nations population estimates and projections and present in a visual format for better understanding.

Architecture:

Dataset link: https://population.un.org/wpp/Download/Standard/CSV/

Project Objectives

By the end of this Project, we will:
Know fundamental concepts and can work on IBM Cognos

- Gain a broad understanding of plotting different graphs.
- Able to create meaningful dashboards

Project Flow

- We will create multiple analysis graphs/charts.
- Using the analysed chart creation of Dashboard will be done.
- Saving and visualizing the final dashboard in the IBM Cognos Analytics.

To accomplish this, we have to complete all the activities and tasks listed below:

1. IBM Cloud Account
2. Login to Cognos Analytics
3. Working with the Dataset
   - Understanding the Dataset
   - Loading the Dataset
4. Data Visualization Charts
   - Building of Visualizations with Analysis of Top10 Pop Total by Location Using Tree Map
   - Building of Visualizations with Analysis of Pop Total By Time Using Line Chart
   - Building of Visualizations with Analysis of Pop Male by Location and Pop Female by Location Using Pie Charts
   - Building of Visualizations with Analysis of Pop Male by Time and Pop Female Using Packed Bubble Charts
   - Building of Dashboard
   - Building of Visualizations with Analysis of Pop Male and Pop Female by Time(Group) Using Line &Column Chart
   - Building of Visualizations with Analysis of Pop Male, Pop Female and Pop Total Using Summary

Building Project:

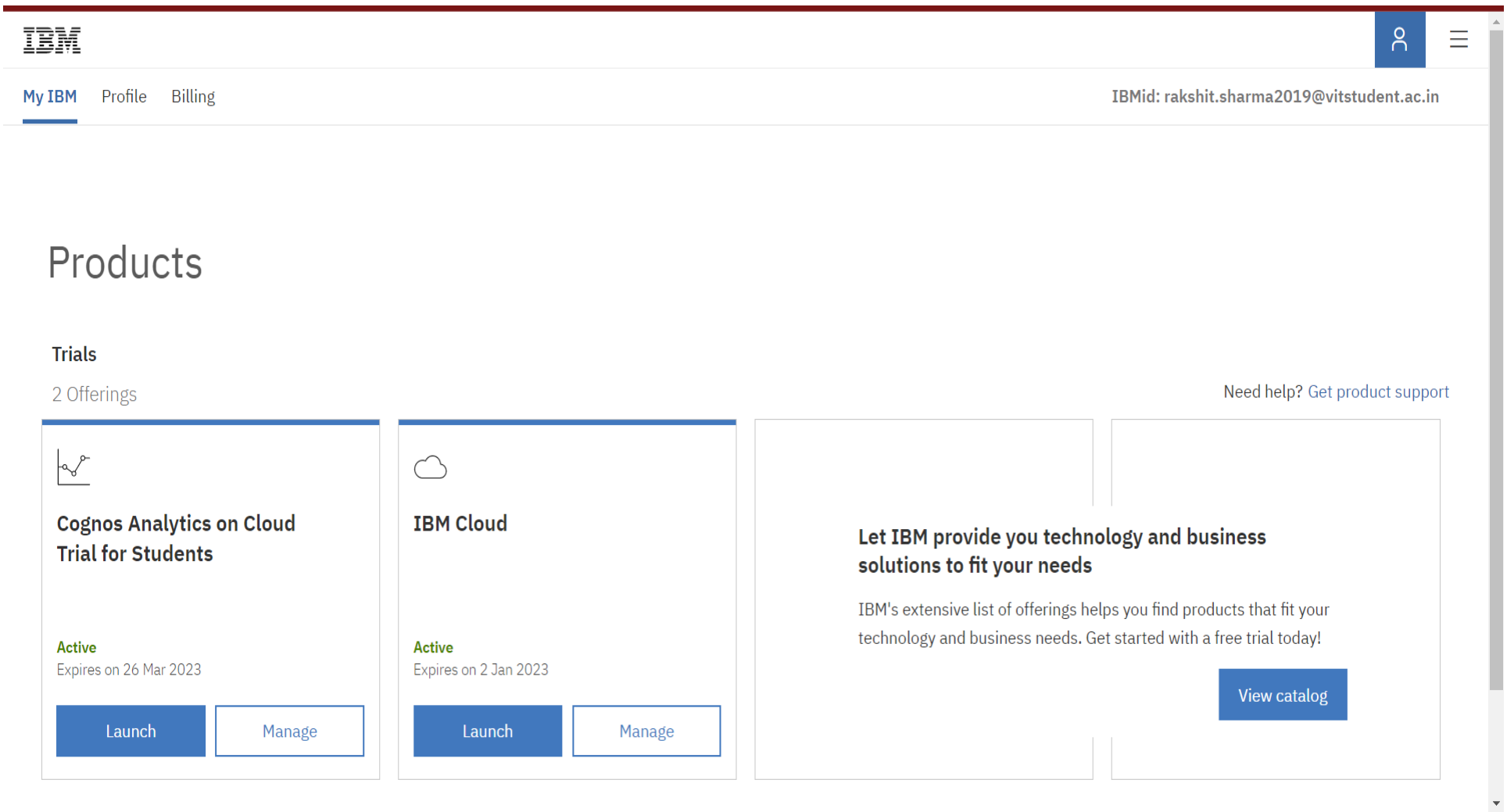


Fig: Loging into IBM Account

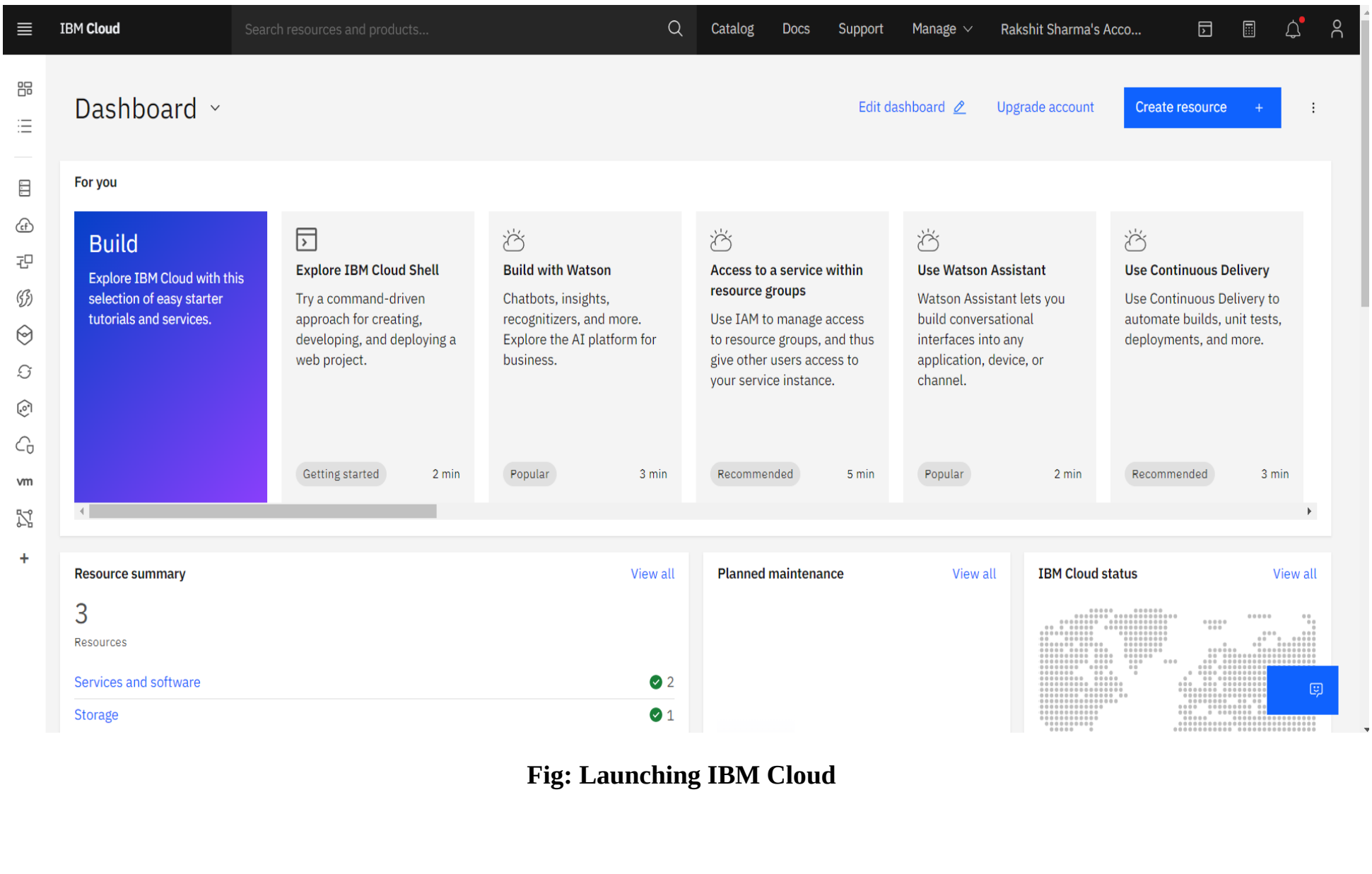


Fig: Launching IBM Cloud

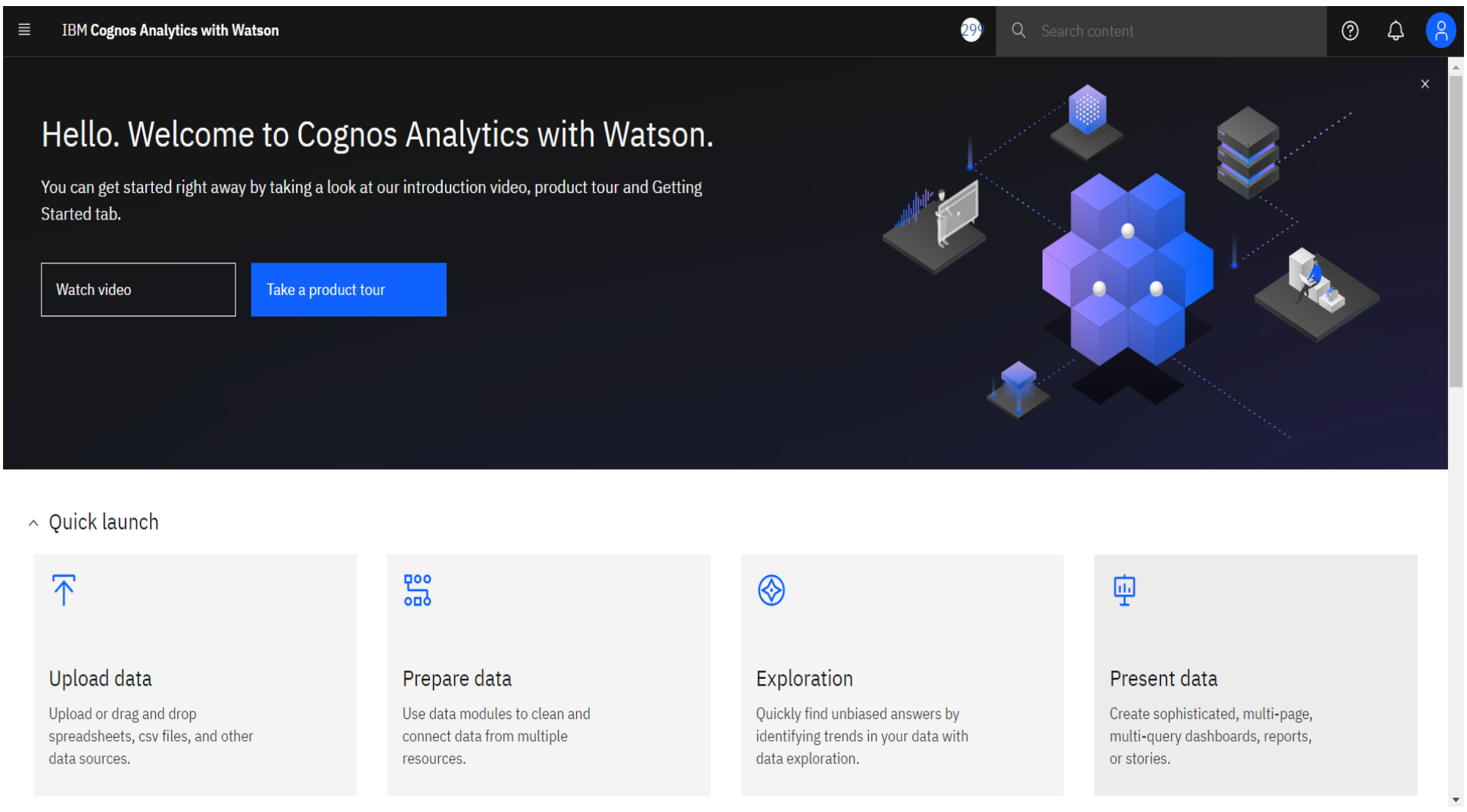


Fig: Launching IBM Cognos Analytics

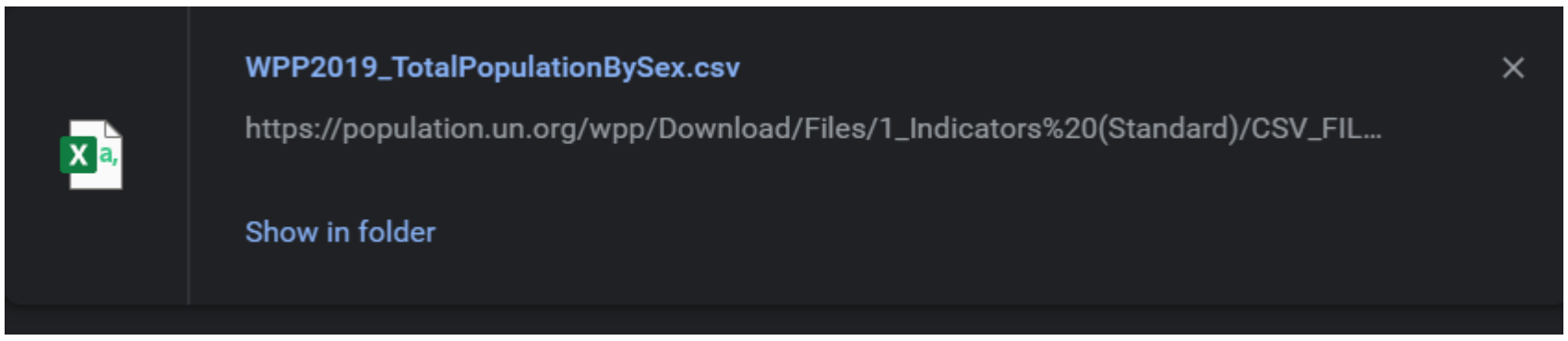


Fig: Download Dataset on which we will be working on
Link: https://population.un.org/wpp/Download/Standard/CSV/

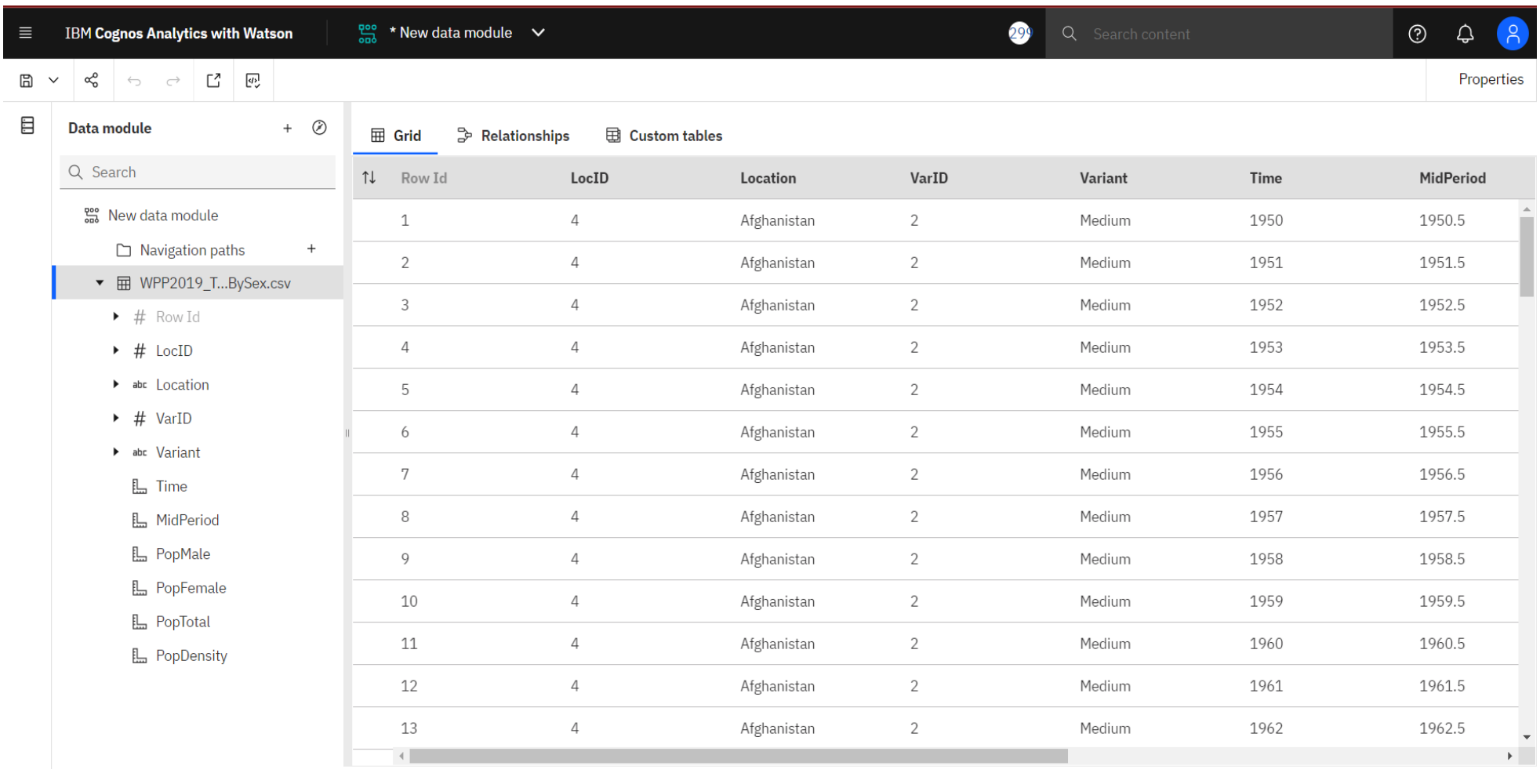


Fig: Loading the Dataset

Working on the datasets:

