Assignment 3  
Logistics Readiness

In the following, you will use World Banks LPI (Logistics Performance Index) data. LPI is based of two-year survey of six different features that measure a nation's logistics readiness based on 6 indicators that include transportation Infrastructure, services, border procedures.

After completing this assignment, submit Excel or Tableau file that shows the visualization and an MS Word file summarizing your work.

**Dataset**

1. Visit the World Bank LPI site

<https://lpi.worldbank.org/>

1. Watch the video at the LPI home page.

Use the About tab to learn more about methodology behind LPI and the difference between International and Domestic LPI.

1. Look at the summary of 2018 to see sum of the charts and insights produced by the survey team at Worldbank:

<https://lpi.worldbank.org/report>

1. Download international data for years 2007 – 2018. Note that for each dimension, and the aggregated LPI, the authors have not only provided the score but also ranking (1 being the best and 160 being the worst.)

The international LPI analyzes countries in terms of six dimensions, each measured on a scale of 1 (worst) to 5 (best):

• The efficiency of customs and border clearance (“Customs”).

• The quality of trade and transport infrastructure (“Infrastructure”).

• The ease of arranging competitively priced shipments (“Ease of arranging shipments”).

• The competence and quality of logistics services—trucking, forwarding, and customs brokerage (“Quality of logistics services”).

• The ability to track and trace consignments (“Tracking and tracing”).

• The frequency with which shipments reach consignees within scheduled or expected delivery times (“Timeliness”).

These scores are determined based on surveys within the country and individuals dealing with export and import business with the country.

LPI for a country is then arithmetic average of the its scores along the six dimensions.

In addition to the raw scores, the results also include the best and the worst possible score for each dimension

**Data Analytics**

For each of the analytics part below, build appropriate analytics models using Tableau or Excel. As you create charts, make sure that each chart is properly formatted, its axes are labeled, it has a legend if necessary.

For this assignment, you may want to create an Excel file that keep only the raw data and drop the rank columns.

1. Although the index is based on 4 different items, these are highly correlated with each other A country that does well on logistics also does well on customs and tracking.

For year 2018, build a correlation matrix giving pairwise correlation between the six dimensions and the index. (Note that Excel has built-in correlation and covariance functions under analysis tool pack. In Tableau, you have to build pairwise correlations and put them together on one dashboard.

Identify which pairs have high correlation (close to +1 for positive correlation and -1 For negative correlation) and low correlation (close to 0)

1. Create scatter charts giving the value of the index vs individual dimentions. Label charts with the correlation coefficient between the index and the dimention.
2. Select five countries, each from a different continent. For each country build time series charts showing how the scores have changed for each dimension. Did the score for any of the country in this subset shows significant change in score over the period 2007-2018?

**Executive Summary**

Create an executive summary in MS Word, no more than 10 pages, describing your work.

Use Times Roman New 12 point font and all four margins of 1”. Each page should have no more than 3 charts. Just below the chart, provide a very brief narrative of why the chart is significant.

**Submit**

Word file (executive summary), Excel or Tableau files that includes that dataset you used.