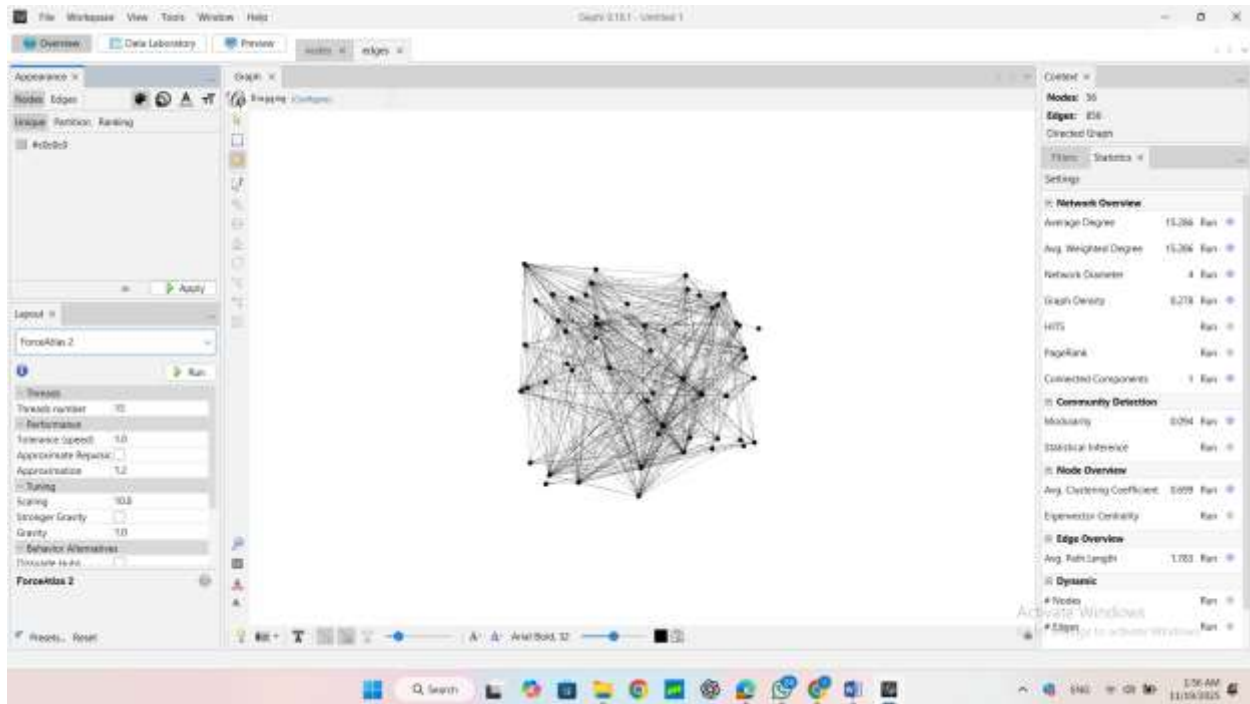


Name:Farah Mahmoud Elhenawy

ID:2205199

Conspiracy Graph



Metric	Value
Nodes	56
Edges	856
Average Degree	15.286
Graph Density	0.278
Clustering Coefficient	0.699
Modularity Q	0.094
Connected Components	1
Network Diameter	4
Average Path Length	1.783