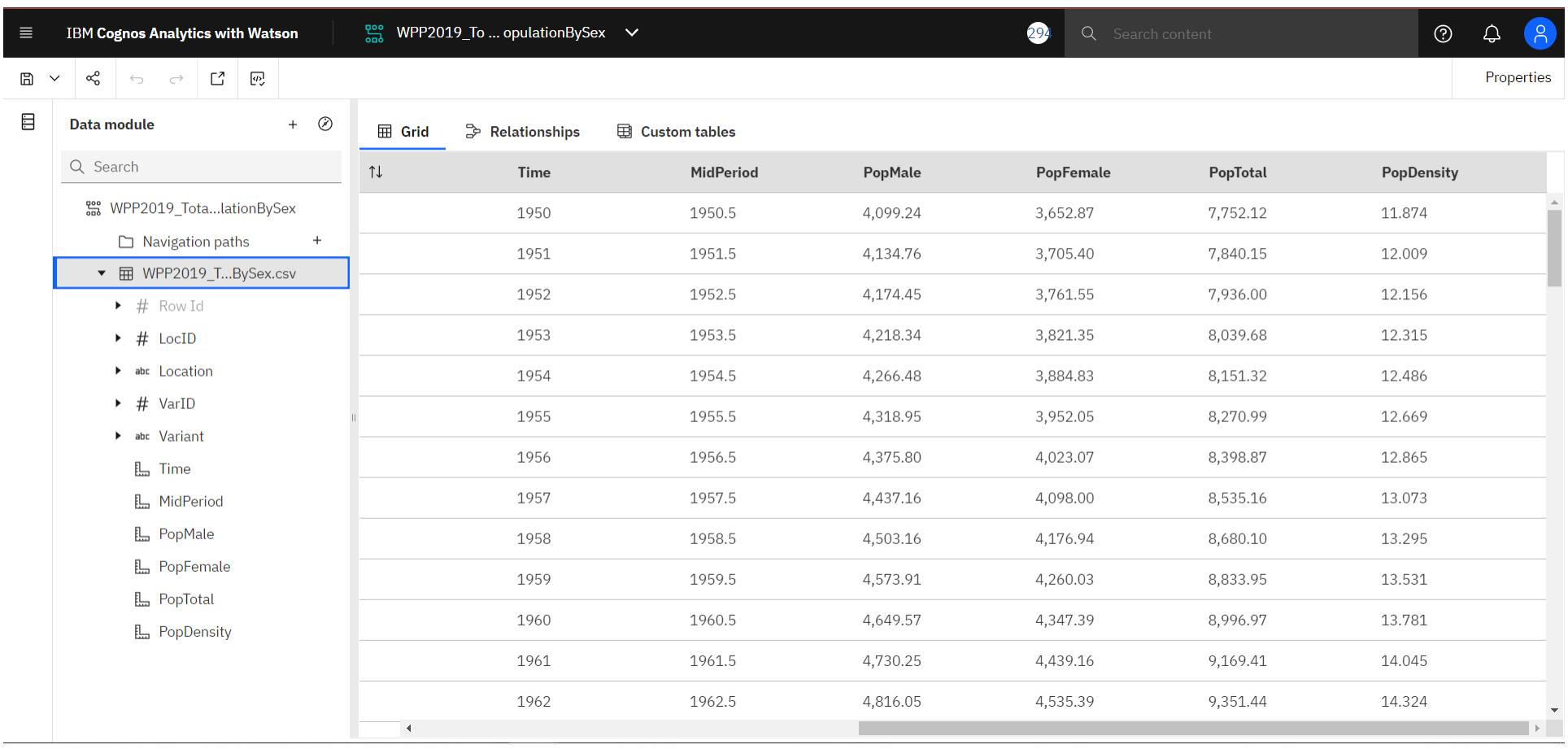


Fig: Adding new field (PopTotal = PopMale + PopFemale)

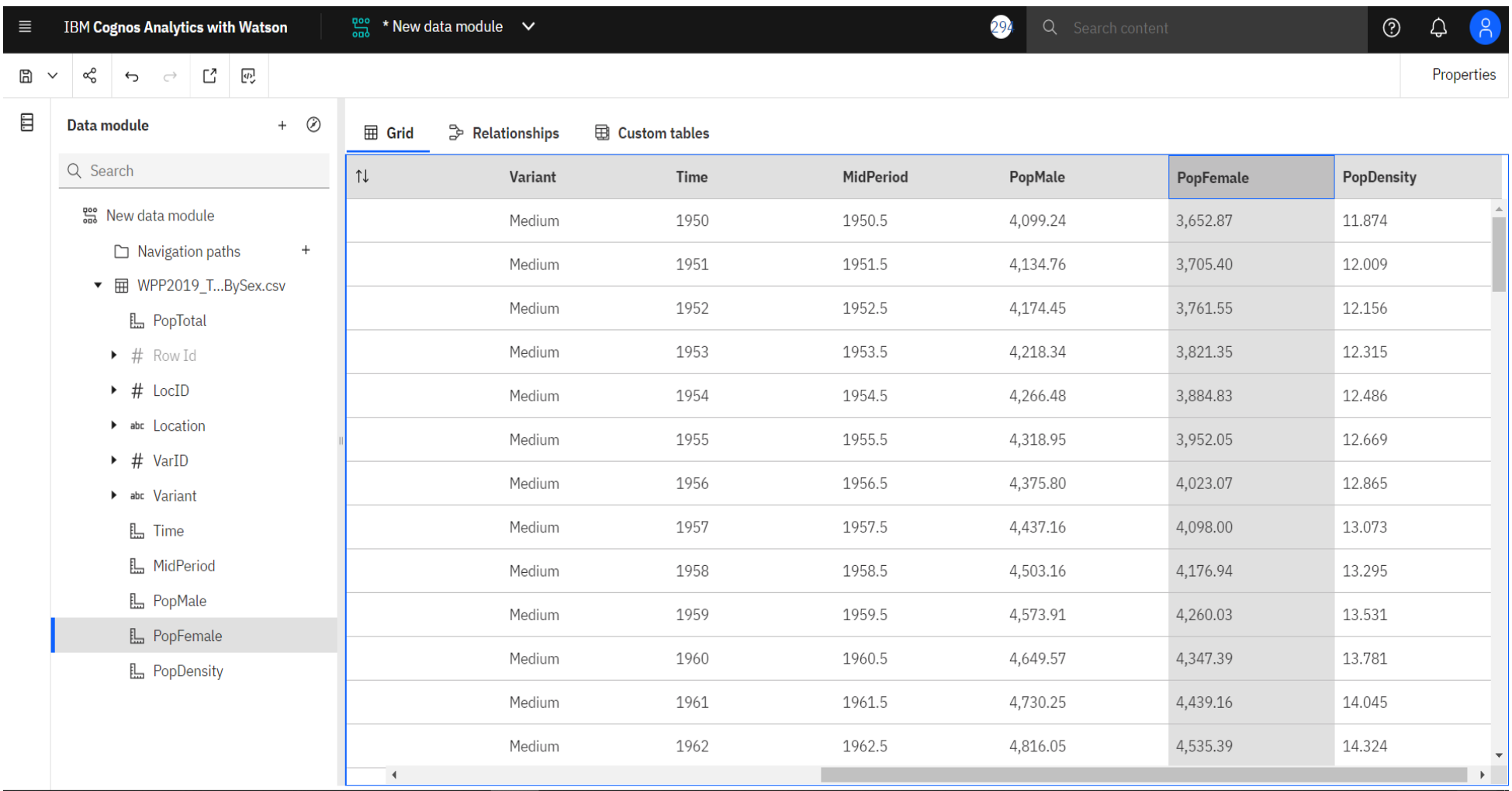


Fig: Formatting PopMale and PopFemale Data types
(Used Number formatting to separate 1000 places and restrict decimal places to 2)

