

# Overlap Versus Partition: Marketing Classification and Customer Profiling in Complex Networks of Products

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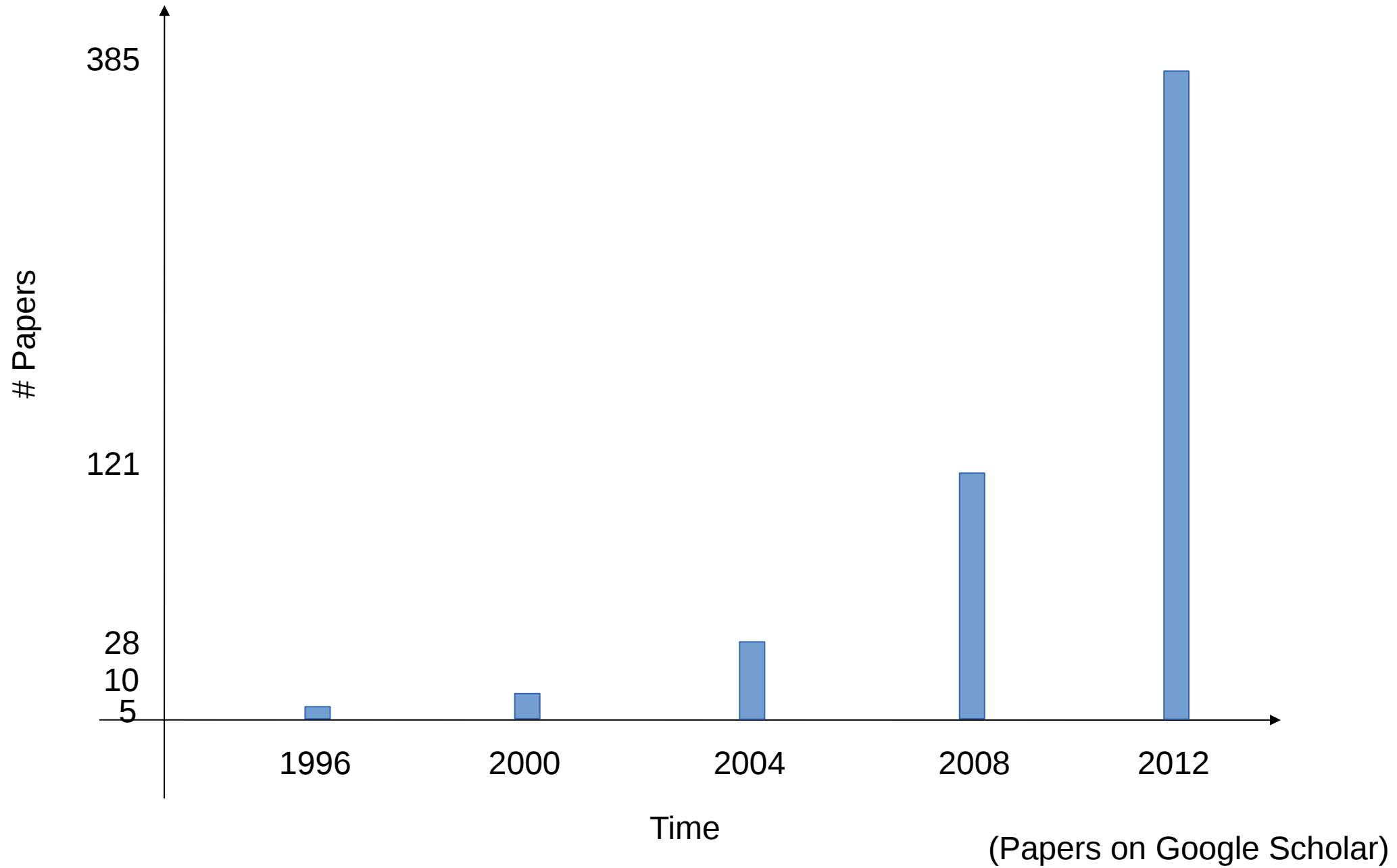
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