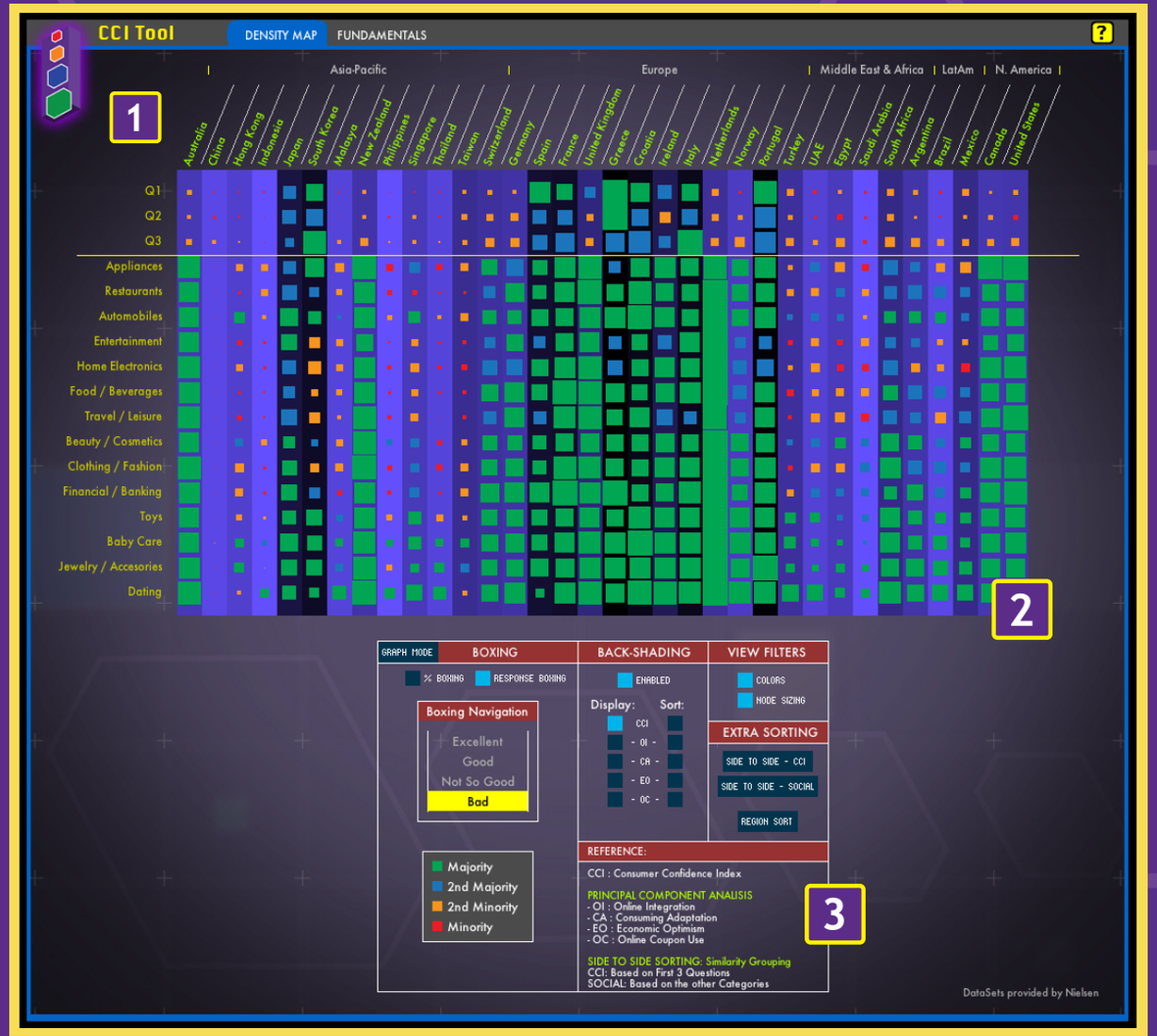
The CCI tool is an interactive application for the visualization of the CCI multidimensional data, enabling the analyst to display information using a variety of filters, sorting algorithms and view options.

CCI Tool

The tool's Density Map Mode aims at raw data display and analysis, focusing on visual pattern recognition, while the Fundamentals Graph Mode allows for a big picture, a qualitative viewpoint.

