Getting Started with Project Hook

User guide

Project Hook will her users explore data related to the fishing industry through 3 different lenses:

Network Risks

+

Financial Risks

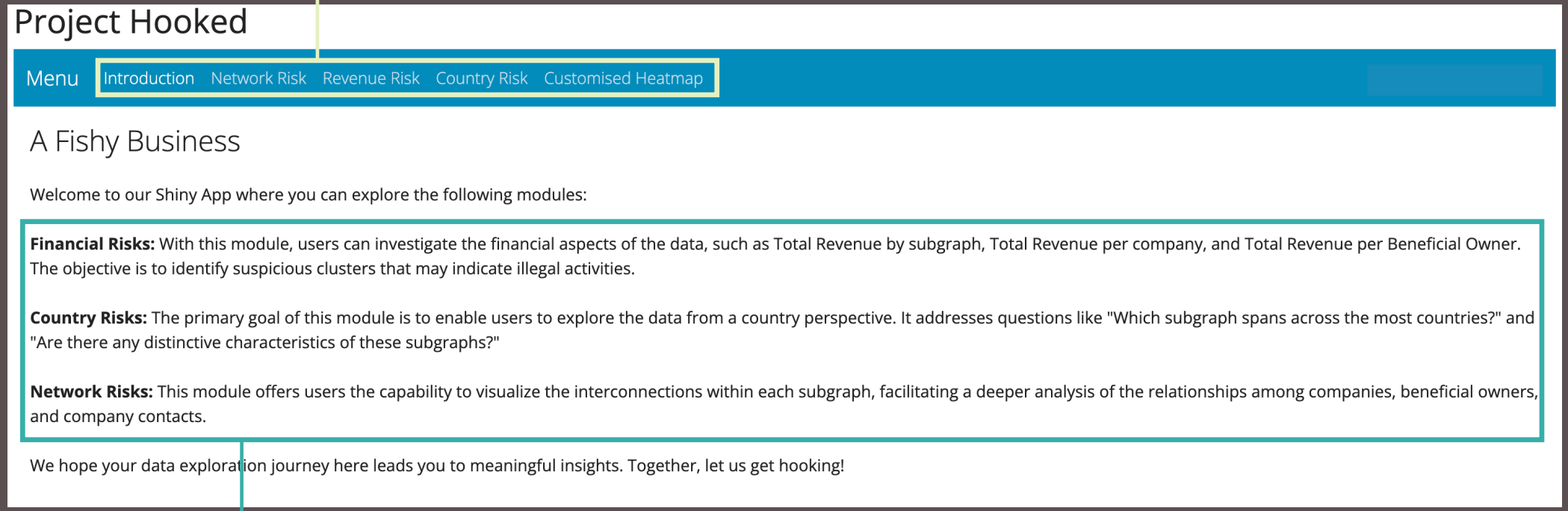
+

Country Risks

Users can then build a summary heatmap based on customised factors
to highlight key groups of interests.

Overview – Landing Page

Easy and clear navigation to toggle between different modules on the Shiny App.



Brief explanation on what each module entails.