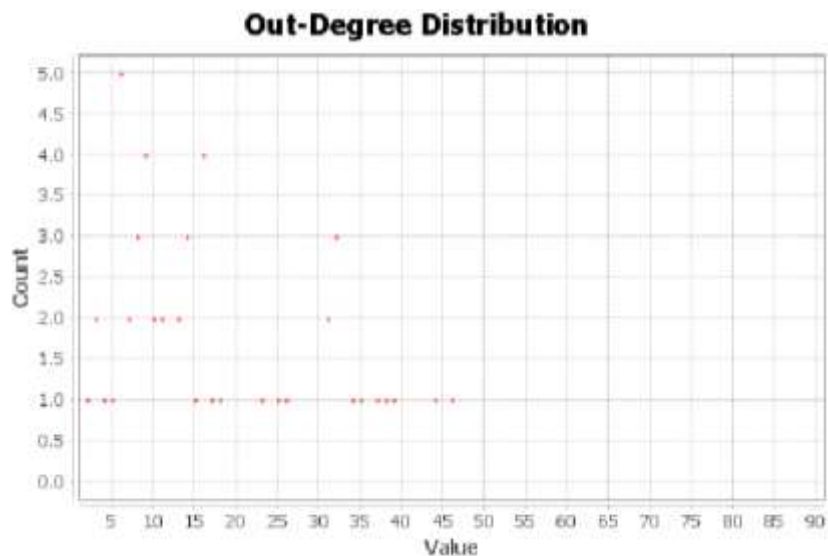
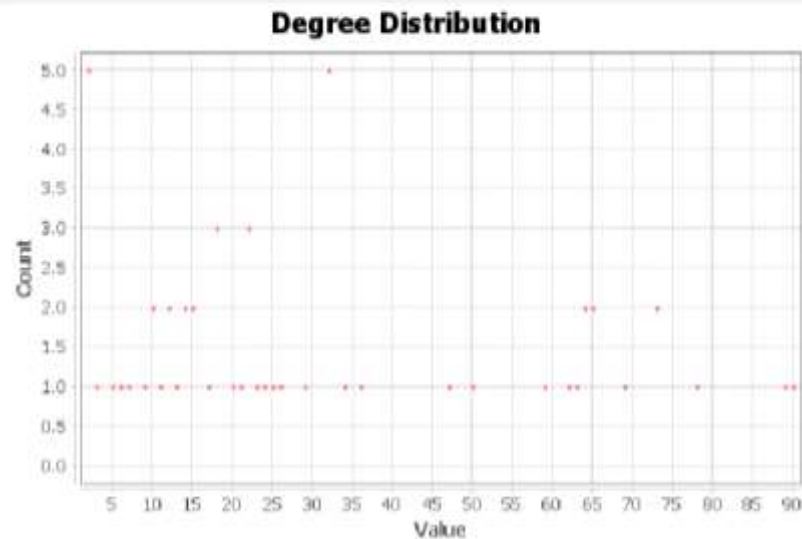
- **Large interaction cluster:** 56 nodes with 856 edges
- **Very high connectivity:** average degree 15.28
- **Highly clustered:** coefficient 0.699 → echo-chamber behavior
- **Low modularity:** $Q = 0.094$ → network acts like one big group
- **Fast information spread:** path length 1.7
- **Single connected component:** no isolated subgroups

Conclusion:

This graph behaves like a **tight misinformation bubble**, where users heavily reinforce each other and share content rapidly.

Results:

Average Degree: 15.286



Network interpretation: directed

Results:

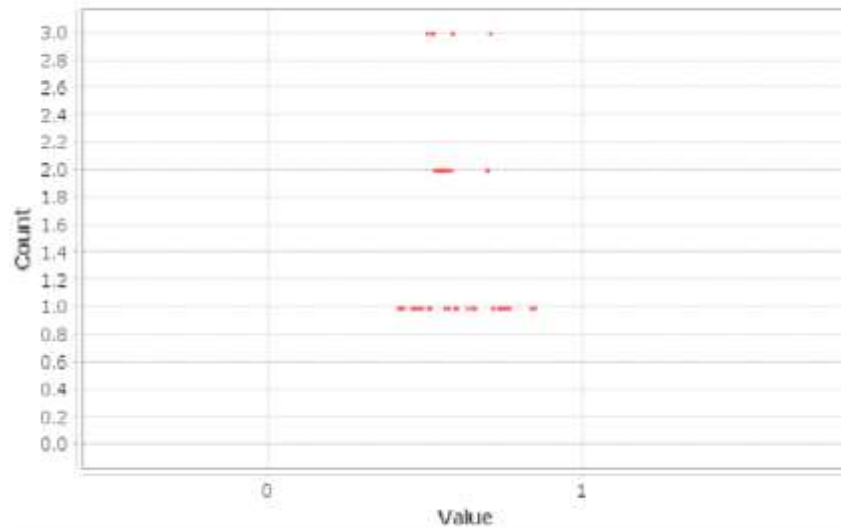
Diameter: 4

Radius: 2

Average Path length: 1.7827922077922078

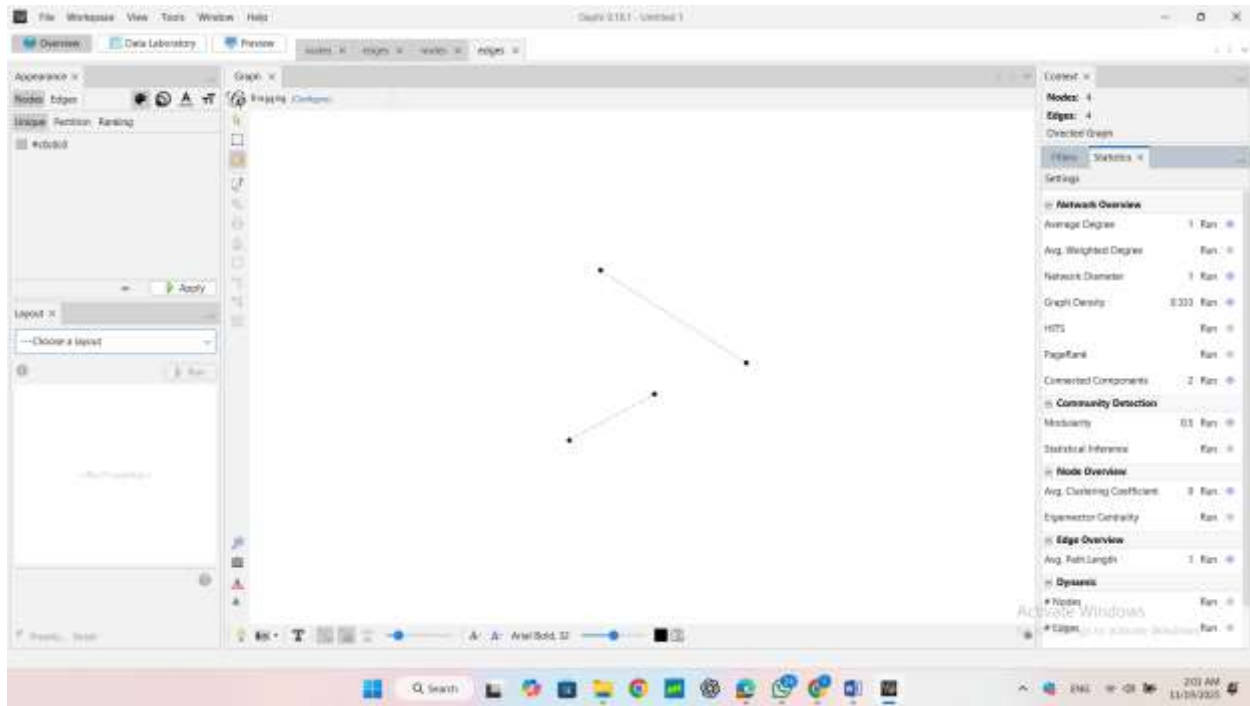
Betweenness Centrality Distribution

Closeness Centrality Distribution



Data Table 1														
ID	Label	Internal	Eccentricity	Coverness Centrality	Harmonic Coverness Centrality	Betweenness Centrality	Weighted In Degree	Weighted Out Degree	Weighted Degree	In Degree	Out Degree	Degree	Component	Strongly Connected
17181978	17181978	3.0	0.518869	0.548485	0.511436	5.0	4.0	9.0	5	6	9	0	0	0.553333
8755386	8755386	2.0	0.753425	0.820364	131.382728	58.0	37.0	73.0	36	27	73	0	0	0.448188
120718034	120718034	2.0	0.054762	0.183384	88.261346	33.0	30.0	58.0	31	26	58	0	0	0.448285
36242778	36242778	3.0	0.743243	0.645430	294.384244	38.0	39.0	78.0	38	39	78	0	0	0.315371
37843388	37843388	3.0	0.848134	0.913152	470.258264	44.0	46.0	89.0	44	46	89	0	0	0.307573
37843333	37843333	2.0	0.833333	0.0	350.847184	40.0	44.0	88.0	40	44	88	0	0	0.242986
74627818	74627818	2.0	0.705128	0.786909	199.841859	33.0	32.0	65.0	31	32	65	0	0	0.479321
152923051	152923051	3.0	0.504287	0.527272	0.589818	6.0	4.0	10.0	6	4	10	0	0	0.383333
17143305	17143305	2.0	0.763888	0.645435	100.236227	33.0	38.0	73.0	35	38	73	0	0	0.406208
581936651	581936651	3.0	0.478361	0.486957	6.0	1.0	3.0	3.0	1	2	3	0	0	1.0
43818687	43818687	3.0	0.565204	0.621212	179.8178	13.0	14.0	25.0	15	14	29	0	0	0.381818
19807455	19807455	2.0	0.705128	0.786906	92.857464	32.0	32.0	64.0	32	32	64	0	0	0.52178