Combined, they generate a data exploration platform for complex data that allows the analyst to combine its previous knowledge of the field in question with the capacities of the primitive visual cortex, excellent in visual processing, in order to make sense of Big Data.

Density Map

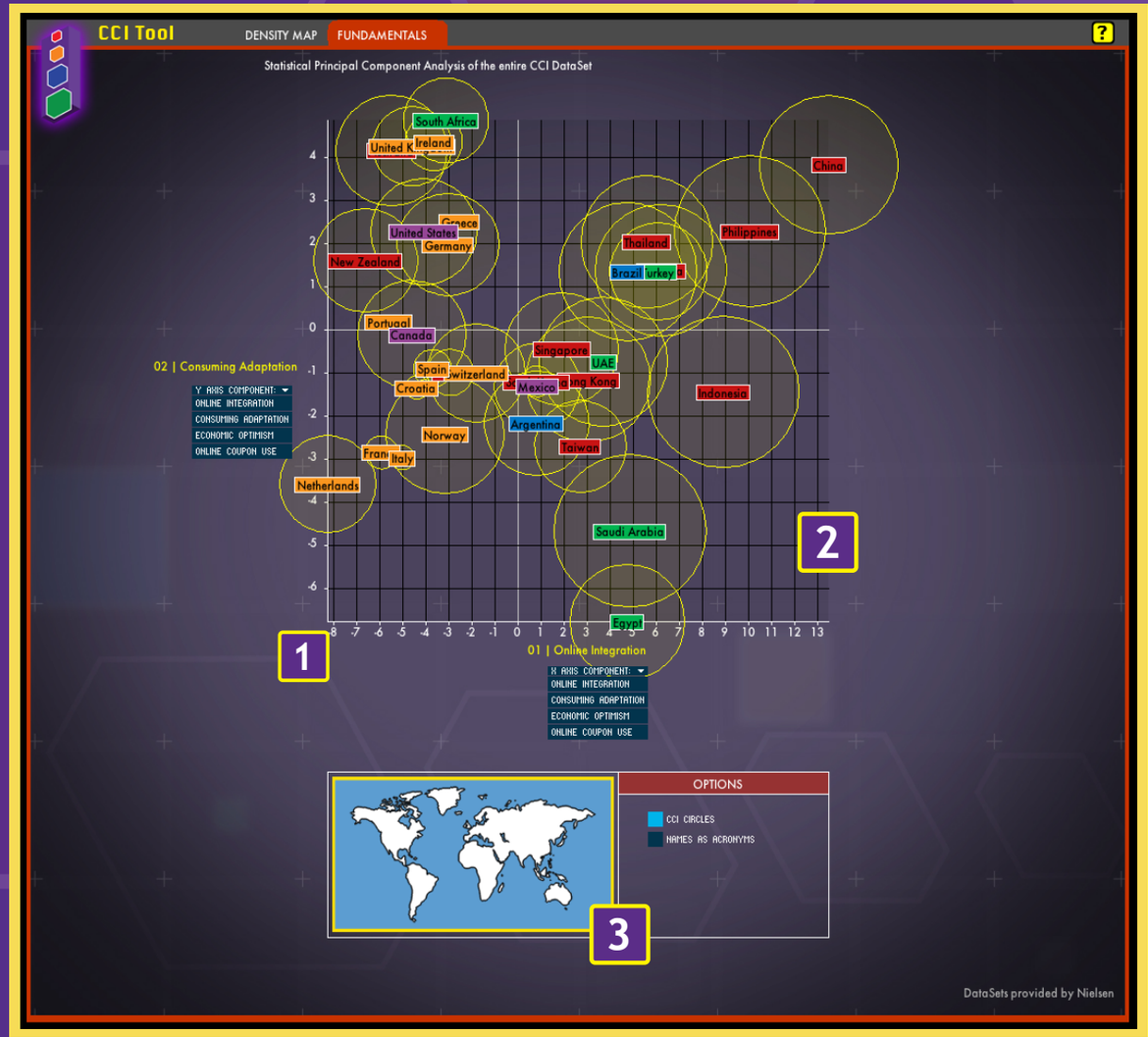


1 **Axes:**
Horizontal: Countries
Vertical: CCI-Related Survey Questions

2 **Node Canvas**
For Visual Analysis

3 **Visualization Controls**
Graph Mode, Sorting Algorithms Display Filters and Quick Rerefence