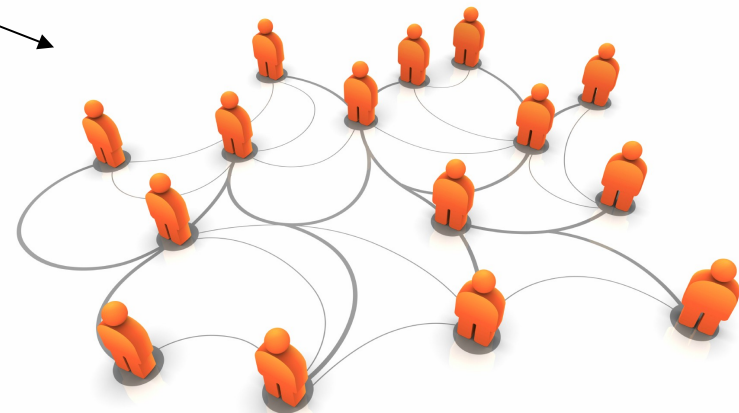
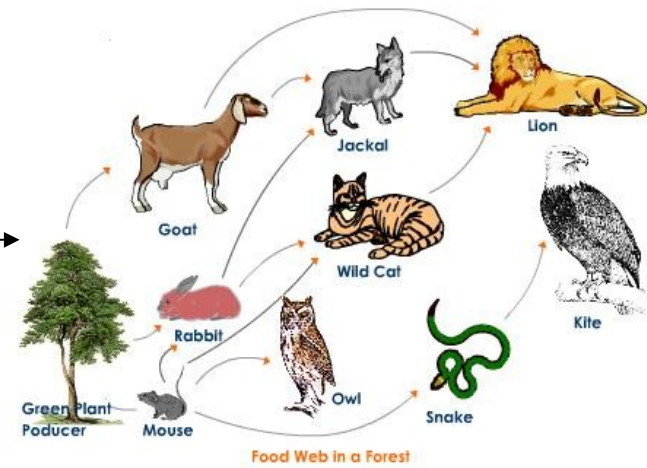
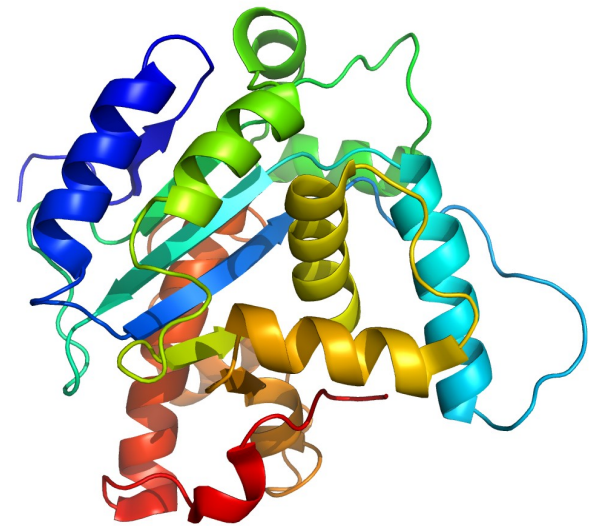
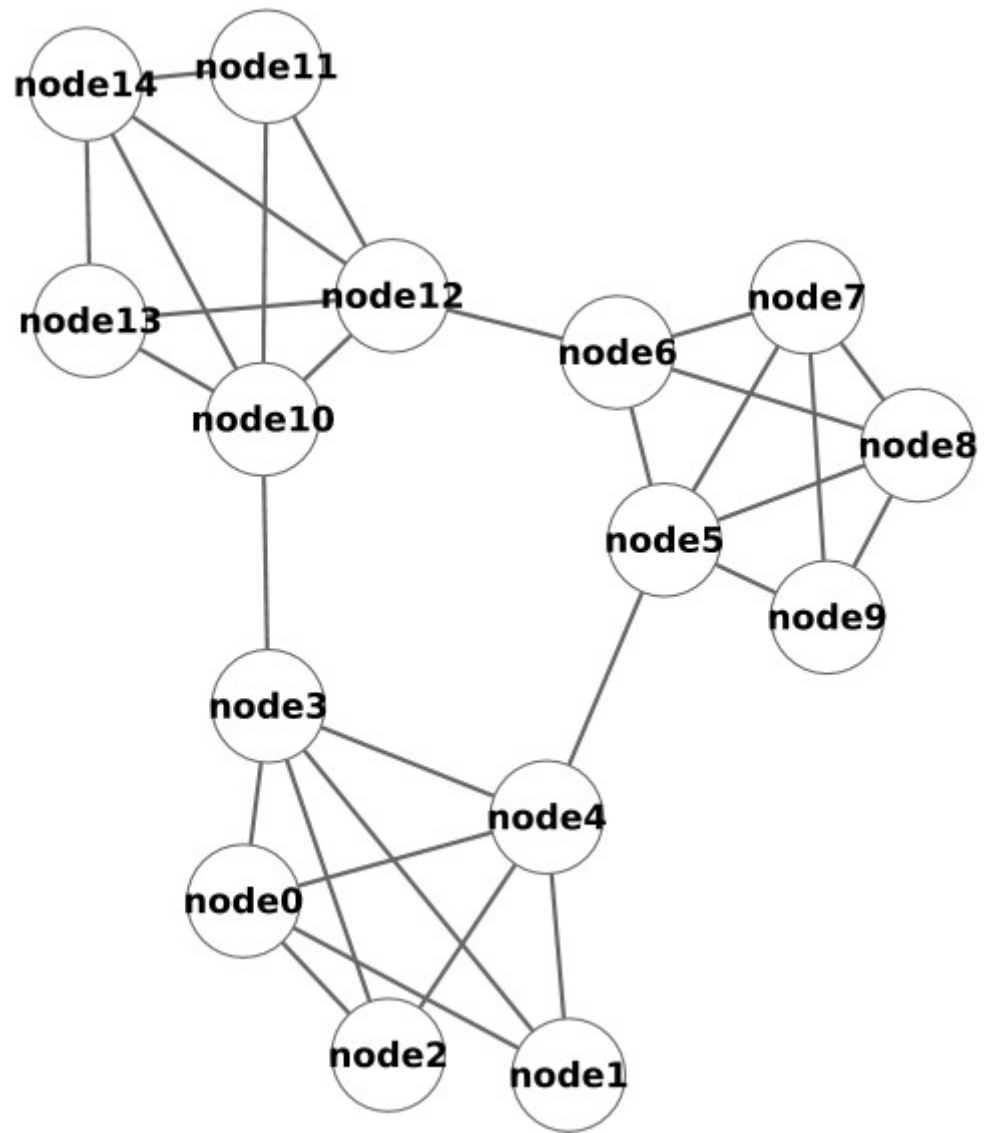
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# Community Discovery





