

Social Network Analysis – Project 1

Brand Network Analysis

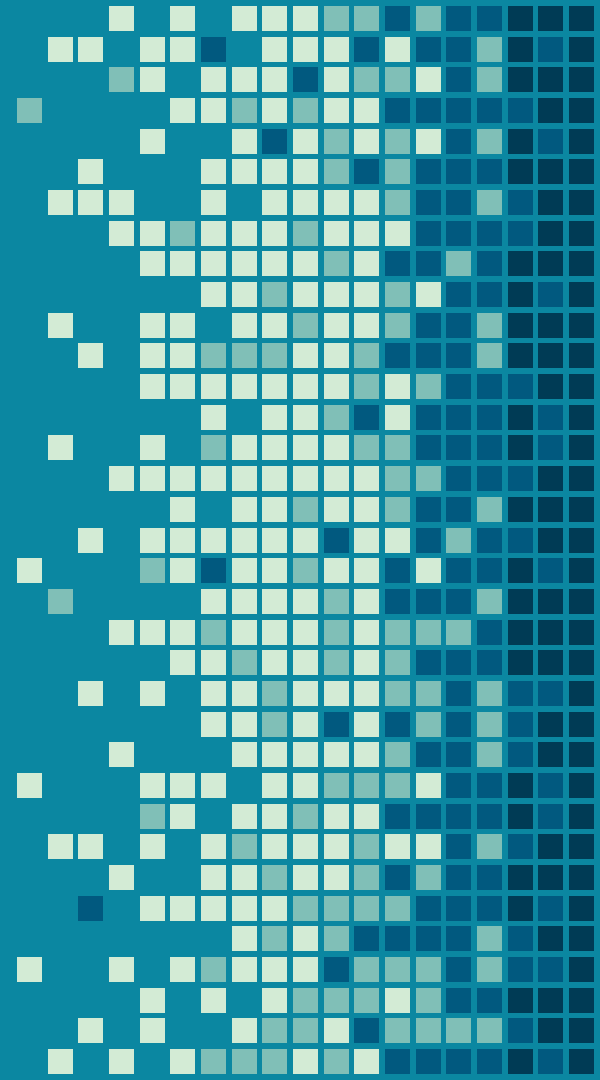


Abstract

- ❑ Descriptive Data Analysis
- ❑ Identify Key Opinion Leaders
- ❑ Prescriptive Data Analysis



“*Descriptive
Data
Analysis*”



Network Density Analysis

**Output from
Ucinet**

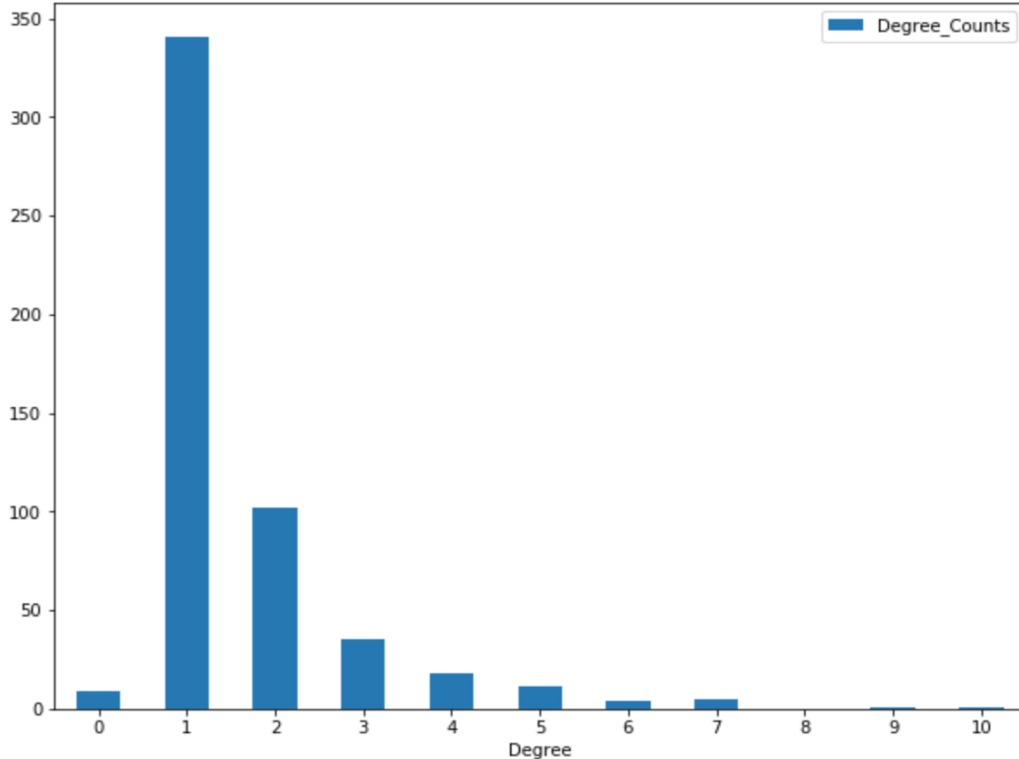
	1	2	3	4
	Avg Val	Total	Std Dev	Avg Wtd
	ue			Degree
	-----	-----	-----	-----
1 Alibaba-network	0.003	859	0.057	1.630

Potential Connection Number : 138601

Actual Connection Number : 428

Network Density : 0.003 (0.3 %)

Network Degree Analysis



Mean : 1.63

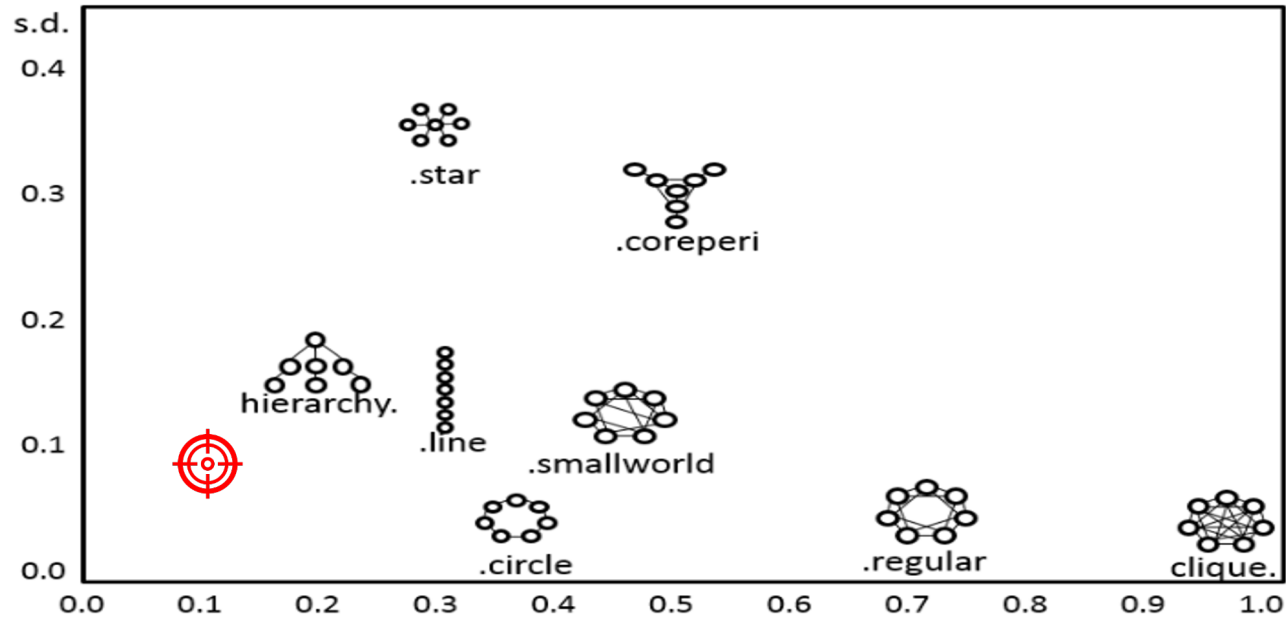
Min : 0

Max : 10

***84 % of
nodes are
Degree 1 or 2***

Network Degree Analysis

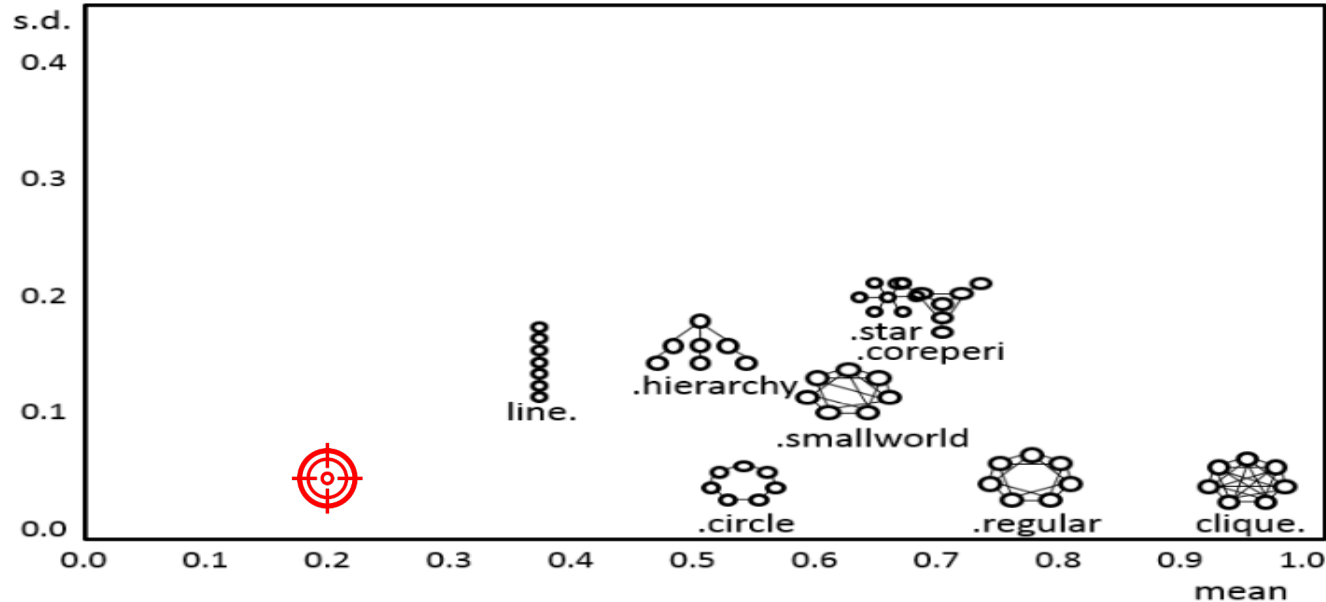
Figure 6. Degree Centralities Normalized: Means and Standard Deviations.



Normalized Mean = 0.1 / Normalized Standard Deviation = 0.08

Network Closeness Analysis

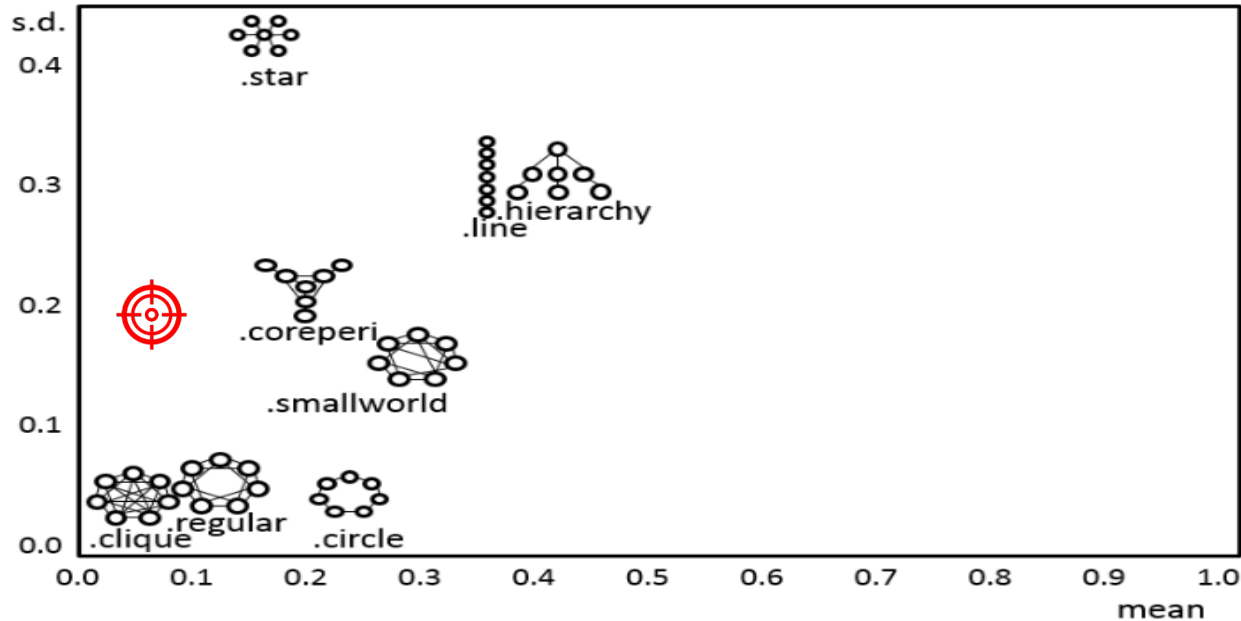
Figure 7. Closeness Centralities Normalized: Means and Standard Deviations.



Normalized Mean = 0.2 / Normalized Standard Deviation = 0.02

Network Betweenness Analysis

Figure 8. Betweenness Centralities Normalized: Means and Standard Deviations.



Normalized Mean = 0.05 / Normalized Standard Deviation = 0.2

Visualization of the Network

Loose

Fragmented

Not Well-Managed.



“*Identify
Key
Opinion
Leaders*”

KOL Candidates

Top 10 Degree Nodes

		1	2	3	4
		OutDegree	InDegree	NrmOutDeg	NrmInDeg
		-----	-----	-----	-----
78	78	10.000	10.000	0.634	0.634
1	1	9.000	10.000	0.570	0.634
362	362	7.000	7.000	0.444	0.444
187	187	7.000	7.000	0.444	0.444
413	413	7.000	7.000	0.444	0.444
498	498	7.000	6.000	0.444	0.380
284	284	7.000	7.000	0.444	0.444
293	293	6.000	7.000	0.380	0.444
4	4	6.000	5.000	0.380	0.317
173	173	6.000	6.000	0.380	0.380

Identify KOL in different context



Increase Product
Exposure Rate

Degree



Effective
Information
Transmission

Closeness



Seeking the most
Influential

Betweenness

KOL Selected by Degree

Increase Product Exposure Rate

Reasoning :

*Less focus on the **strongness of ties & distance to other nodes.**
Expect as many people as possible to learn from the KOL Node.
(In-Degree, Out-Degree)*

Type : High Degree KOL

KOL Characteristics :

Wide range of low stickiness of audience who can help spread information and guide topic interaction.

KOL List : 78, 1, 362, 187, 413, 498, 284, 293, 4, 173

KOL Selected by Closeness

Effective Information Transmission

Reasoning :

*Focus on the distance within the network.
Focus on the efficiency of information transmission.
(Steps to reach other nodes within the network.)*

Type : High Closeness KOL

KOL Characteristics :

Suitable for spreading deep contents, help spread rational marketing in the vertical fields

KOL List : 162, 1, 127, 92, 78, 29, 277, 364, 311, 57

KOL Selected by Betweenness

Seeking the most Influential or Powerful

Reasoning :

*Expect to have the most influential or powerful KOL.
Focus on the ability to connect different subgroup.*

Type : High Betweenness KOL

KOL Characteristics :

With loyal followers and traffic appeals, they can help topics go viral in big marketing campaigns with sufficient budget.

KOL List : 162, 4, 311, 78, 293, 461, 303, 29, 198, 1

“ *Prescriptive
Data
Analysis*

Recommendation

- Increase User Engagement
- Increase KOL Influences



Increase User Engagement

B2C

- Events
 - Ad calendar
- Content
 - UGC (User Generated Content)
- Two-way Communication

C2C

- Function
 - Use push notification
 - Smart recommendation

Leverage KOL Influences

For **high-degree** KOL:

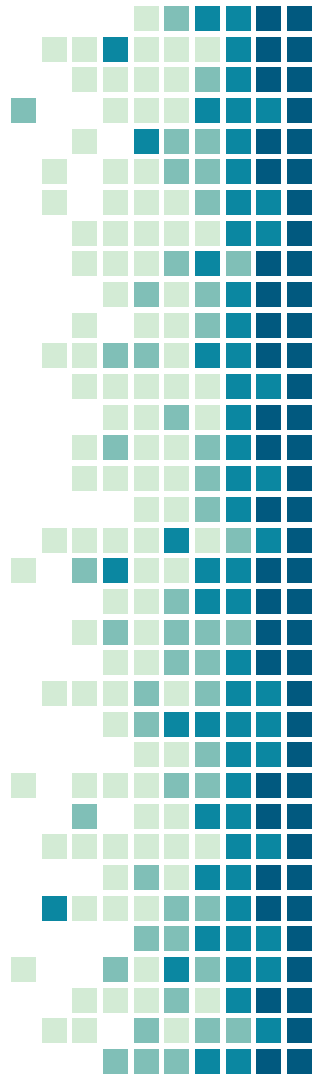
Encourage and reward recommendations.

For **high-closeness** KOL:

Provide coupon codes to them to spread out.

For **high-betweenness** KOL:

Make them satisfied.



THANKS!