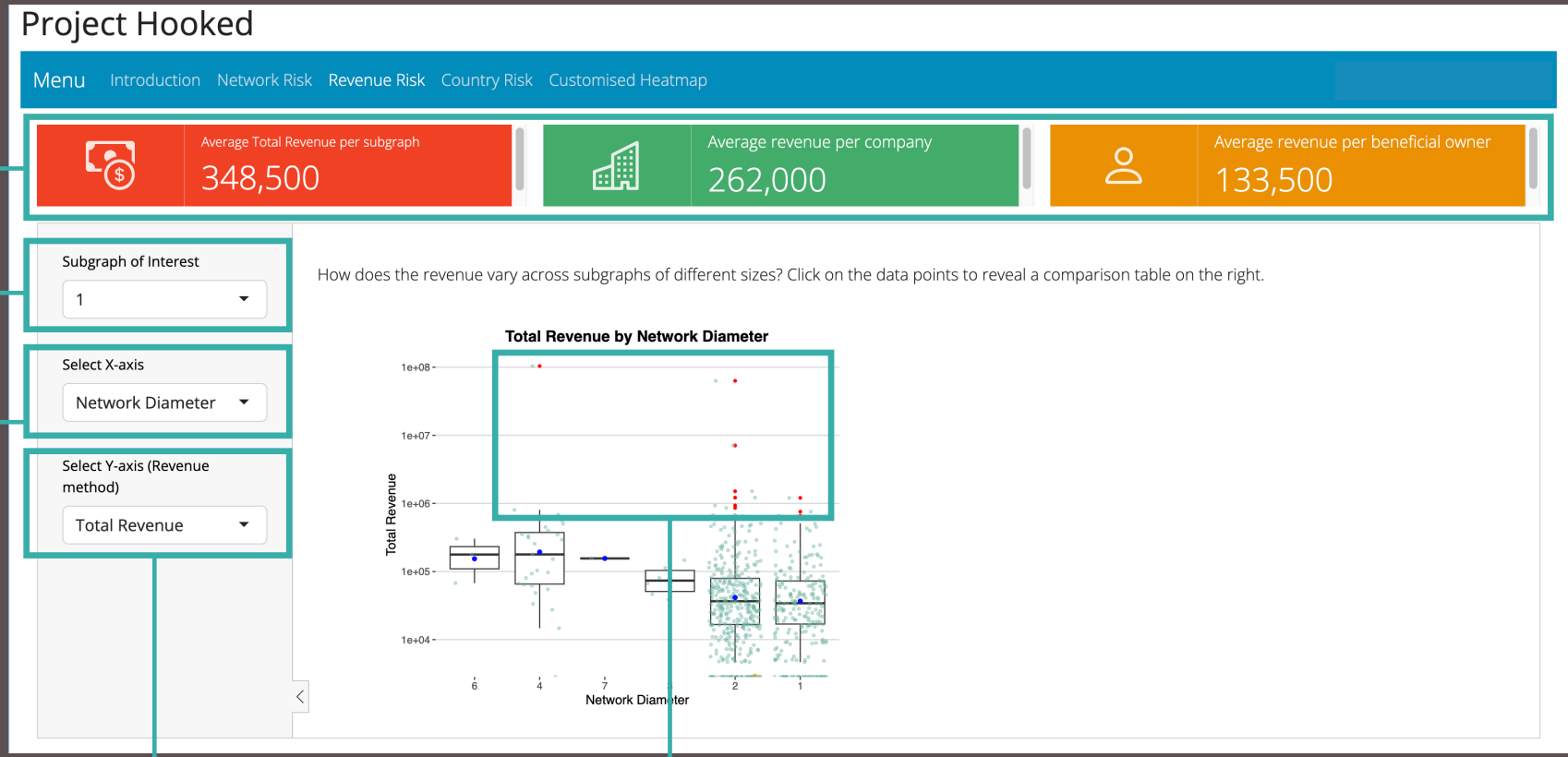
Network Risks

Financial Risks – Basic Features

Key statistics to help anchor the data exploration process, for easy comparisons

Quick selection of specific subgraph of interest, to understand where they stand vis-à-vis other subgraphs, across variables

Options to customize the x-axis of the boxplot. Options include:
- Network Diameter
- Size of subgraph (number of nodes)



Options to customize the y-axis of the boxplot. Options include:
- Total Revenue (per subgraph)
- Revenue per company
- Revenue per beneficial owner

Outlier nodes are highlight in red.

Financial Risks – Exploring subgraphs

Project Hooked

Menu Introduction Network Risk Revenue Risk Country Risk Customised Heatmap

Average Total Revenue per subgraph 348,500

Average revenue per company 262,000

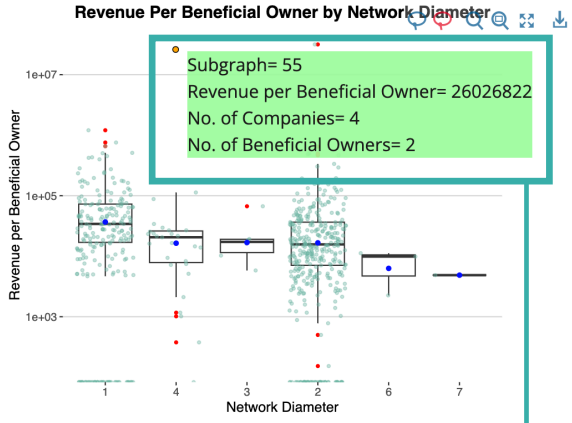
Average revenue per beneficial owner 133,500

Subgraph of Interest: 55

Select X-axis: Network Diameter

Select Y-axis (Revenue method): Revenue per Beneficial Owner

How does the revenue vary across subgraphs of different sizes? Click on the data points to reveal a comparison table on the right.