Edge Betweenness

Modularity Maximization

K-Clique Percolation

Infomap

Louvain

Hierarchical Link Clustering

DEMON

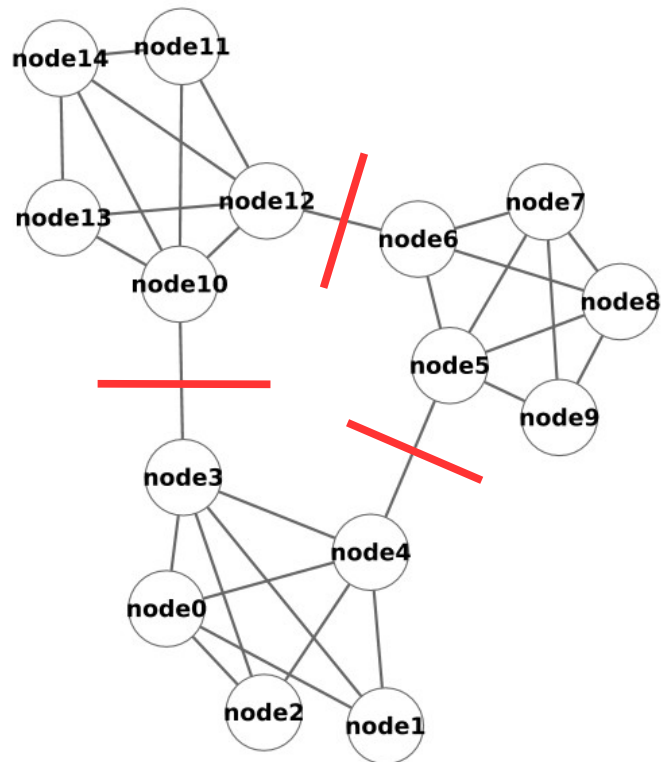
Stability

Walktrap

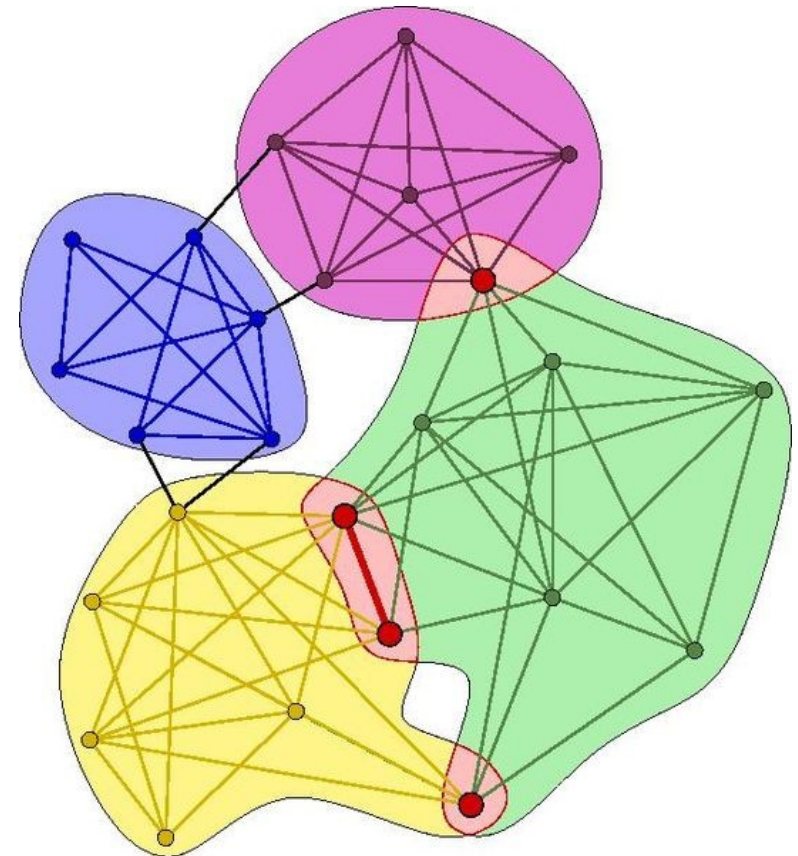




## Partition

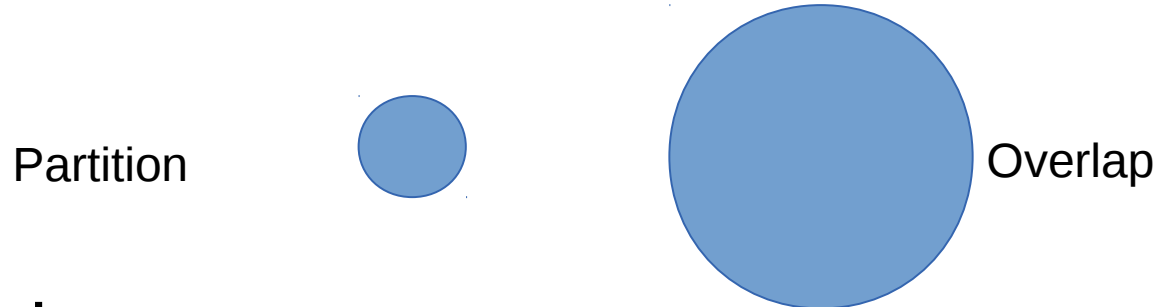