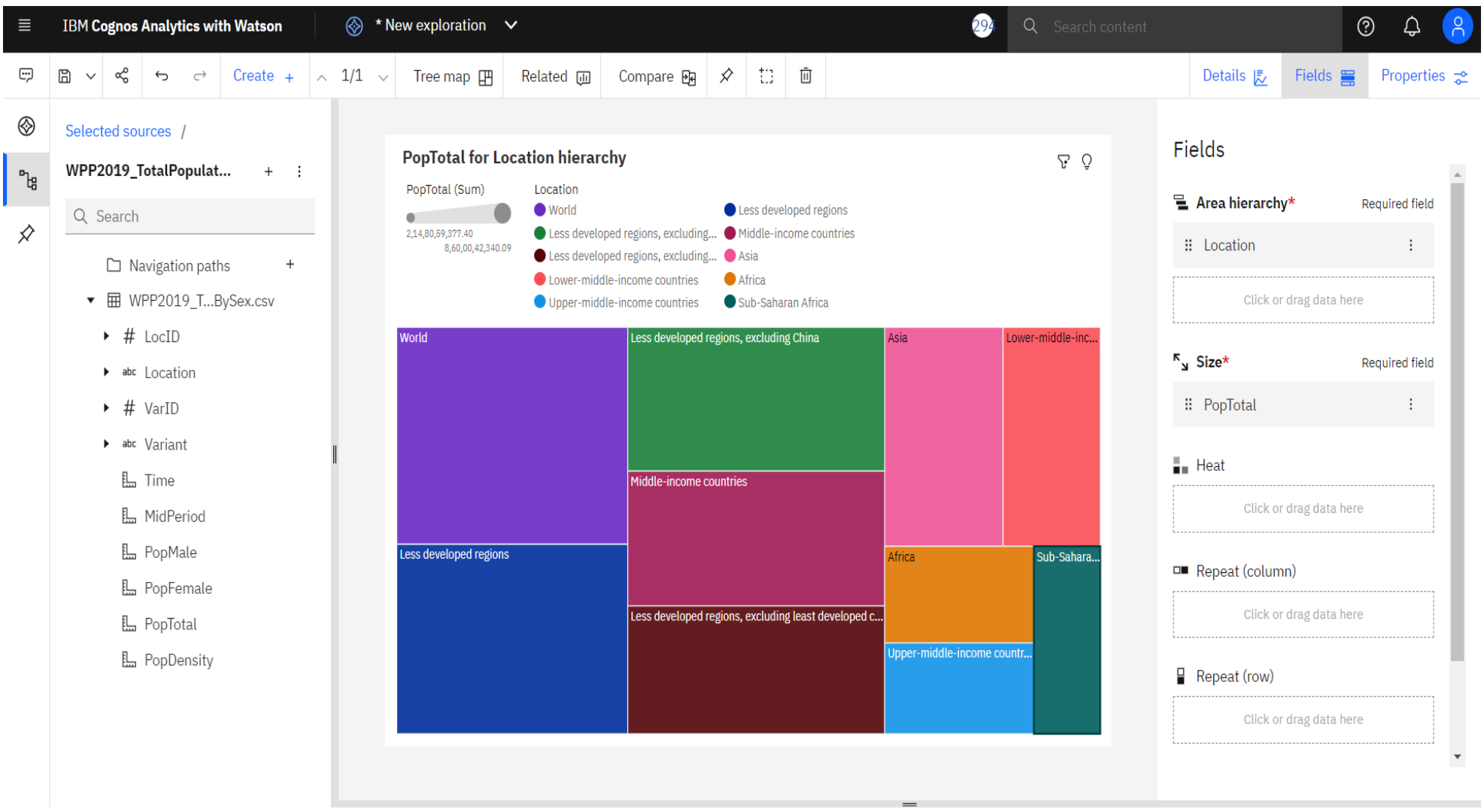


Fig: Tree Map Analysis

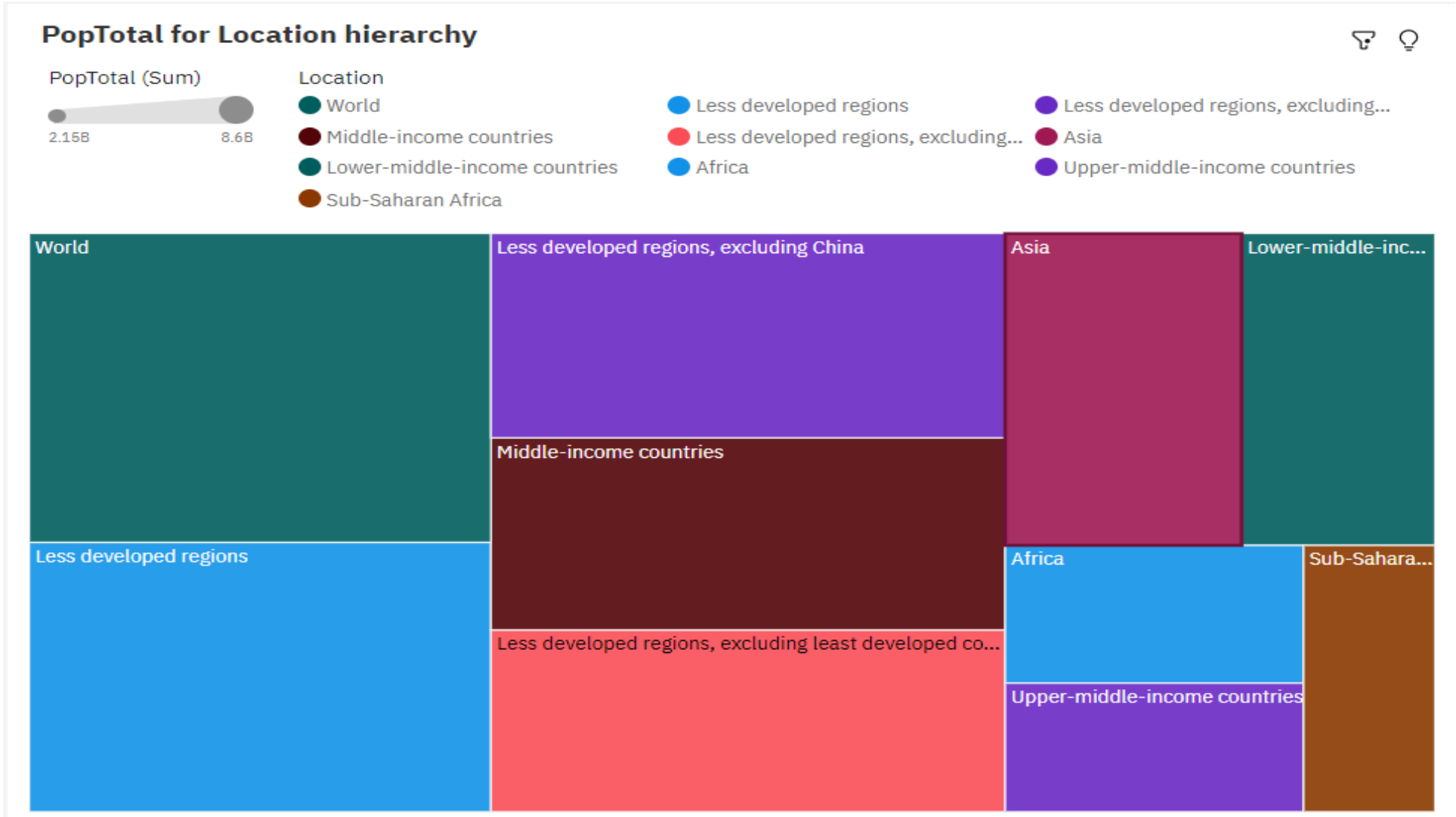


Fig: Top10 Pop Total by Location Using Tree Map

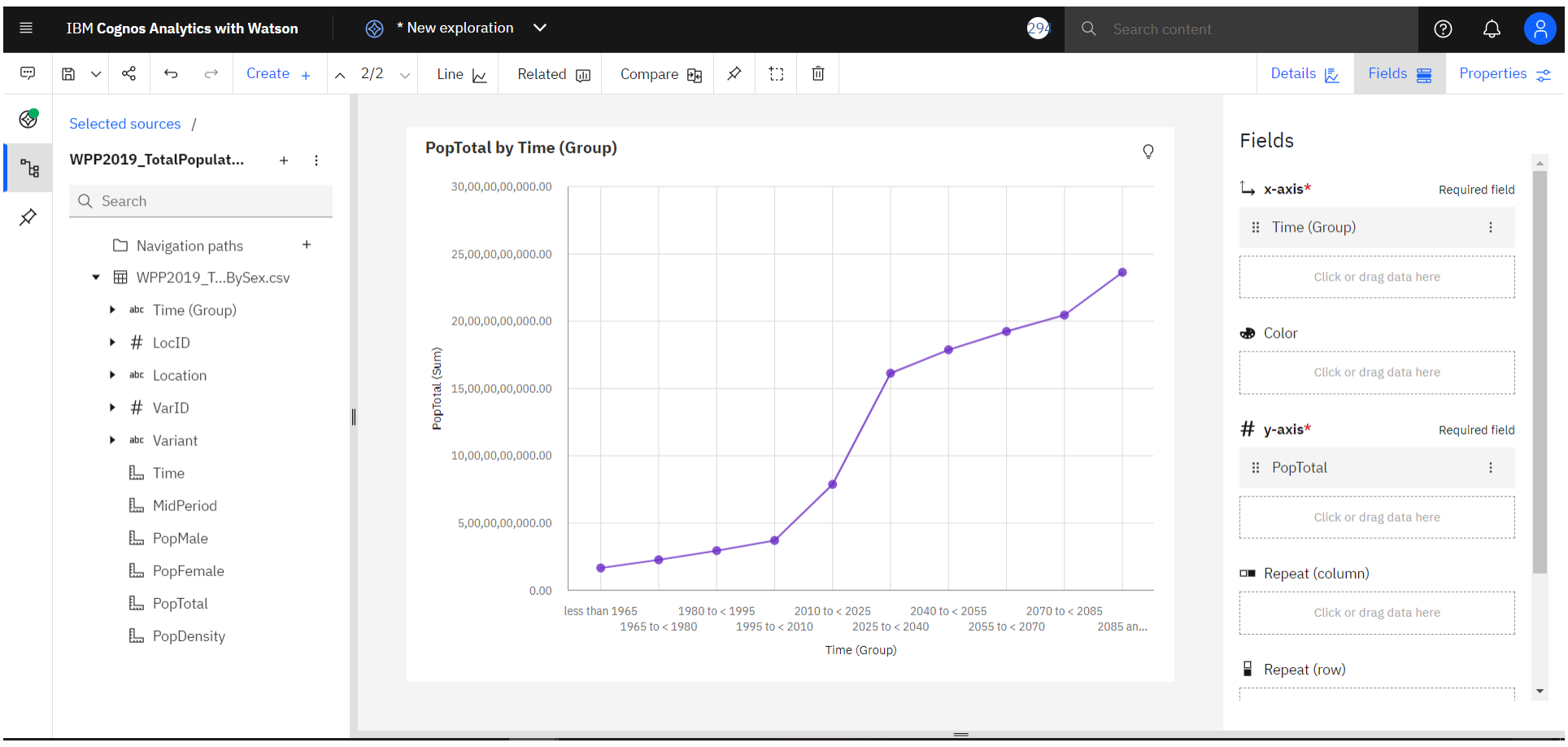


Fig: Time and Population relation

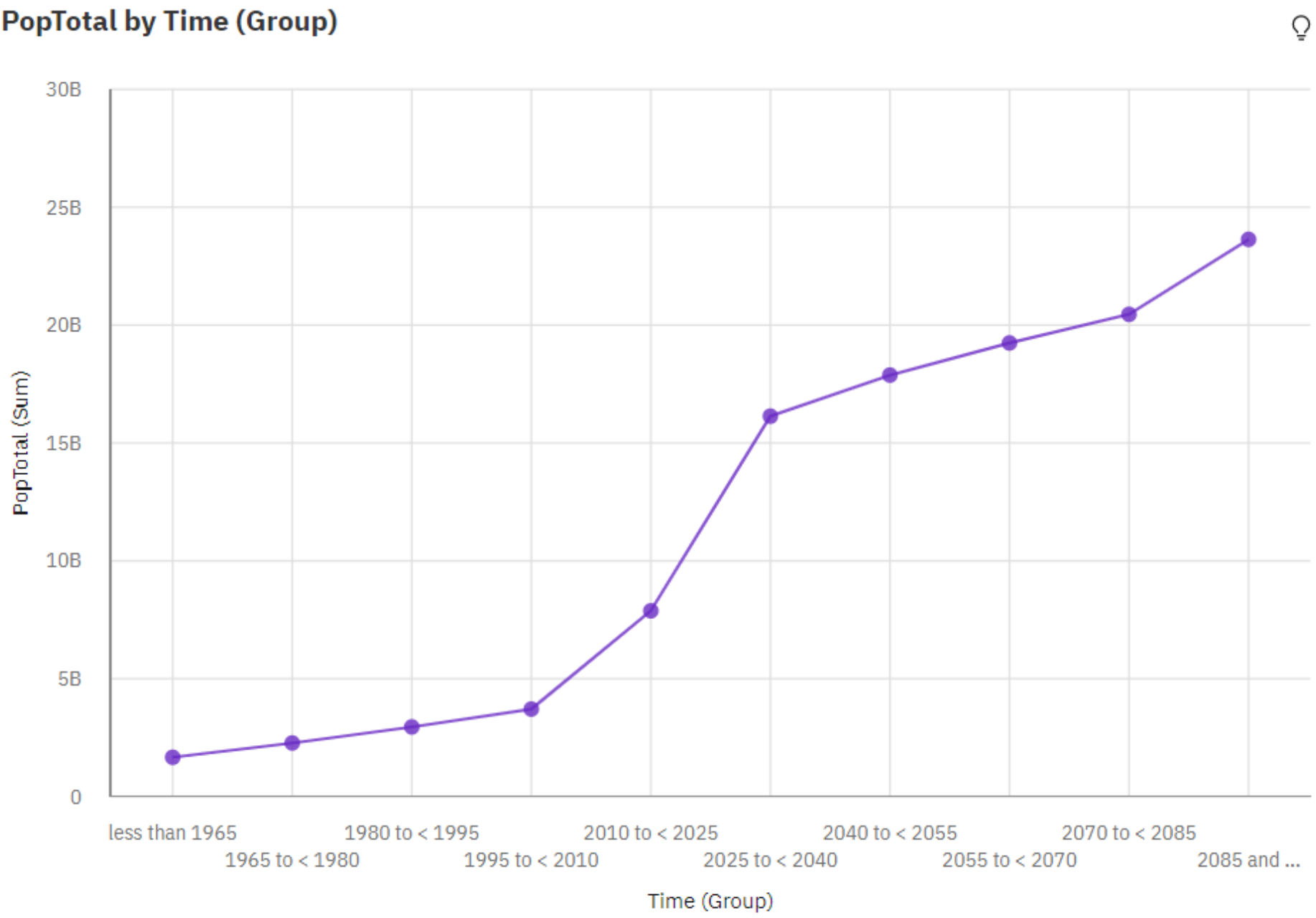


