

DENSITY / AVERAGE MATRIX VALUE **Densidade rede de confiança**

Input dataset: C:\Users\Helena
Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes Ucinet\Conf e
Amiz\Rede Confiança e amizade 1Final Codificada

Output dataset: C:\Users\Helena
Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes Ucinet\Rede
Confiança e amizade 1Final Codificada-density

	Density	No. of Ties

Rede Confiança e amizade 1Final Codificada	0.6894	91.0000

Running time: 00:00:01

Output generated: 18 Jan 10 16:14:23

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FREEMAN'S DEGREE CENTRALITY MEASURES – **Centralidade Rede de Confiança**

Diagonal valid? NO

Model: ASYM

METRIC

Input dataset: C:\Users\Helena
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Amiz\Rede Confiança e amizade 1Final Codificada

	1	2	3	4
	OutDegree	InDegree	NrmOutDeg	NrmInDeg

1 OS1	11.000	9.000	100.000	81.818
8 OS8	11.000	9.000	100.000	81.818
12 OE	11.000	11.000	100.000	100.000
6 OS6	10.000	6.000	90.909	54.545
7 OS7	9.000	9.000	81.818	81.818
4 OS4	8.000	7.000	72.727	63.636
3 OS3	7.000	6.000	63.636	54.545
11 OS11	6.000	5.000	54.545	45.455
5 OS5	5.000	10.000	45.455	90.909
9 OS9	5.000	8.000	45.455	72.727
10 OS10	4.000	6.000	36.364	54.545
2 OS2	4.000	5.000	36.364	45.455

DESCRIPTIVE STATISTICS

	1	2	3	4
	OutDegree	InDegree	NrmOutDeg	NrmInDeg

1 Mean	7.583	7.583	68.939	68.939
2 Std Dev	2.660	1.935	24.183	17.588
3 Sum	91.000	91.000	827.273	827.273
4 Variance	7.076	3.743	584.826	309.343
5 SSQ	775.000	735.000	64049.586	60743.801
6 MCSSQ	84.917	44.917	7017.906	3712.121
7 Euc Norm	27.839	27.111	253.080	246.463
8 Minimum	4.000	5.000	36.364	45.455

9 Maximum 11.000 11.000 100.000 100.000

Network Centralization (Outdegree) = 33.884%

Network Centralization (Indegree) = 33.884%

Actor-by-centrality matrix saved as dataset FreemanDegree

Running time: 00:00:01

Output generated: 18 Jan 10 14:46:46

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Intermediação da Rede de Confiança

FREEMAN BETWEENNESS CENTRALITY

Input dataset: C:\Users\Helena
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Amiz\Rede Confiança e amizade 1Final Codificada

Important note: this routine binarizes but does NOT symmetrize.

Un-normalized centralization: 95.514

1 2

Betweenness nBetweenness

12	OE	11.376	10.342
1	OS1	7.793	7.084
8	OS8	7.260	6.600
7	OS7	5.250	4.773
6	OS6	2.793	2.539
5	OS5	2.160	1.963
4	OS4	1.093	0.994
11	OS11	0.950	0.864
3	OS3	0.783	0.712
2	OS2	0.750	0.682
10	OS10	0.450	0.409
9	OS9	0.343	0.312

DESCRIPTIVE STATISTICS FOR EACH MEASURE

		1	2
		Betweenness	nBetweenness

1	Mean	3.417	3.106
2	Std Dev	3.493	3.175
3	Sum	41.000	37.273
4	Variance	12.199	10.081
5	SSQ	286.466	236.749
6	MCSSQ	146.383	120.978
7	Euc Norm	16.925	15.387
8	Minimum	0.343	0.312
9	Maximum	11.376	10.342

Network Centralization Index = 7.89%

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

Running time: 00:00:01

Output generated: 18 Jan 10 14:42:18

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Cercania da Rede de Confiança

CLOSENESS CENTRALITY

Input dataset: C:\Users\Helena
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Amiz\Rede Confiança e amizade 1Final 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.

Closeness Centrality Measures

		1	2	3	4
		inFarness	outFarness	inCloseness	outCloseness
12	OE	11.000	11.000	100.000	100.000
5	OS5	12.000	17.000	91.667	64.706

1	OS1	13.000	11.000	84.615	100.000
7	OS7	13.000	13.000	84.615	84.615
8	OS8	13.000	11.000	84.615	100.000
9	OS9	14.000	17.000	78.571	64.706
4	OS4	15.000	14.000	73.333	78.571
3	OS3	16.000	15.000	68.750	73.333
10	OS10	16.000	18.000	68.750	61.111
6	OS6	16.000	12.000	68.750	91.667
2	OS2	17.000	18.000	64.706	61.111
11	OS11	17.000	16.000	64.706	68.750

Statistics

		1	2	3	4
		inFarness	outFarness	inCloseness	outCloseness

1	Mean	14.417	14.417	77.757	79.048
2	Std Dev	1.935	2.660	10.930	15.003
3	Sum	173.000	173.000	933.079	948.571
4	Variance	3.743	7.076	119.468	225.081
5	SSQ	2539.000	2579.000	73986.703	77683.188
6	MCSSQ	44.917	84.917	1433.616	2700.976
7	Euc Norm	50.388	50.784	272.005	278.717
8	Minimum	11.000	11.000	64.706	61.111
9	Maximum	17.000	18.000	100.000	100.000

Network in-Centralization = 50.96%

Network out-Centralization = 48.00%

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 14:48:50

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[Click da rede de confiança](#)

CLIQUEs

Minimum Set Size: 3

Input dataset: C:\Users\Helena
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Amiz\Rede Confiança e amizade 1Final Codificada

WARNING: Directed graph. Direction of arcs ignored.

7 cliques found.

1: OS1 OS4 OS5 OS6 OS7 OS8 OS9 E

2: OS1 OS3 OS4 OS5 OS6 OS8 OS9 E

3: OS1 OS4 OS5 OS7 OS8 OS11 E

4: OS1 OS3 OS4 OS5 OS8 OS11 E

5: OS1 OS4 OS6 OS7 OS8 OS10 E

6: OS1 OS2 OS5 OS6 OS8 E

7: OS1 OS2 OS6 OS8 OS10 E

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

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

```

-----
OS1 1.000 1.000 1.000 1.000 1.000 1.000 1.000
OS2 0.625 0.625 0.571 0.571 0.714 1.000 1.000
OS3 0.875 1.000 0.857 1.000 0.714 0.833 0.667
OS4 1.000 1.000 1.000 1.000 1.000 0.833 0.833
OS5 1.000 1.000 1.000 1.000 0.857 1.000 0.833
OS6 1.000 1.000 0.857 0.857 1.000 1.000 1.000
OS7 1.000 0.875 1.000 0.857 1.000 0.833 0.833
OS8 1.000 1.000 1.000 1.000 1.000 1.000 1.000
OS9 1.000 1.000 0.857 0.857 0.857 0.833 0.667
OS10 0.750 0.625 0.714 0.571 1.000 0.833 1.000
OS11 0.750 0.750 1.000 1.000 0.714 0.667 0.500
OE 1.000 1.000 1.000 1.000 1.000 1.000 1.000

```

Group indicator matrix saved as dataset CliqueSets

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Running time: 00:00:06

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Output generated: 18 Jan 10 15:04:07

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[Click Rede deConfiança](#)

CLIQUEs

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```

Minimum Set Size: 3

Input dataset: C:\Users\Helena
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Amiz\Rede Confiança e amizade 1Final Codificada

WARNING: Directed graph. Direction of arcs ignored.

7 cliques found.

- 1: OS1 OS4 OS5 OS6 OS7 OS8 OS9 E
- 2: OS1 OS3 OS4 OS5 OS6 OS8 OS9 E
- 3: OS1 OS4 OS5 OS7 OS8 OS11 E
- 4: OS1 OS3 OS4 OS5 OS8 OS11 E
- 5: OS1 OS4 OS6 OS7 OS8 OS10 E
- 6: OS1 OS2 OS5 OS6 OS8 E
- 7: OS1 OS2 OS6 OS8 OS10 E

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

	1	2	3	4	5	6	7
OS1	1.000	1.000	1.000	1.000	1.000	1.000	1.000
OS2	0.625	0.625	0.571	0.571	0.714	1.000	1.000
OS3	0.875	1.000	0.857	1.000	0.714	0.833	0.667
OS4	1.000	1.000	1.000	1.000	1.000	0.833	0.833
OS5	1.000	1.000	1.000	1.000	0.857	1.000	0.833
OS6	1.000	1.000	0.857	0.857	1.000	1.000	1.000
OS7	1.000	0.875	1.000	0.857	1.000	0.833	0.833
OS8	1.000	1.000	1.000	1.000	1.000	1.000	1.000
OS9	1.000	1.000	0.857	0.857	0.857	0.833	0.667
OS10	0.750	0.625	0.714	0.571	1.000	0.833	1.000
OS11	0.750	0.750	1.000	1.000	0.714	0.667	0.500
OE	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Actor-by-Actor Clique Co-Membership Matrix

```

          1 1 1
    1 2 3 4 5 6 7 8 9 0 1 2
    O O O O O O O O O O O E
    - - - - -
1 OS1 7 2 2 5 5 5 3 7 2 2 2 7
2 OS2 2 2 0 0 1 2 0 2 0 1 0 2
3 OS3 2 0 2 2 2 1 0 2 1 0 1 2
4 OS4 5 0 2 5 4 3 3 5 2 1 2 5
5 OS5 5 1 2 4 5 3 2 5 2 0 2 5
6 OS6 5 2 1 3 3 5 2 5 2 2 0 5
7 OS7 3 0 0 3 2 2 3 3 1 1 1 3
8 OS8 7 2 2 5 5 5 3 7 2 2 2 7
9 OS9 2 0 1 2 2 2 1 2 2 0 0 2
10 OS10 2 1 0 1 0 2 1 2 0 2 0 2
11 OS11 2 0 1 2 2 0 1 2 0 0 2 2
12 OE 7 2 2 5 5 5 3 7 2 2 2 7