## Overlapping



# Classification vs Profiling

**Size:** Marketing classification → Small; Customer profile → Big



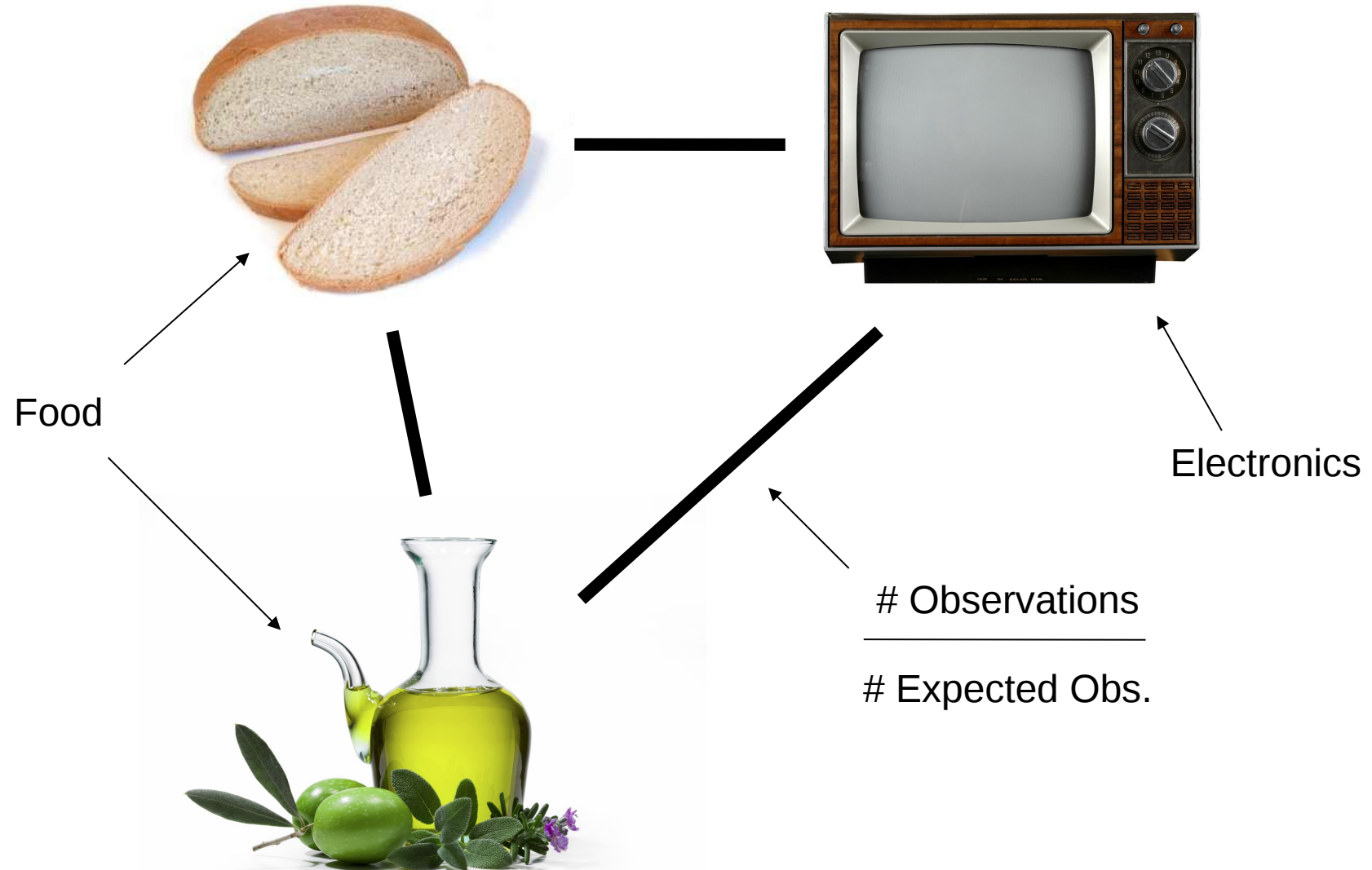
**Homogeneity:** Marketing classification → Homogeneous; Customer profile → Diverse