Fig: Pop Total by Time Using Line Chart

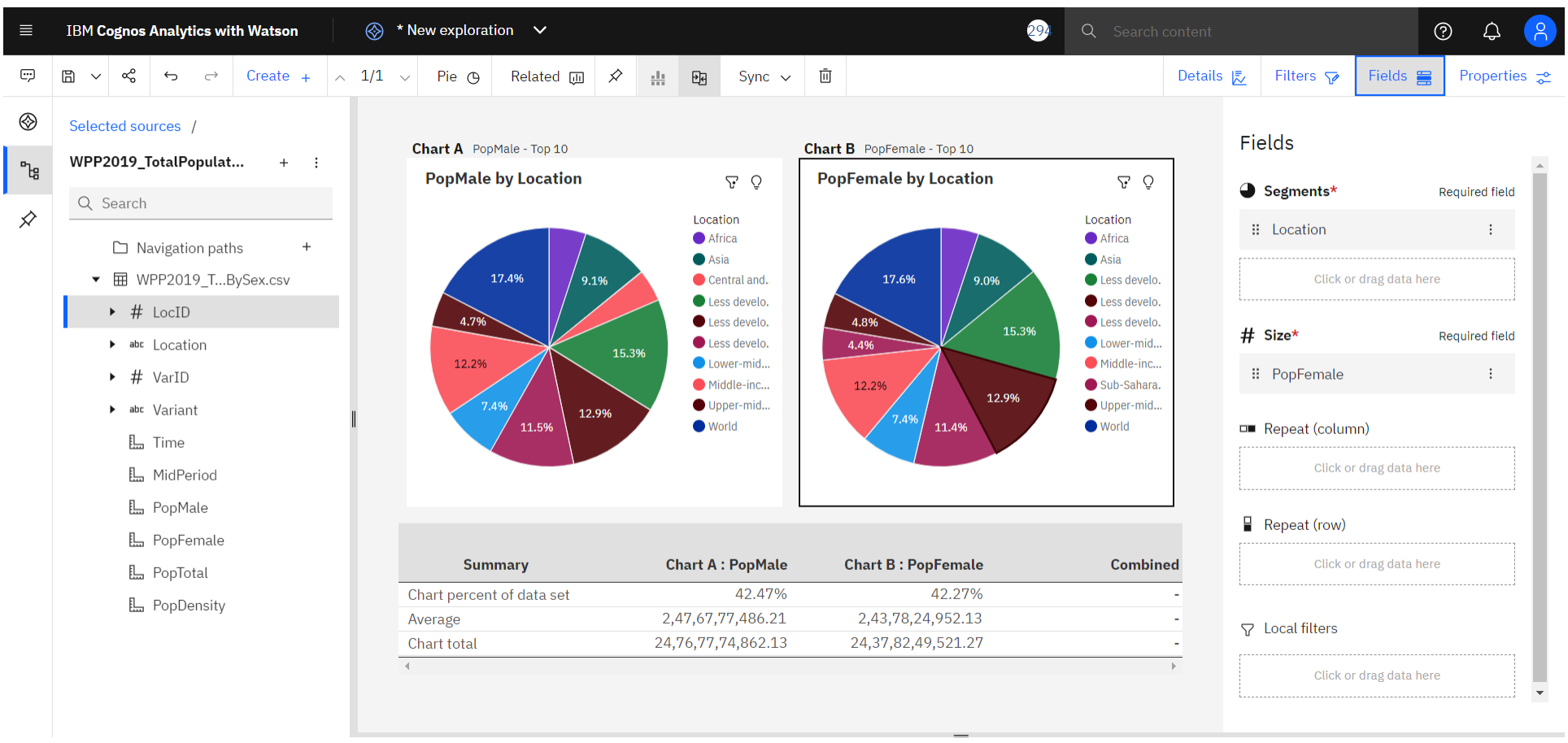


Fig: Pie-Chart of Male Population by location and Female Population by location

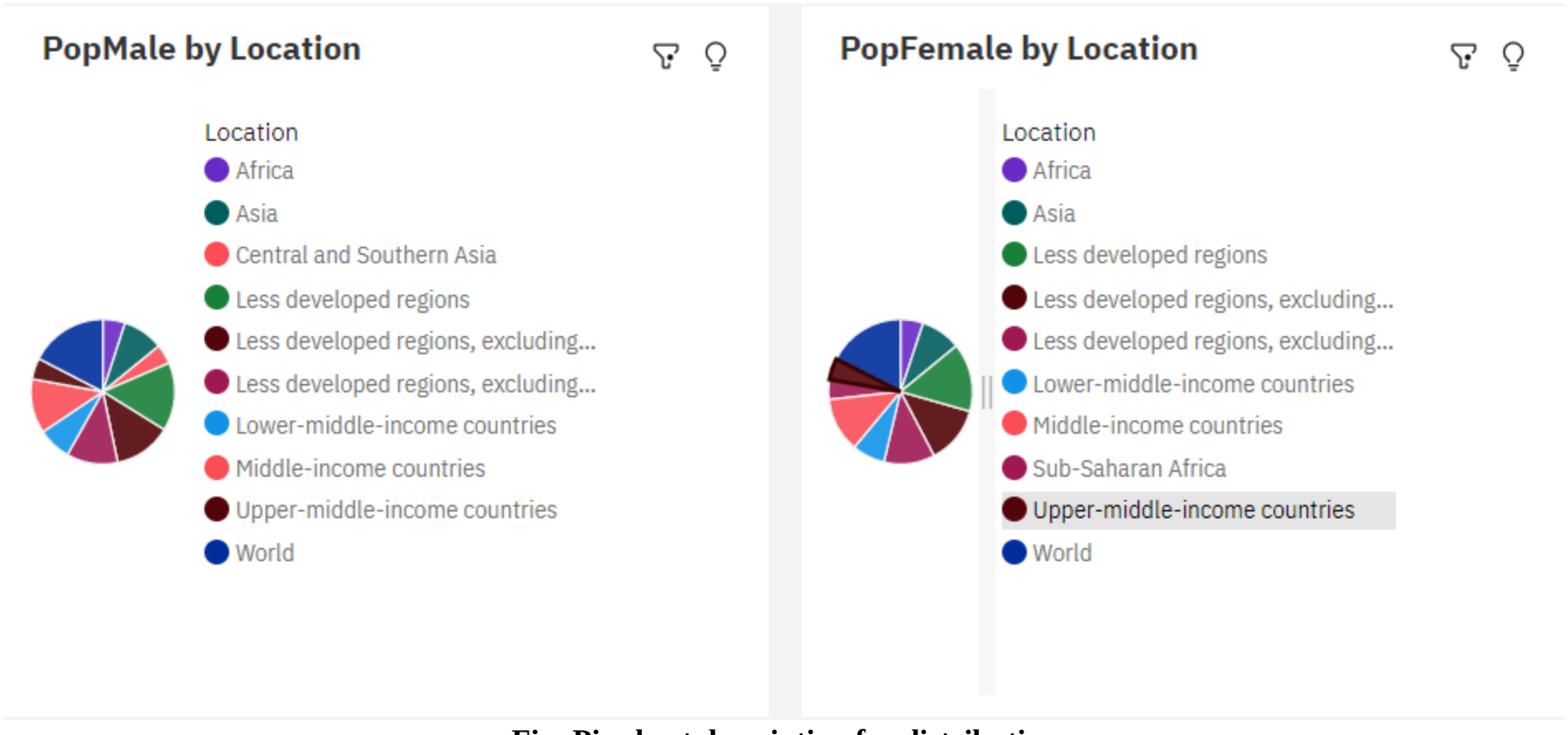
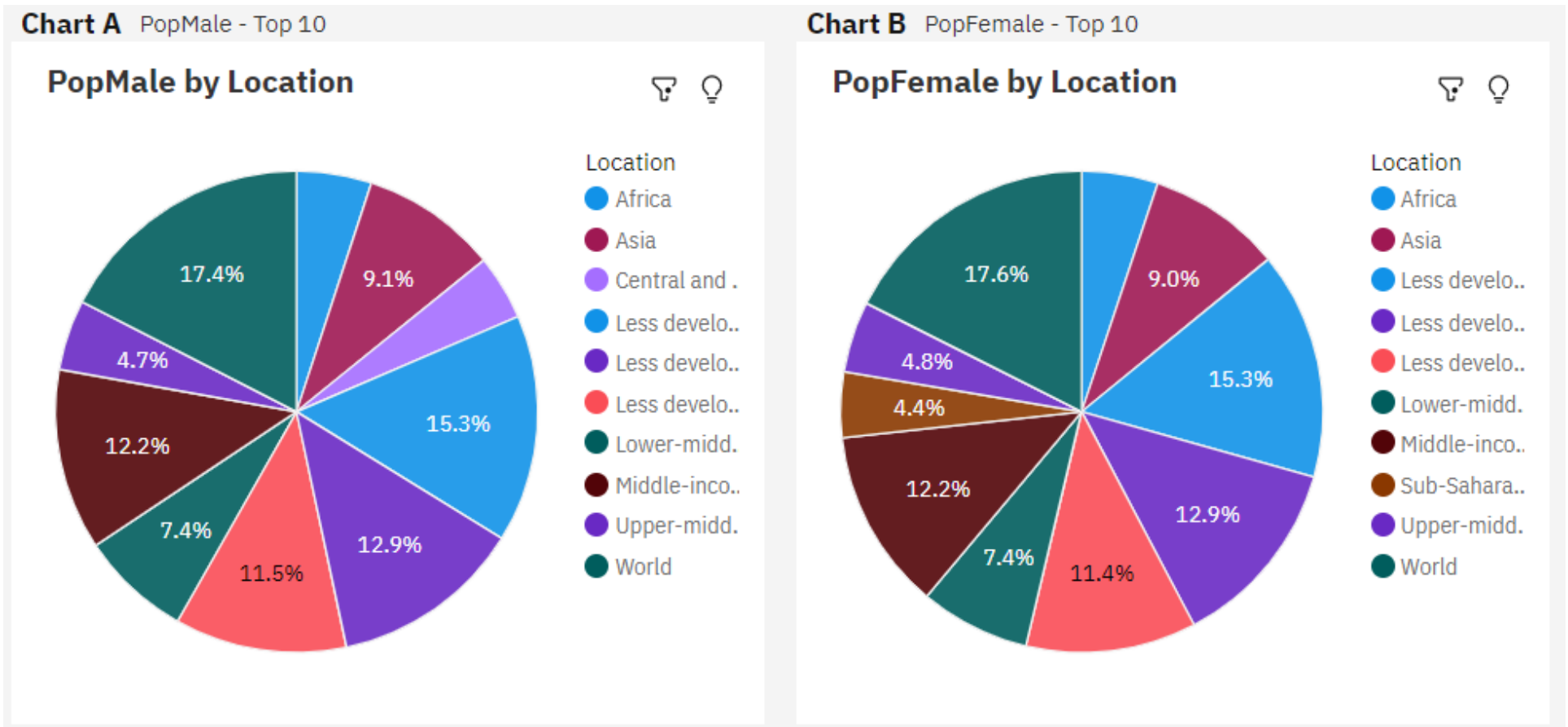


Fig: Pie chart description for distribution



Summary	Chart A : PopMale	Chart B : PopFemale	Combined
Chart percent of data set	42.47%	42.27%	-
Average	2.48B	2.44B	-
Chart total	24.8B	24.4B	-

Fig: Pop Male by Location and Pop Female by Location Using Pie Charts

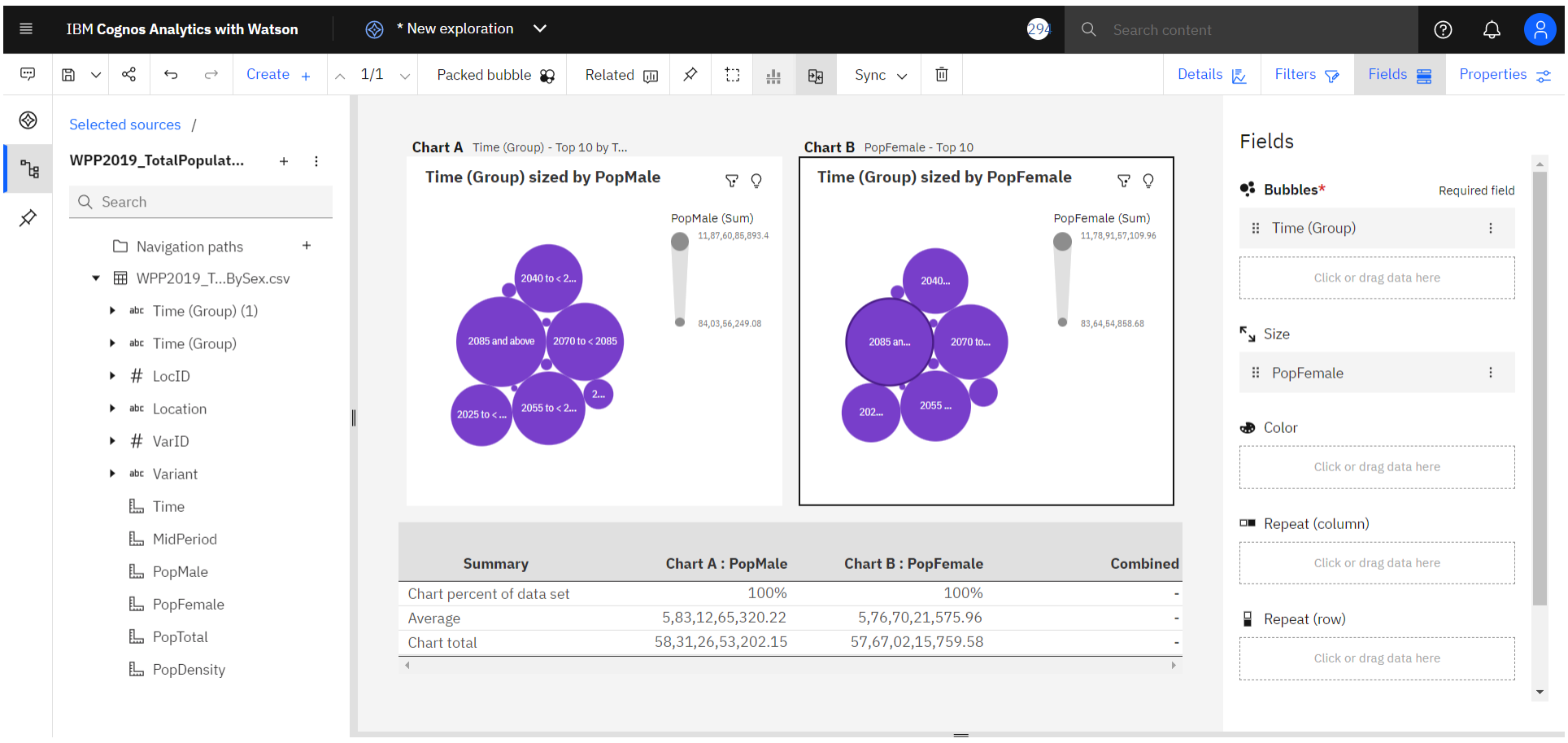
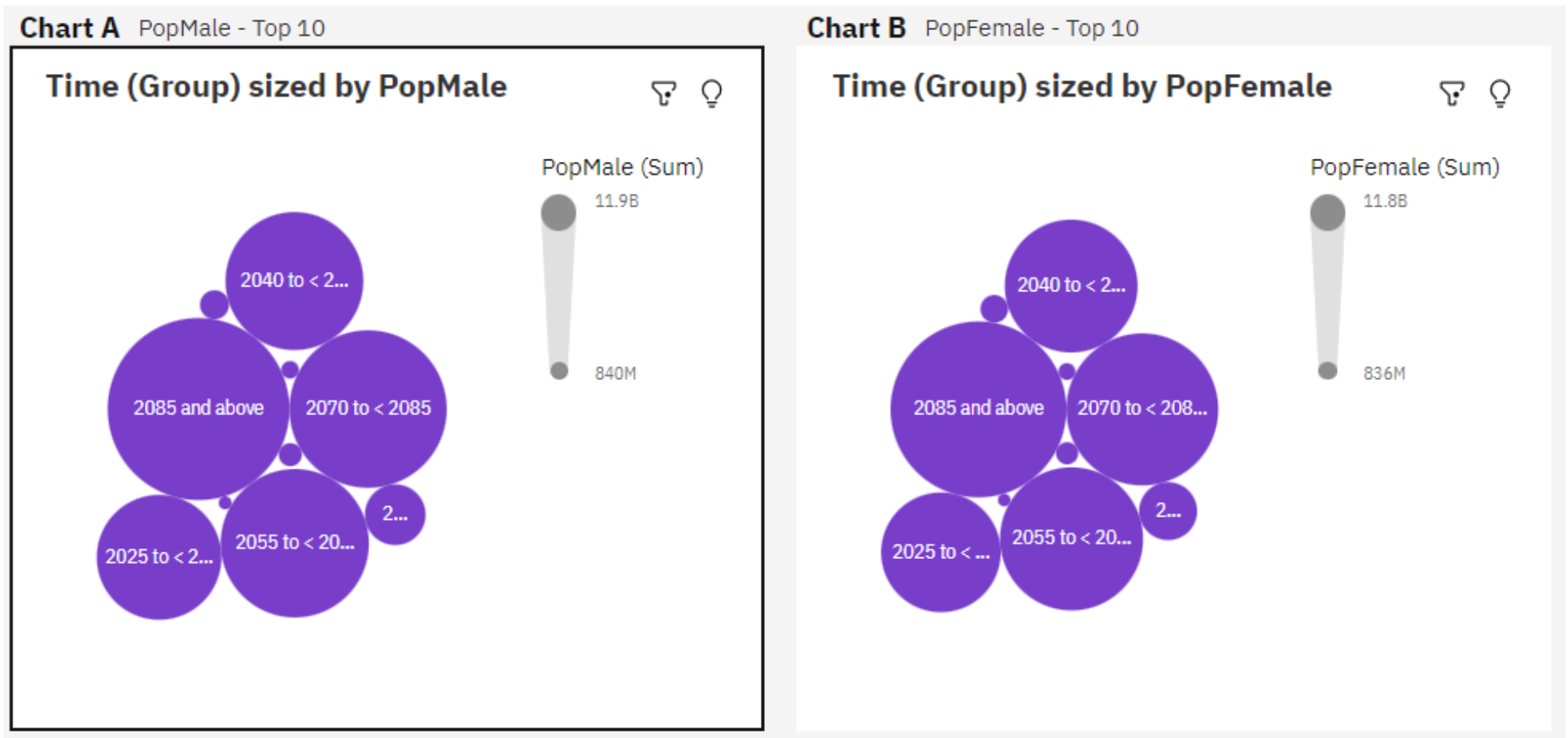