Selected Subgraphs

Subgraph Number	Revenue per Beneficial Owner
576	1205868

Select boxplot parameters

Node of selected subgraph will appear in orange, with a tooltip

Users are also able to select other nodes by clicking on the boxplot, on top of subgraph 55 to make comparisons. Information of any additional selected will appear in table on the right.

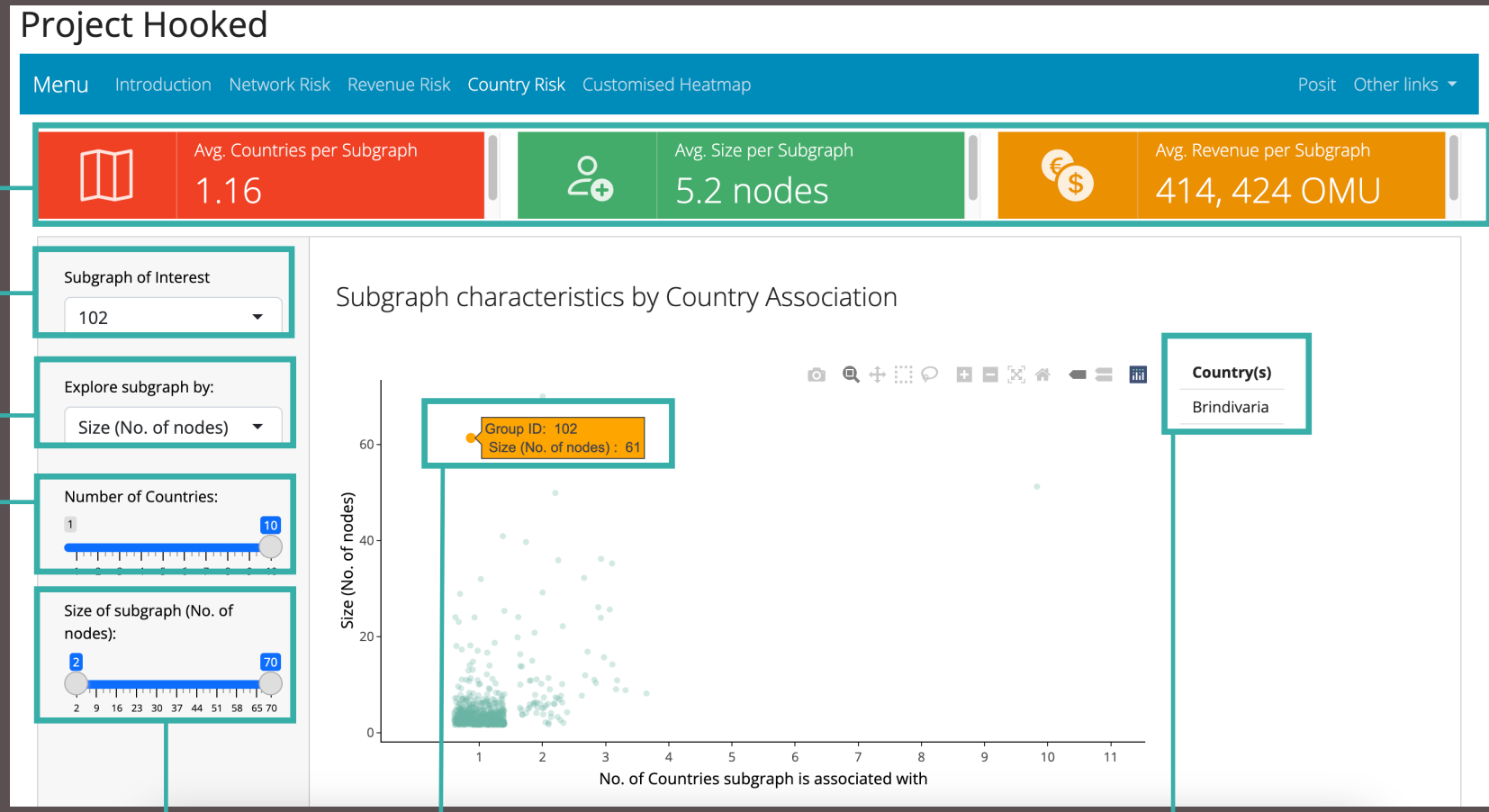
Country Risks – Basic Features

Key statistics to help anchor the data exploration process, for easy comparisons

Quick selection of specific subgraph of interest, to understand where they stand vis-à-vis other subgraphs, across variables

