

DENSITY / AVERAGE MATRIX VALUE- **Densidade rede informal**

Input dataset: C:\Users\Helena
Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes Ucinet\R
Informal\Rede Informal final codificada

Output dataset: C:\Users\Helena
Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes Ucinet\Rede
Informal final codificada-density

	Density	No. of Ties

Rede Informal final codificada	0.3106	41.0000

Running time: 00:00:01

Output generated: 18 Jan 10 16:03:20

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FREEMAN BETWEENNESS CENTRALITY **Grau de Intermediação da Rede Informal**

Input dataset: C:\Users\Helena
Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes Ucinet\R
Informal\Rede Informal final codificada

Important note: this routine binarizes but does NOT symmetrize.

Un-normalized centralization: 608.000

		Betweenness n	Betweenness

12	OE	58.417	53.106
7	OS7	12.333	11.212
2	OS2	6.750	6.136
4	OS4	6.417	5.833
6	OS6	3.583	3.258
9	OS9	2.917	2.652
5	OS5	2.250	2.045
1	OS1	0.333	0.303
8	OS8	0.000	0.000
10	OS10	0.000	0.000
11	OS11	0.000	0.000
3	OS3	0.000	0.000

DESCRIPTIVE STATISTICS FOR EACH MEASURE

	1	2
	Betweenness n	Betweenness

1	Mean	7.750 7.045
2	Std Dev	15.698 14.271
3	Sum	93.000 84.545
4	Variance	246.427 203.659
5	SSQ	3677.875 3039.566
6	MCSSQ	2957.125 2443.905
7	Euc Norm	60.645 55.132
8	Minimum	0.000 0.000
9	Maximum	58.417 53.106

Network Centralization Index = 50.25%

Output actor-by-centrality measure matrix saved as dataset FreemanBetweenness

Running time: 00:00:01

Output generated: 18 Jan 10 14:15:26

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FREEMAN'S DEGREE CENTRALITY MEASURES **Centralidade da Rede Informal**

Diagonal valid? NO

Model: ASYMMETRIC

Input dataset: C:\Users\Helena
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Informal\Rede Informal final codificada

	1	2	3	4
	OutDegree	InDegree	NrmOutDeg	NrmInDeg
7 OS7	9.000	4.000	81.818	36.364
12 OE	7.000	11.000	63.636	100.000
6 OS6	5.000	2.000	45.455	18.182
5 OS5	4.000	3.000	36.364	27.273
9 OS9	4.000	4.000	36.364	36.364
4 OS4	3.000	2.000	27.273	18.182
1 OS1	3.000	2.000	27.273	18.182
2 OS2	2.000	3.000	18.182	27.273
8 OS8	1.000	4.000	9.091	36.364
10 OS10	1.000	3.000	9.091	27.273
11 OS11	1.000	3.000	9.091	27.273

3 OS3 1.000 0.000 9.091 0.000

DESCRIPTIVE STATISTICS

		1	2	3	4
		OutDegree	InDegree	NrmOutDeg	NrmInDeg

1	Mean	3.417	3.417	31.061	31.061
2	Std Dev	2.465	2.532	22.409	23.016
3	Sum	41.000	41.000	372.727	372.727
4	Variance	6.076	6.410	502.181	529.729
5	SSQ	213.000	217.000	17603.307	17933.885
6	MCSSQ	72.917	76.917	6026.171	6356.750
7	Euc Norm	14.595	14.731	132.677	133.917
8	Minimum	1.000	0.000	9.091	0.000
9	Maximum	9.000	11.000	81.818	100.000

Network Centralization (Outdegree) = 55.372%

Network Centralization (Indegree) = 75.207%

Actor-by-centrality matrix saved as dataset FreemanDegree

Running time: 00:00:01

Output generated: 18 Jan 10 14:11:20

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CLOSENESS CENTRALITY **Cercania da Rede Informal**

Input dataset: C:\Users\Helena
 Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes Ucinet\R
 Informal\Rede Informal final codificada

Method: Geodesic paths only (Freeman Closeness)

Output dataset: C:\Users\Helena
 Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes
 Ucinet\Closeness

Note: Data not symmetric, therefore separate in-closeness & out-closeness computed.

The network is not connected. Technically, closeness centrality
 cannot be computed, as there are infinite distances.

Closeness Centrality Measures

		1	2	3	4
		inFarness	outFarness	inCloseness	outCloseness
		-----	-----	-----	-----
12	OE	11.000	25.000	100.000	44.000
8	OS8	18.000	34.000	61.111	32.353
9	OS9	18.000	28.000	61.111	39.286
5	OS5	19.000	28.000	57.895	39.286
2	OS2	19.000	30.000	57.895	36.667
11	OS11	19.000	34.000	57.895	32.353
1	OS1	20.000	31.000	55.000	35.484
4	OS4	20.000	29.000	55.000	37.931
7	OS7	23.000	23.000	47.826	47.826
10	OS10	23.000	33.000	47.826	33.333
6	OS6	24.000	27.000	45.833	40.741
3	OS3	132.000	24.000	8.333	45.833

Statistics

		1	2	3	4
		inFarness	outFarness	inCloseness	outCloseness

1	Mean	28.833	28.833	54.644	38.758
2	Std Dev	31.270	3.578	19.339	4.929
3	Sum	346.000	346.000	655.725	465.092
4	Variance	977.806	12.806	374.004	24.293
5	SSQ	21710.000	10130.000	40319.344	18317.422
6	MCSSQ	11733.667	153.667	4488.042	291.511
7	Euc Norm	147.343	100.648	200.797	135.342
8	Minimum	11.000	23.000	8.333	32.353
9	Maximum	132.000	34.000	100.000	47.826

Network centralization not computed for unconnected graphs

Output actor-by-centrality measure matrix saved as dataset C:\Users\Helena
Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes
Ucinet\Closeness

Running time: 00:00:01

Output generated: 18 Jan 10 14:18:12

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[Click Rede Informal](#)

Minimum Set Size: 3

Input dataset: C:\Users\Helena
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Informal\Rede Informal final codificada

WARNING: Directed graph. Direction of arcs ignored.

9 cliques found.

- 1: OS5 OS7 OS9 E
- 2: OS6 OS7 OS9 E
- 3: OS7 OS8 OS9 E
- 4: OS4 OS7 OS10 E
- 5: OS6 OS7 OS10 E
- 6: OS5 OS7 OS11 E
- 7: OS1 OS7 OS8 E
- 8: OS2 OS6 E
- 9: OS1 OS2 E

Clique Proximities: Prop. of clique members that each node is adjacent to

[illegible]

Actor-by-Actor Clique Co-Membership Matrix

[illegible]

HIERARCHICAL CLUSTERING OF OVERLAP MATRIX

```

      O   O
    OSOOOSOOOOO
  S1SSS1SSSSS
 31124085697E

      1   1       1
Level 311240856972
-----

```



```

7.000 .....XXX
3.000 .....XXXXX
2.250 .....XXXXXXX
1.400 .....XXXXXXXXX
1.167 .....XXXXXXXXXXX
1.000 ..XXX XXX XXXXXXXXXXXXX
0.810 ..XXX XXXXXXXXXXXXXXXXX
0.610 ..XXXXXXXXXXXXXXXXXXXXX
0.381 .XXXXXXXXXXXXXXXXXXXXXX
0.000 XXXXXXXXXXXXXXXXXXXXX

```

Group indicator matrix saved as dataset CliqueSets

Actor-by-Actor clique co-membership matrix saved as dataset CliqueOverlap

Clique co-membership partition-by-actor indicator matrix saved as dataset CliquePart

Clique-by-Clique Actor Co-membership matrix

```

1 2 3 4 5 6 7 8 9
-----
1 4 3 3 2 2 3 2 1 1
2 3 4 3 2 3 2 2 2 1
3 3 3 4 2 2 2 3 1 1
4 2 2 2 4 3 2 2 1 1
5 2 3 2 3 4 2 2 2 1
6 3 2 2 2 2 4 2 1 1
7 2 2 3 2 2 2 4 1 2
8 1 2 1 1 2 1 1 3 2

