Comparing Top Countries in Tennis on their Service Quality

Introduction:

Visualization can be very effective in easily analyzing huge dataset which is otherwise tough to make sense from. In this visualization I have attempted to compare the Service Quality of top 11 countries in US Open Men's Tennis during the period 2003-2013. Service Variables under comparison:

1) firstServe (first serve inside service box %),
2) ace (good serve that was not received by the opponent),
3) double (fault on service point. Fail to serve inside the service box on both service chances)

Data Analysis:

Formulae:

Service Quality Index= (Average First Serve)% - (Average Double(fault))% / 100

Average First Serve= Average of serve (%) of all players in a country over all matches played from 2003-2013

Average Double Fault(%)=Average of double fault(converted in %) for all players in a country over all matches played from 2003-2013

Ace= Average of all the Aces for all the matches played between 2003-2013

Rational for the Story: With the help of the visualization produced by this analysis, one would be easily able to understand and compare the following:

1) Which all countries are better in terms of their Service Quality Index
2) Which all countries have scope to work on their Service Quality to improve in future matches
3) Which all players in the country play their aces better and who needs to work more on improving their aces
4) A player from the higher Service Quality Index Range and also higher Aces excels in his "Service".

Rational for the Visualization Design:

1) The bar chart shows the countries in decreasing order of their Service Quality Index.
2) The countries are clustered based on their **Service Quality Index** to facilitate easy comparison between competing countries. The Range is divided as: 0.05-0.15, 0.15-0.25, 0.25-0.35
3) The color scheme from Dark-Blue to Light-Blue in Bars is used for representing countries in same cluster in decreasing order of their Service Quality.
4) Each bars in the bar charts can be clicked to open a cluster for corresponding country.
5) The cluster map is used to show each country in the same service quality range and corresponding data for all the players.
6) The cluster map has a zoom-in and zoom-out feature to facilitate easy data fitting and viewing
7) The bar chart on hover shows the value for respective parameter for easy reference.

Countries	Service Quality Index = Average First Serve(%) from 2003-2013 – Average Double(fault)(%) from 2003-2013
ESP	0.21
RUS	0.22
FRA	0.17
SRB	0.34
GER	0.096
USA	0.25
ITA	0.04
NED	0.34
SLO	0.35
ARG	0.14
SUI	0.35

From all the analysis, the Story emerges as follows:

Even though strengths and weakness may differ from player to player and from match to match, analytics of Tennis history (2003-2013) shows that the "Switzerland (SUI)" has a higher Service Quality Index which means the players here are good in their service. As we can easily see that player like Stanislas Wawrinka and Roger Federer is from the country that also has a very good Average Ace and therefore are one among best in their service. On the other hand we can see that countries like Italy, Germany and so on has a good scope to work on their service quality to perform better in future matches.