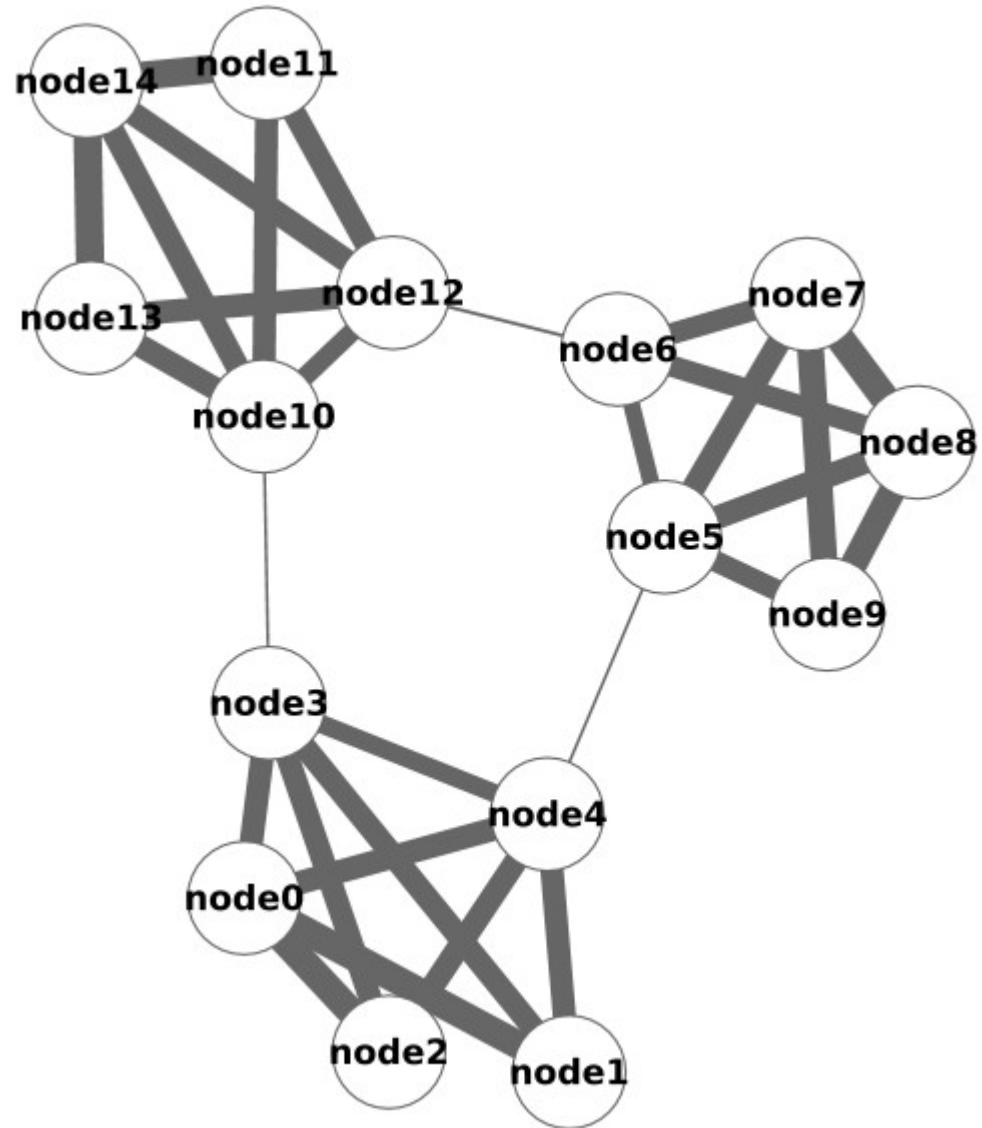
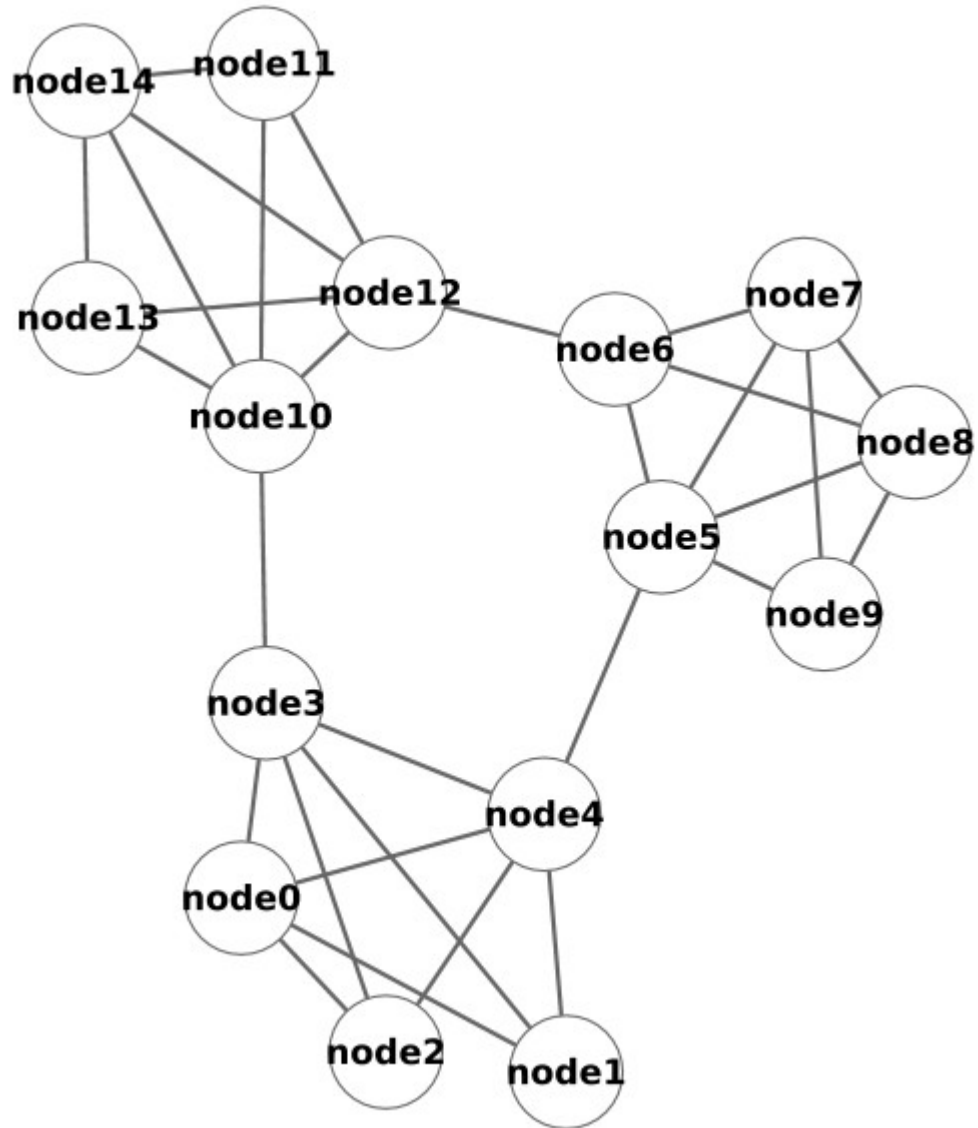
**Density:** Marketing classification → Dense; Customer profile → Sparse