Fig: Bubbled Data for Male and Female compared with time



Summary	Chart A : PopMale	Chart B : PopFemale	Combined
Chart percent of data set	100%	100%	-
Average	5.83B	5.77B	-
Chart total	58.3B	57.7B	-

Fig: Pop Male by Time and Pop Female Using Packed Bubble Charts

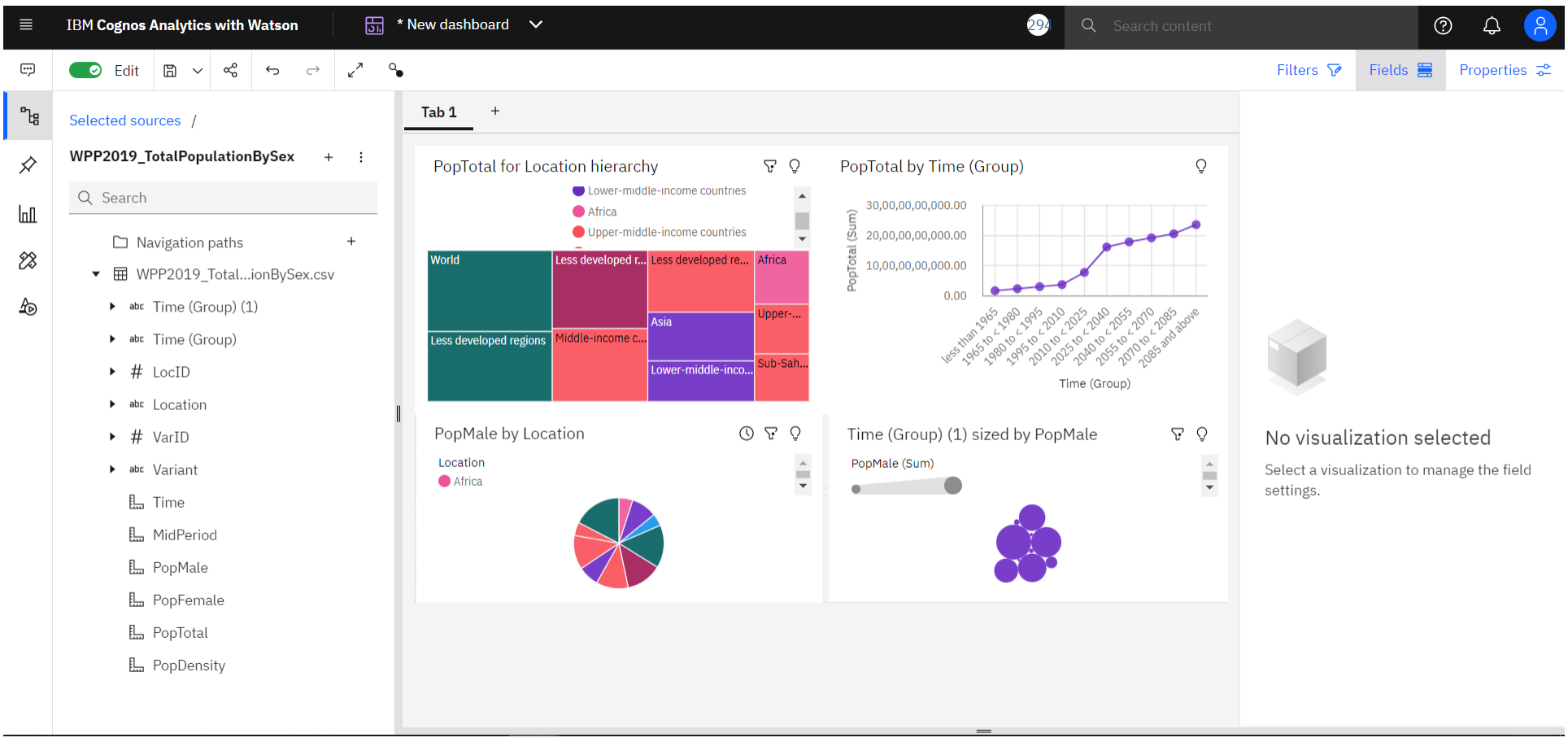


Fig: Creation of Dashboard

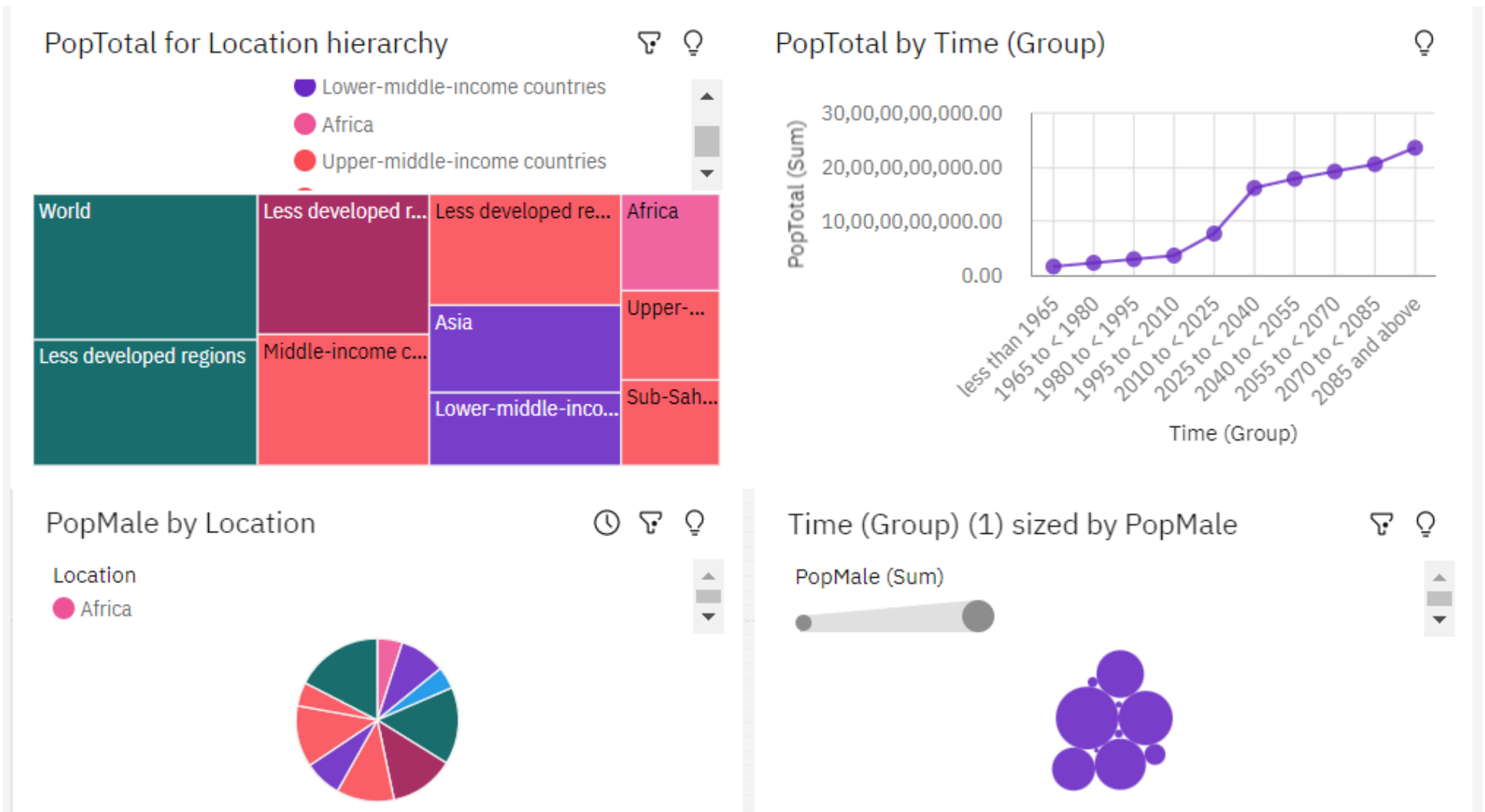


Fig: Dashboard containing all four Exploration done

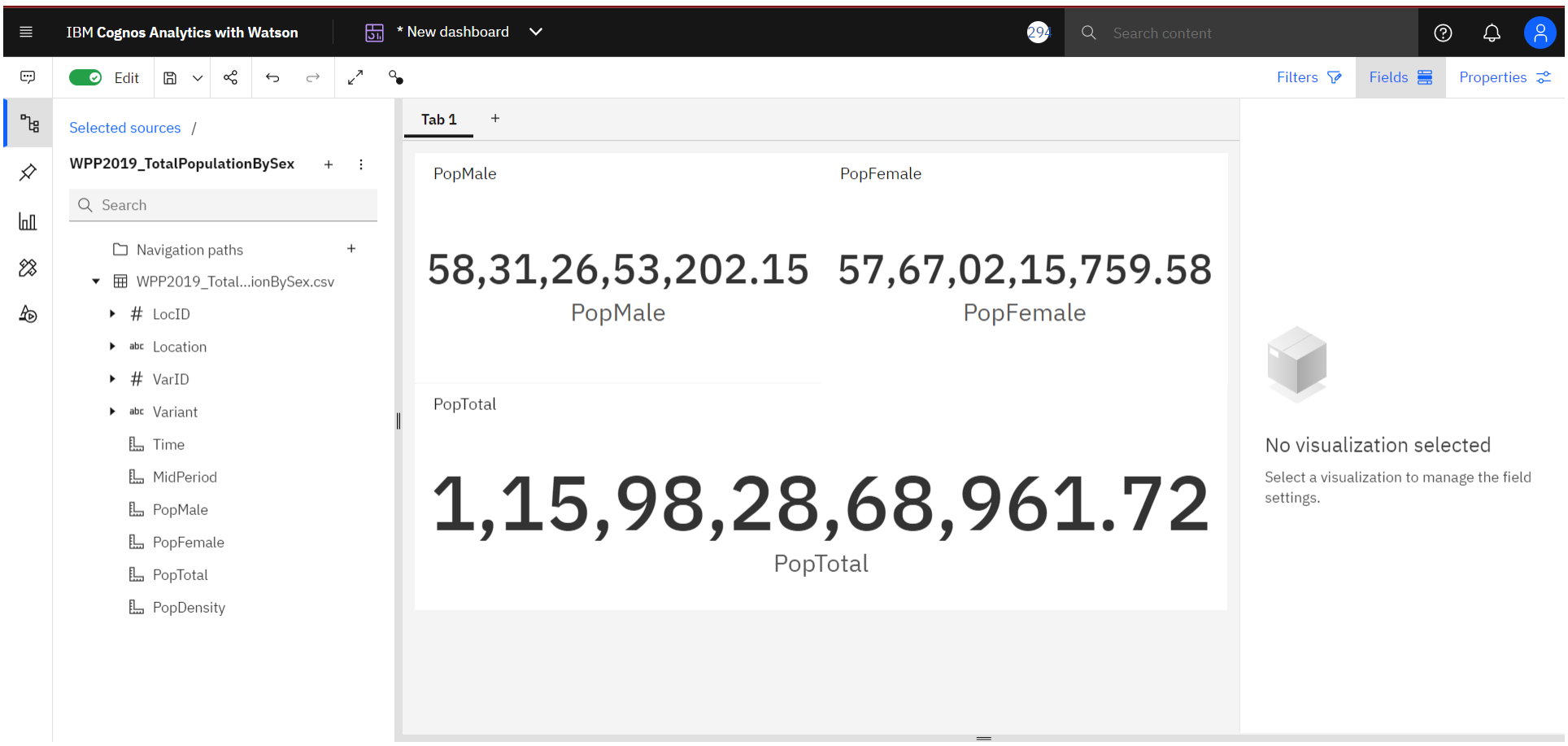


Fig: Summary Creation

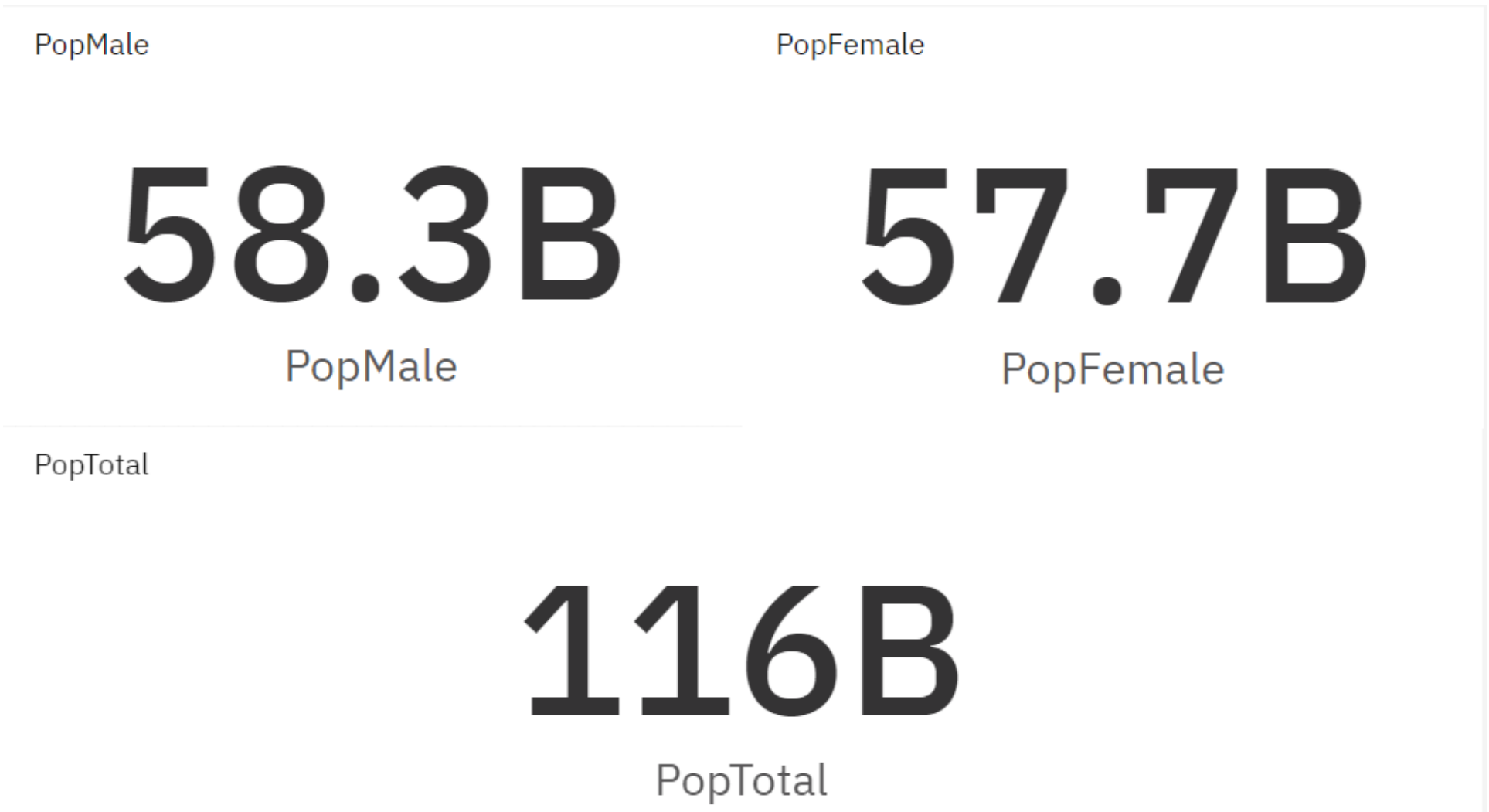


Fig: Summary

The End