37846245	37846245	2.0	0.632184	0.786991	18.071742	24.0	22.0	47.0	24	23	47	0	0	0.402607
152074484	152074484	3.0	0.578947	0.642424	584.8645	16.0	16.0	32.0	16	16	32	0	0	0.388265
12396271	12396271	2.0	0.896203	0.781818	60.214836	31.0	31.0	62.0	31	31	62	0	0	0.34872
68430732	68430732	2.0	0.733333	0.889182	65.875196	38.0	35.0	65.0	38	35	65	0	0	0.300369
26733818	26733818	2.0	0.696203	0.781818	18.886275	32.0	31.0	63.0	32	31	63	0	0	0.503768
21862712	21862712	2.0	0.847059	0.727272	18.070338	23.0	23.0	46.0	23	23	46	0	0	0.701558
21862789	21862789	2.0	0.509259	0.542424	0.266079	6.0	6.0	12.0	6	6	12	0	0	0.823333
152889788	152889788	2.0	0.597826	0.683638	14.730848	18.0	18.0	36.0	18	18	36	0	0	0.754902
37848478	37848478	3.0	0.714286	0.589061	197.830943	33.0	34.0	68.0	35	34	69	0	0	0.446214
152509440	152509440	2.0	0.416967	0.420984	6.0	1.0	1.0	2.0	1	1	2	0	0	0.0
36491764	36491764	2.0	0.705129	0.786906	151.528267	32.0	32.0	64.0	32	32	64	0	0	0.53628
218249023	218249023	3.0	0.504987	0.539994	8.232751	8.0	8.0	16.0	8	8	16	0	0	0.818687
101008474	101008474	2.0	0.578947	0.630584	4.112982	17.0	15.0	32.0	17	15	32	0	0	0.381823
218208184	218208184	2.0	0.62071	0.689182	7.686388	13.0	13.0	26.0	13	13	26	0	0	0.786862
185526990	185526990	3.0	0.318888	0.540485	0.190989	7.0	6.0	13.0	7	6	13	0	0	0.952381
14473787	14473787	3.0	0.255558	0.610121	1.175023	16.0	16.0	32.0	16	16	32	0	0	0.865285
38198188	38198188	2.0	0.373917	0.672723	6.563056	8.0	14.0	22.0	8	14	22	0	0	0.818171
44738888	44738888	2.0	0.393938	0.6	1.027032	11.0	11.0	22.0	11	11	22	0	0	0.818364