Options to customize the x-axis of the boxplot. Options include:
- Size of subgraph (number of nodes)
- Number of companies
- Number of beneficial owners
- Total Revenue
- Avg. revenue per company
- Avg. revenue per beneficial owner

Option to filter x-axis range of scatterplot, based on number of countries subgraphs are associated with



Option to filter the data points in the scatterplot, based on size of subgraphs

Aligned with the financial risk module, selected subgraph of interest would be highlighted in orange, with relevant data presented in the tooltip

Country associated with subgraph presented in table

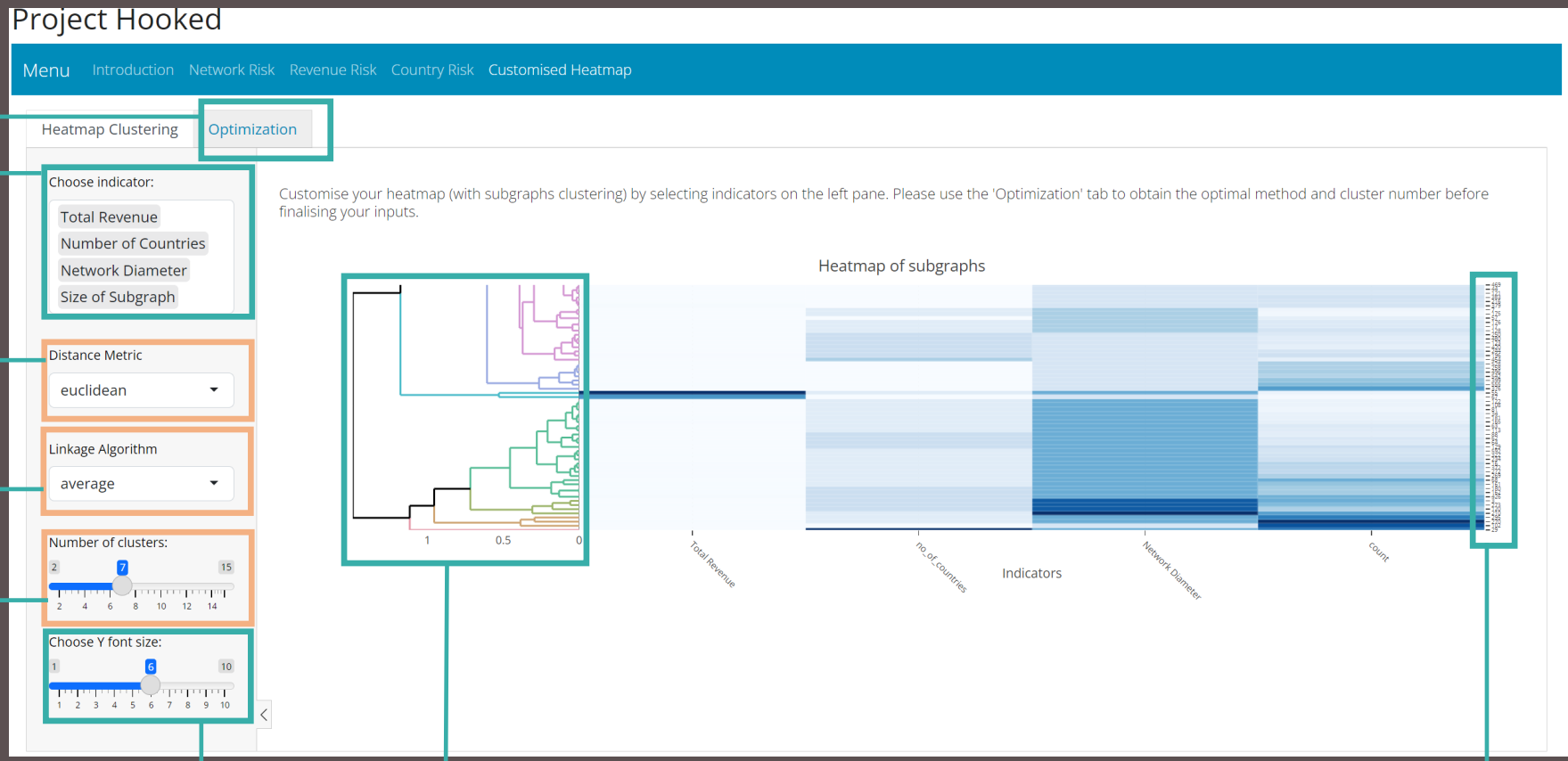
Customised Heatmap - Clustering

Navigate to optimization tab to fine tune the parameters in orange boxes

Customize x-axis by selecting indicators of interest. Options include:
- Total Revenue
- Revenue per Company
- Revenue per Beneficial Owner
- Number of Countries
- Number of Companies
- Number of Beneficial Owners
- Network Diameter
- Size of Subgraph

Select method used to compute distance matrix. Options include:
- euclidean
- maximum
- manhattan
- canberra

Select hclust method. Options include:
- ward.D
- single
- complete
- average
- mcquitty
- median
- centroid



Specify number of clusters

Adjust size of Y axis labels

Dendrogram showing cluster hierarchy

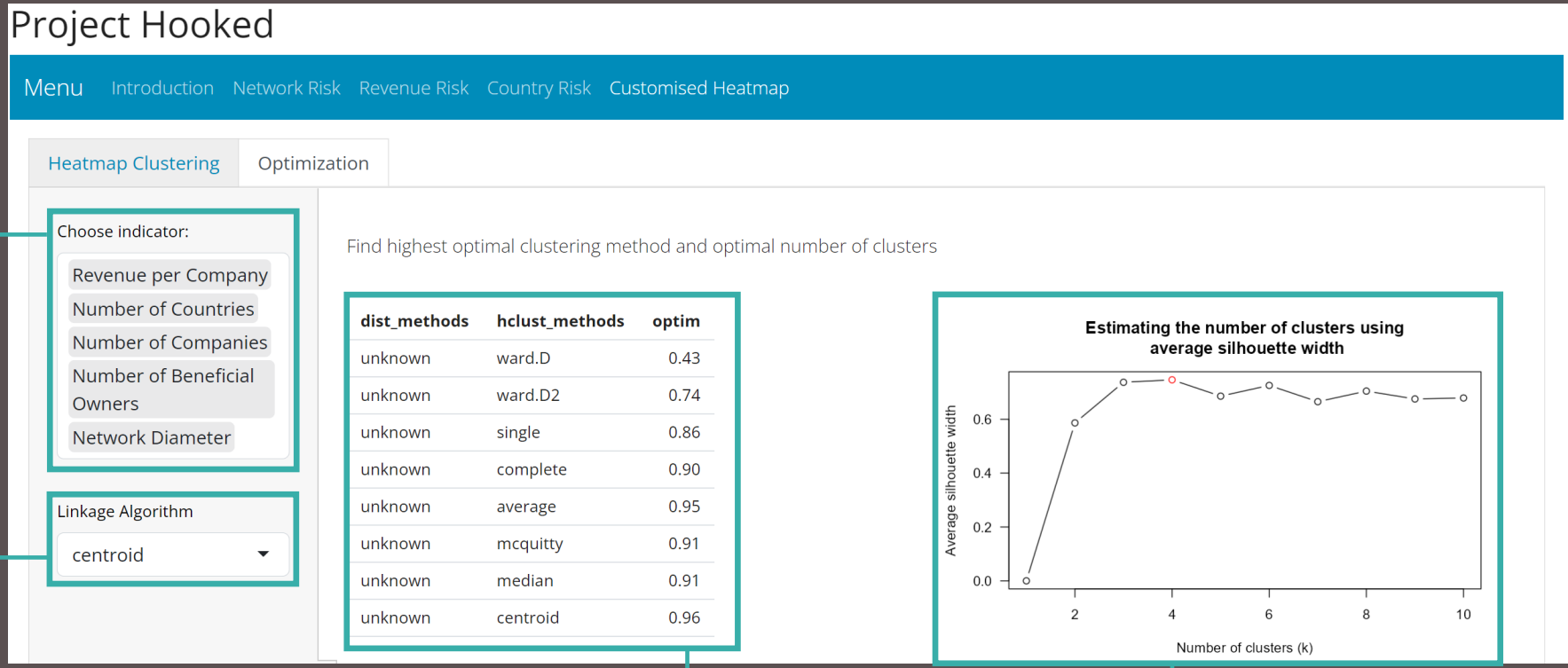
Subgraph IDs

Customised Heatmap - Optimisation

Step 1:
Select indicators of interest. Options include:

- Total Revenue
- Revenue per Company
- Revenue per Beneficial Owner
- Number of Countries
- Number of Companies
- Number of Beneficial Owners
- Network Diameter
- Size of Subgraph

Step 3: Select 'centroid'



Step 2:
'centroid' method should be used because it gave the highest optimum value

Step 4:
Optimal number of clusters = 4