# The Experiment

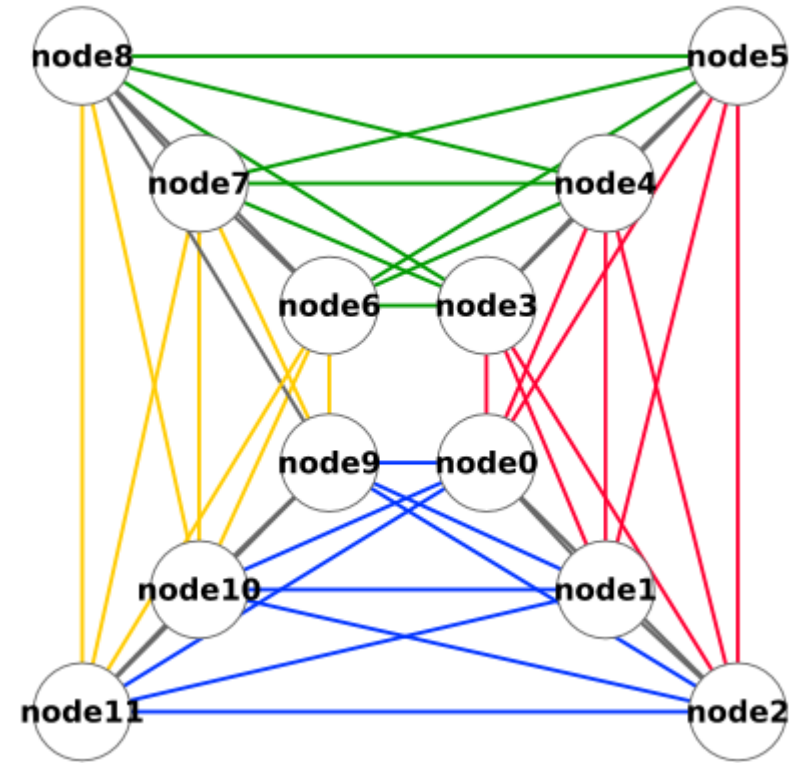
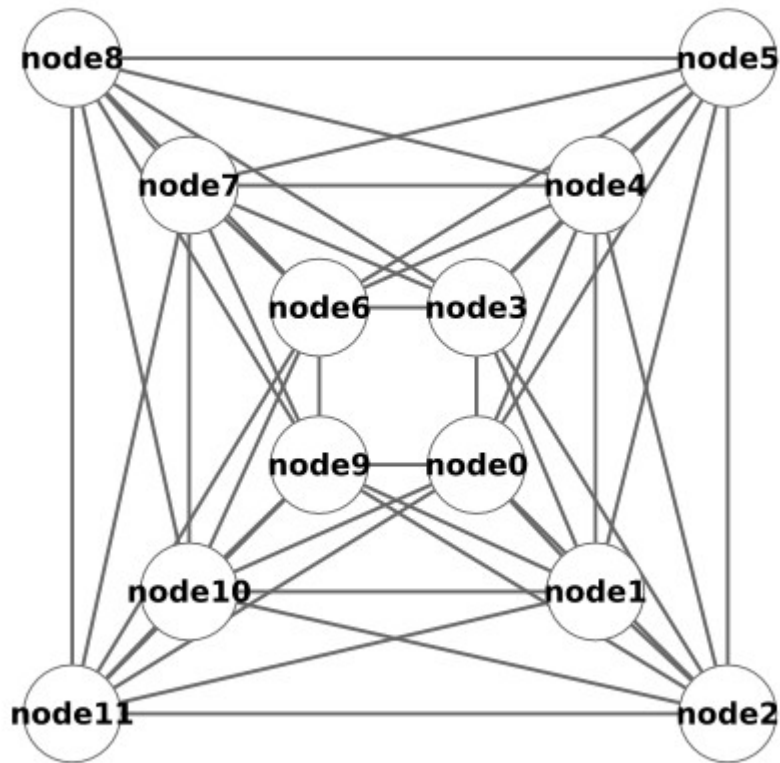


# Infomap





# HLC

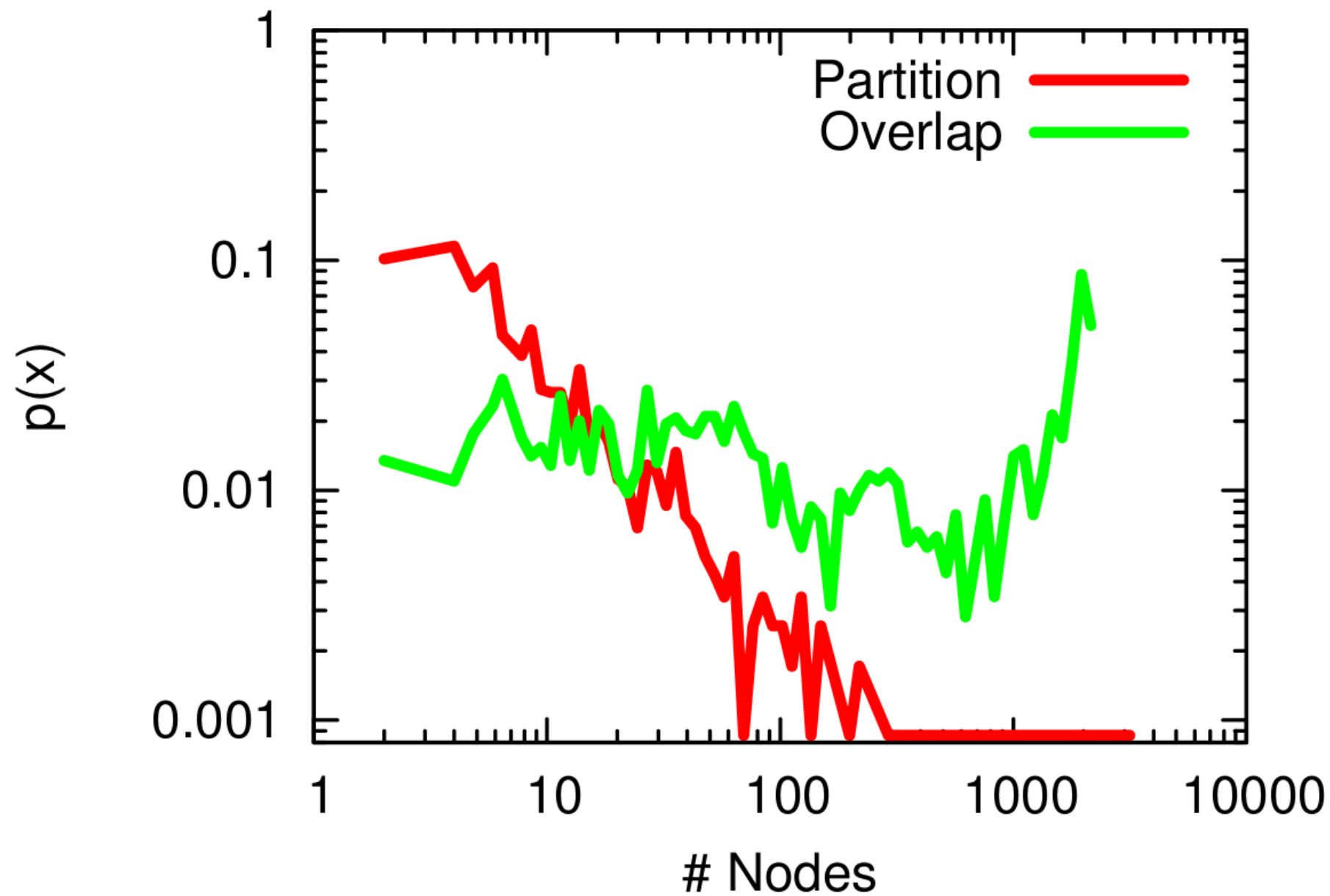


# Size

Marketing classification → Small

Customer profile → Big

# Size

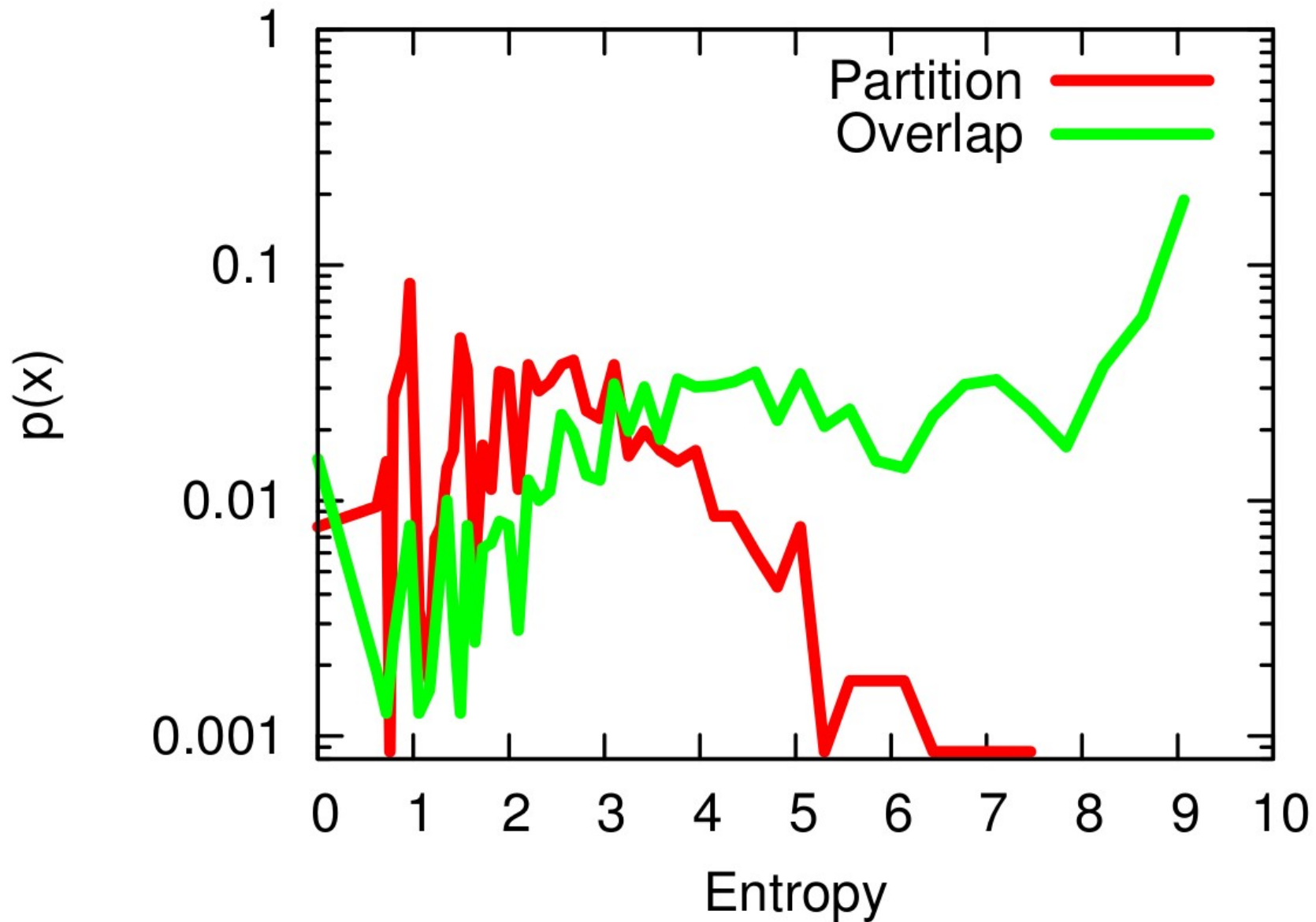


# Homogeneity

Marketing classification → Homogeneous

Customer profile → Diverse

# Homogeneity



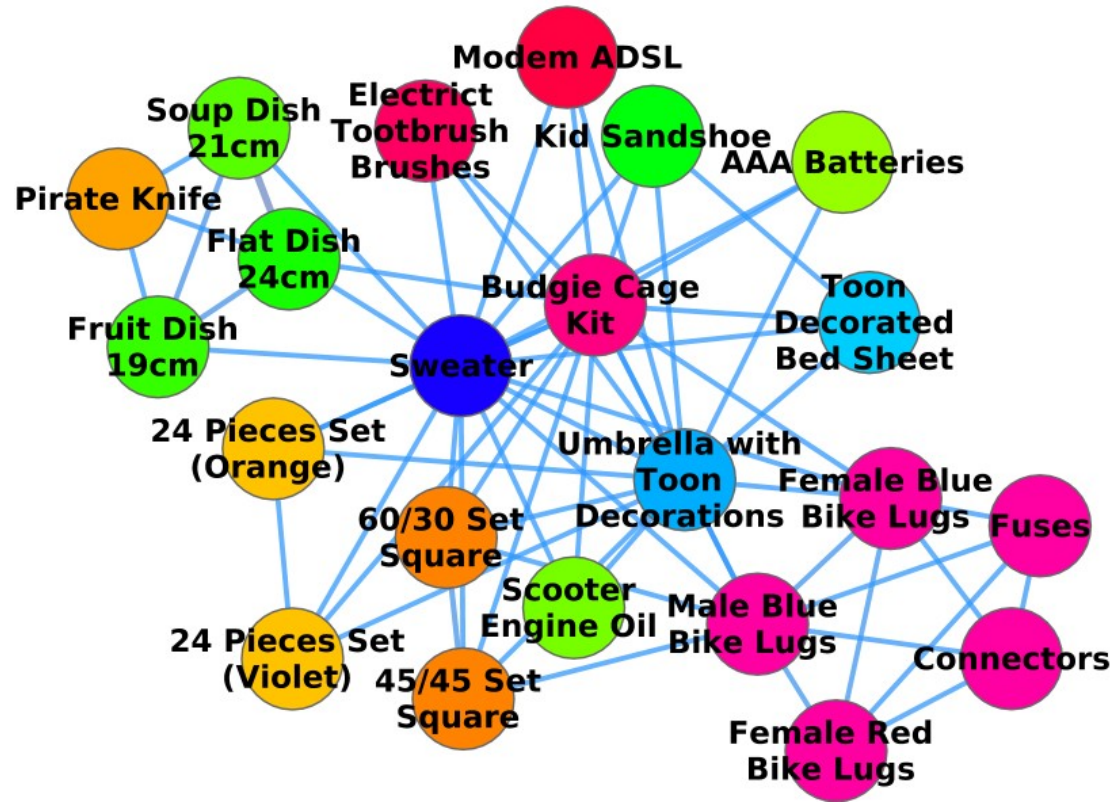


# Density

Marketing classification → Dense

Customer profile → Sparse

# Density



# What we have seen...

- Community discovery is useful
- There are many alternatives
- The choice of the alternative matters



# Next Steps...

- ...actual customer analysis
- ...more community discovery features
- ...different types of networks



Thank you



Questions?