Non-Conspiracy Graph

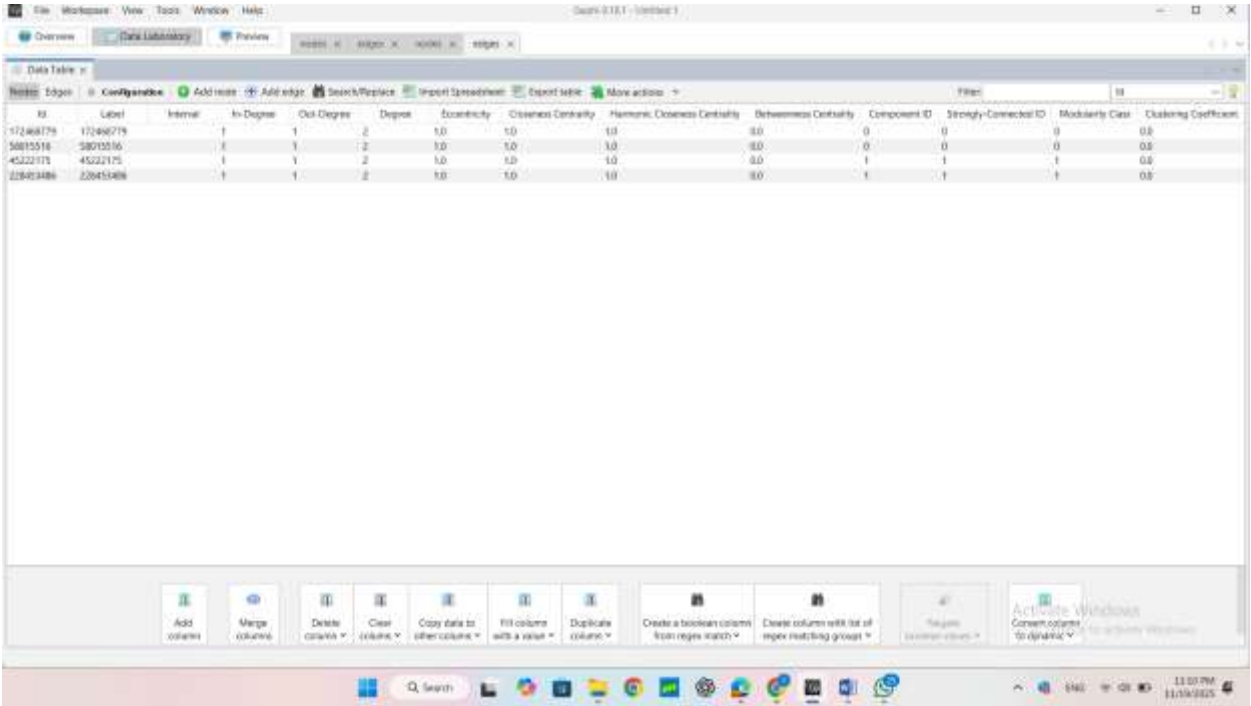


Metric	Value
Nodes	4
Edges	4
Average Degree	1
Graph Density	0.333
Clustering Coefficient	0
Modularity Q	0.5
Connected Components	2
Network Diameter	1
Average Path Length	1

- **Very small interaction set:** only 4 nodes
- **Weak connectivity:** degree = 1
- **Zero clustering:** no triangles or group interaction
- **Higher modularity:** $Q = 0.5 \rightarrow$ graph breaks into two clear groups
- **Two connected components:** users are not all connected
- **Simple structure:** only pairs of nodes interacting

Conclusion:

This graph represents **simple, natural, weak social interactions** with no echo chamber and no strong cohesion.



Feature	Conspiracy	Non-Conspiracy
Nodes	56	4
Edges	856	4
Density	0.278	0.333
Clustering	High (0.699)	Zero
Modularity	Very low (0.094)	High (0.5)
Components	1	2
Structure	One big echo chamber	Small disconnected interactions
Spread	Very fast	Minimal
Behavior	Coordinated misinformation	Normal random interactions

The two graphs show **opposite structural behaviors**:

Conspiracy Network

- Dense
- Highly connected
- Strong clustering
- Low modularity
- One large connected component
- Very fast information flow

This means users form a **tight echo chamber**, allowing misinformation to spread quickly and repeatedly within the same group.

Non-Conspiracy Network

- Very small
- Weakly connected
- No clustering
- High modularity → more separation
- Multiple components

This shows **natural, weak, non-coordinated interactions** with no echo-chamber structure.