multivariate networks

multivariate networks comprise

- ☑ vertex set with at least one type of edge between pairs of nodes
- ☑ numerical and/or qualitative attributes on the vertices and edges

multivariate network data represented as **multigraphs**:

composition

structure

"graphs where multiple edges and self-edges are permitted"

☑ can appear directly in applications (although scarce)

☑ can be constructed by different kinds of aggregations in graphs

- ✓ node aggregation based on node attributes
- ✓ tie aggregation based on tie attributes

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aggregated multigraphs

example: