Using RGraphviz as a first pass for layout of small structural model graphs

Scott Porter[1,*]

1. Added Value
*Contact author: scott.porter@added-value.com

Keywords: Structural models, Graphs, Visualization, Readability, Layout

We use automated search algorithms to find plausible structural models (such as Structural Equation Models or Bayes Networks) in the context of marketing and consumer perceptions. We are often trying to lay out some subset of these models with a limited set of variables for presentation to stakeholders to discuss reasonability of the discovered models.

The **RGraphviz** [1] package provides an interface to the AT&T Labs Research graphviz library [2] for plotting graphs. The graphviz library includes several layout engines. We have found it to be useful to use **RGraphviz** to do an initial layout of the graphs.

This initial layout produced by graphviz is a useful starting point for various next steps we may take with the graphs. Interactive graph display methods (either within *R*, or within a web display framework) can use the layout to set starting positions for each of the variables. The initial layout can also be used as a first pass for creating printable versions of the graph, such as for posters or slides, although we generally make additional manual adjustments to the layout.

References

[1] Jeff Gentry, Li Long, Robert Gentleman, Seth Falcon, Florian Hahne, Deepayan Sarkar and Kasper Daniel Hansen (). Rgraphviz: Provides plotting capabilities for R graph objects. R package version 2.2.1.

[2] Graphviz.org, AT&T Labs Research