```

HIERARCHICAL CLUSTERING OF OVERLAP MATRIX

```

    O O
    O S S O O O O O O O O
    S 1 1 S S S S S S S S
    2 0 1 3 9 7 6 5 4 1 8 E

    1 1      1
Level 2 0 1 3 9 7 6 5 4 1 8 2
-----
7.000 ..... XXXXX
5.000 ..... XXXXXXXX
4.800 ..... XXXXXXXXXXXX
4.333 ..... XXXXXXXXXXXXXX

```

2.714XXXXXXXXXXXXXXXXX
 1.875XXXXXXXXXXXXXXXXX
 1.556 ...XXXXXXXXXXXXXXXXXXXXX
 1.400 ..XXXXXXXXXXXXXXXXXXXXXXX
 1.091 .XXXXXXXXXXXXXXXXXXXXXXXXX
 1.000 XXXXXXXXXXXXXXXXXXXXXXXXX

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

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

HIERARCHICAL CLUSTERING OF OVERLAP MATRIX

Level 1 2 3 4 5 6 7

7.000 XXX
6.000 XXX XXX . . .
5.500 XXXXXXXX . . .
5.000 XXXXXXXXXXXX XXX
4.100 XXXXXXXXXXXXXXXX

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 15:27:17
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Poder

ALPHA CENTRALITY/BONACICH POWER

Input dataset: C:\Users\Helena
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Amiz\Rede Confiança e amizade 1Final Codificada

Output dataset: C:\Users\Helena
Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes
Ucinet\BonacichPower-Exact

Beta parameter: 0

Computational method: Exact (slow for large networks)

Bonacich Power

Power Normal

OS1	11.000	4.742
OS2	4.000	1.724
OS3	7.000	3.017
OS4	8.000	3.448
OS5	5.000	2.155
OS6	10.000	4.311
OS7	9.000	3.879
OS8	11.000	4.742
OS9	5.000	2.155
OS10	4.000	1.724
OS11	6.000	2.586
OE	11.000	4.742

Running time: 00:00:01

Output generated: 10 Feb 10 15:30:38

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LAÇOS DA REDE DE AMIZADE

EGO NETWORKS

Input dataset: C:\Users\Helena
 Arco\Documents\Doutoramento\Doutoramento\Projecto\Dados Tese\Matrizes Ucinet\Conf e
 Amiz\Rede Confiança e amizade 1Final Codificada

Density Measures

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

```

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1 OS1 11.00 71.00 110.00 64.55 1.35 2.00 1.00 9.09 100.00 11.34 19.50 0.18 7.79 7.08
2 OS2 6.00 24.00 30.00 80.00 1.20 2.00 1.00 16.67 100.00 18.33 3.00 0.10 1.00 3.33
3 OS3 8.00 44.00 56.00 78.57 1.21 2.00 1.00 12.50 100.00 14.10 6.00 0.11 0.98 1.76
4 OS4 10.00 67.00 90.00 74.44 1.26 2.00 1.00 10.00 100.00 11.96 11.50 0.13 1.09 1.21
5 OS5 10.00 66.00 90.00 73.33 1.27 2.00 1.00 10.00 100.00 12.09 12.00 0.13 2.16 2.40
6 OS6 10.00 64.00 90.00 71.11 1.29 2.00 1.00 10.00 100.00 12.09 13.00 0.14 2.83 3.14
7 OS7 9.00 51.00 72.00 70.83 1.29 2.00 1.00 11.11 100.00 12.94 10.50 0.15 5.70 7.92
8 OS8 11.00 71.00 110.00 64.55 1.35 2.00 1.00 9.09 100.00 11.34 19.50 0.18 7.26 6.60
9 OS9 8.00 49.00 56.00 87.50 1.13 2.00 1.00 12.50 100.00 13.75 3.50 0.06 0.39 0.70
10 OS10 7.00 36.00 42.00 85.71 1.14 2.00 1.00 14.29 100.00 16.18 3.00 0.07 0.45 1.07
11 OS11 7.00 37.00 42.00 88.10 1.12 2.00 1.00 14.29 100.00 15.71 2.50 0.06 1.03 2.46
12 OE 11.00 69.00 110.00 62.73 1.37 2.00 1.00 9.09 100.00 11.34 20.50 0.19 11.38 10.34

```

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 20:49:25

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