Fundamentals



1 **Axes:**
User-Selectable Variables extracted from Statistical Principal Component Analysis

2 **Country Cloud**
For Visual Analysis

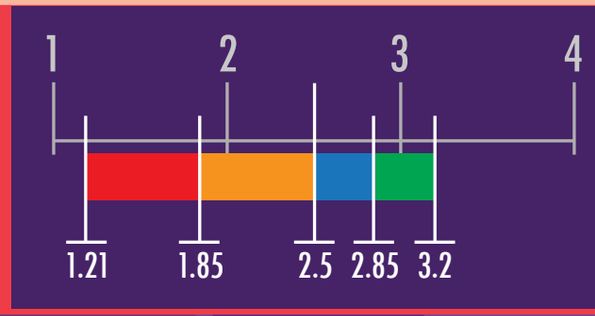
3 **Visualization Controls**
Region Isolation and other Viewing Options

Density Map

Graph Mode MEANS

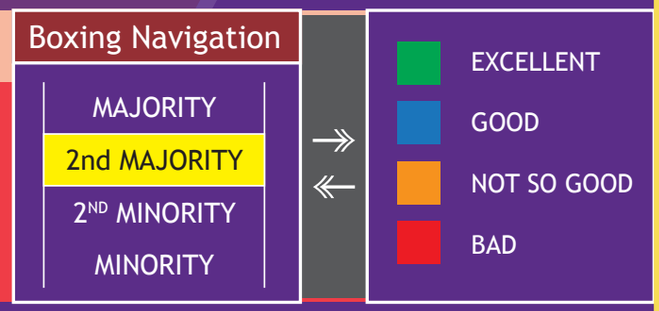
Node (squares) Size: Mean of answers through a continuous scale, in relation to the global min/max values (Global Range)
Large green nodes: high confidence and influence // Small red nodes: low confidence and influence.
Node Colour: Discrete scale of the mean values, where if a value falls inside a certain range, it is given a color.
The absolute middle point was set: 2.5. The min/max are taken from the sample´s actual min/max values, and other values interpolated.
This was done to establish a varied scale while also keeping the integrity of the range.

Means Ranger



Graph Mode BOXING

This mode allows us to navigate through different groupings of the data: By amount of People (in percentage), and by Response. These two can be switched to suit the analyst's need. The graph will show all answers that correspond to the selected option in the Boxing Navigation Panel.
In this mode, a node sizes in relation to the specific question maximum and minimum, not the global values.



Fundamentals Map (Principal Components Analysis)

PCA (Principal Components Analysis), which is a mathematical tool that allows us to find which questions relate closely and which ones do not.
With this we can "create" new dimensions, truly independant from each other, and with a measure of how much information is really added in each one.
Now we can choose just a few of them, a manageable quantity, and retain almost every detail there is to see.
Interpreting the new composed dimensions, we can begin to see which underlying behaviors might explain all the questions contained, and how strong.
With this we gain a deep insight: a meaning emerges from a few, distinct, independant variables that helps us understand the whole more easily.
This includes a judgemental call, in naming and interpreting the meaning of this new variables. We have to be carefull not to create a bias in how we interpret this, but if we do it right, the abstraction jump gives us more than just data, it gives us profound information leading to knowledge.

OI : Online Integration : How influencing is the Internet on everyday choices.
CA : Consumer Adaptation : How much a population embraces new consumption habits or patterns.
EO : Economic Optimism : Economic Outlook country might have.
OC : Online Coupon Use : How much a population embraces the use of Online Coupons for purchasing.

STS Sorting (Side to Side - SPIN Algorithm)

Side To Side (STS) sorting is an algorithm that enables the user to sort the list of countries using multiple criteria at a time.
For instance, if the user chooses to sort according to the Social Media questions, each country would be placed next to countries whose answers are similar to its own.
The similarity between countries is calculated as a global characteristic, taking into account all the questions.
STS sorting is a special case of the Sorting Points Into Neighbourhoods (SPIN) Algorithm.