```

9 1 1 1 1 1 2 2 3

HIERARCHICAL CLUSTERING OF OVERLAP MATRIX

Level 5 4 3 2 1 6 7 8 9

3.000 XXX XXXXX

2.333 XXX XXXXXXXX . . .

2.250 XXX XXXXXXXXXXXX . .

2.100 XXXXXXXXXXXXXXXX . .

2.000 XXXXXXXXXXXXXXXX XXX

1.214 XXXXXXXXXXXXXXXX XXX

Clique-by-Clique co-membership matrix saved as dataset Clique-by-cliqueOverlap

Clique by clustering partition matrix saved as dataset Clique-by-partition

Running time: 00:00:02

Output generated: 10 Feb 10 15:18:18

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Poder

ALPHA CENTRALITY/BONACICH POWER

Input dataset:

Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados
Informal\Rede Informal final codificada

C:\Users\Helena
Tese\Matrizes Ucinet\R

Output dataset:
Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados
Ucinet\BonacichPower-Exact

C:\Users\Helena
Tese\Matrizes

Beta parameter: 0

Computational method: Exact (slow for large networks)

Bonacich Power

Power Norma

OS1 3.000 2.467

OS2 2.000 1.644

OS3 1.000 0.822

OS4 3.000 2.467

OS5 4.000 3.289

OS6 5.000 4.111

OS7 9.000 7.400

OS8 1.000 0.822

OS9 4.000 3.289

OS10 1.000 0.822

OS11 1.000 0.822

OE 7.000 5.756

Running time: 00:00:01

Output generated: 10 Feb 10 15:21:56

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Laços – Ego rede

Input dataset:
Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados
Informal\Rede Informal final codificada

C:\Users\Helena
Tese\Matrizes Ucinet\R

Density Measures

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
Size	Ties	Pairs	Densit	AvgDis	Diamet	nWeakC	pWeakC	2StepR	ReachE	Broker	nBroke	EgoBet	nEgoBe		

1	OS1	4.00	6.00	12.00	50.00			1.00	25.00	100.00	40.74	3.00	0.25	0.50	4.17
2	OS2	3.00	3.00	6.00	50.00			1.00	33.33	100.00	55.00	1.50	0.25	2.00	33.33
3	OS3	1.00	0.00	0.00		0.00	0.00	1.00	100.00	100.00	100.00	0.00		0.00	
4	OS4	3.00	3.00	6.00	50.00			1.00	33.33	100.00	45.83	1.50	0.25	3.00	50.00
5	OS5	4.00	8.00	12.00	66.67	1.42	3.00	1.00	25.00	100.00	39.29	2.00	0.17	1.33	11.11
6	OS6	5.00	9.00	20.00	45.00	1.80	4.00	1.00	20.00	100.00	34.38	5.50	0.28	3.50	17.50
7	OS7	9.00	22.00	72.00	30.56			1.00	11.11	100.00	25.58	25.00	0.35	17.33	24.07
8	OS8	4.00	8.00	12.00	66.67	1.42	3.00	1.00	25.00	100.00	37.93	2.00	0.17	0.00	0.00
9	OS9	5.00	11.00	20.00	55.00	1.65	4.00	1.00	20.00	100.00	33.33	4.50	0.22	3.00	15.00
10	OS10	4.00	8.00	12.00	66.67	1.42	3.00	1.00	25.00	100.00	39.29	2.00	0.17	0.00	0.00
11	OS11	3.00	5.00	6.00	83.33	1.17	2.00	1.00	33.33	100.00	45.83	0.50	0.08	0.00	0.00
12	OE	11.00	23.00	110.00	20.91			2.00	18.18	100.00	24.44	43.50	0.40	58.42	53.11

1. Size. Size of ego network.
2. Ties. Number of directed ties.
3. Pairs. Number of ordered pairs.
4. Density. Ties divided by Pairs.
5. AvgDist. Average geodesic distance.
6. Diameter. Longest distance in egonet.
7. nWeakComp. Number of weak components.
8. pWeakComp. NWeakComp divided by Size.
9. 2StepReach. # of nodes within 2 links of ego.
10. ReachEffic. 2StepReach divided Size.
11. Broker. # of pairs not directly connected.
12. Normalized Broker. Broker divided by number of pairs.

13. Ego Betweenness. Betweenness of ego in own network.

14. Normalized Ego Betweenness. Betweenness of ego in own network.

Ego network measures saved as dataset C:\Users\Helena
Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes Ucinet\EgoNet

Running time: 00:00:01

Output generated: 10 Feb 10 20:45:36

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