

A photograph of a person's hand reaching towards a glowing red ring on a dark background. The ring is illuminated from within, creating a bright light and some small particles or stars floating around it. The hand is positioned as if about to touch the ring.

University of Campinas

Network Science

COULD SOCIAL MEDIA INFLUENCE VOTERS' CHOICE ?

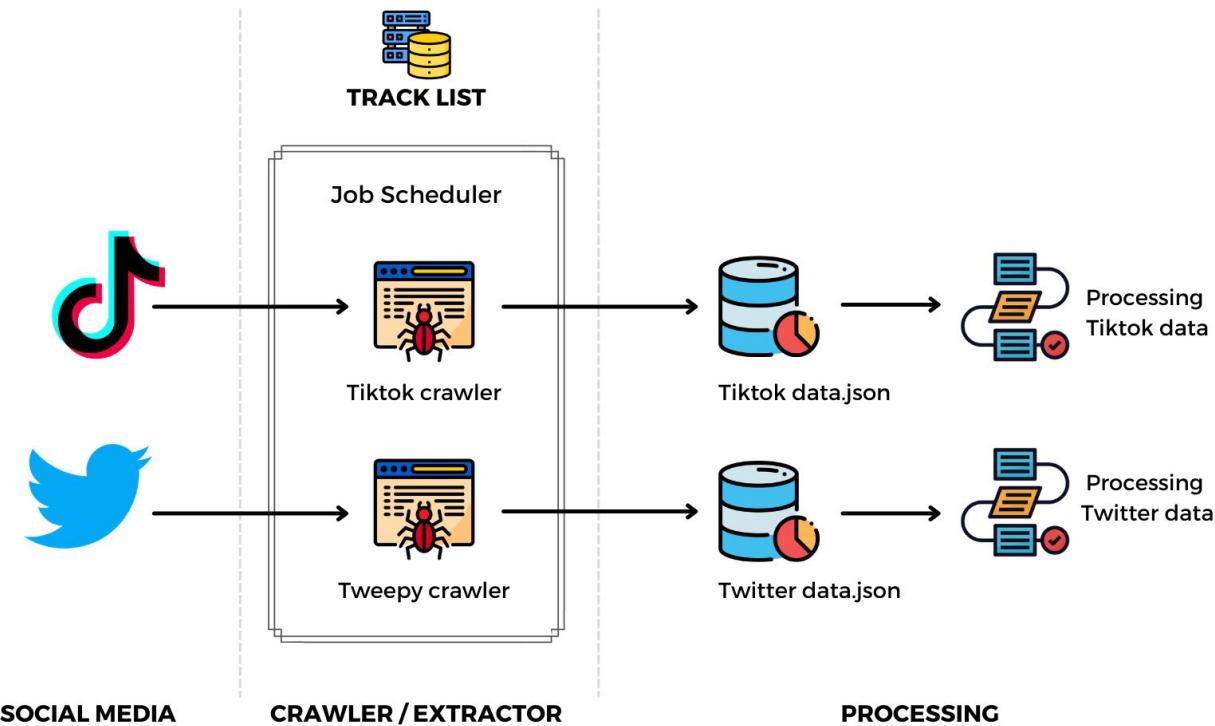
Margarita Lacuaña Apaza
Maria Fernanda Tejada Begazo

July, 2021

01

COLLECTING DATA

The Peru Presidential Election 2021



02

PROCESSING DATA

Twitter

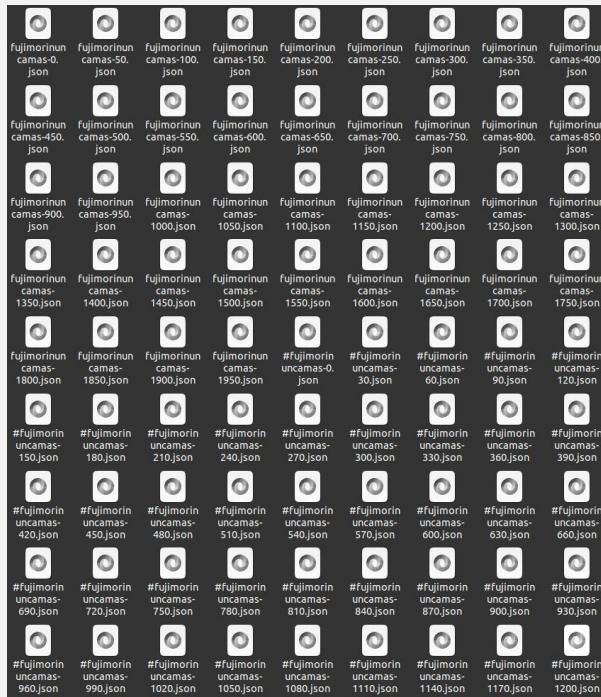
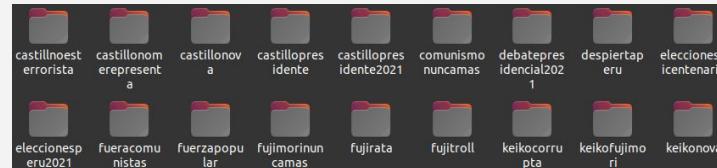
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{"created_at": "Fri Apr 23 03:49:24 +0000 2021",
"id": 1385440642873053184, "id_str": "1385440642873053184",
"text": "RT @Politica_LR: #Elecciones2021 \ud83c\uddf5\ud83c\uddeaf Nuevo Per\u00fa, de Ver\u00f3nica Mendoza, respalda candidatura de Pedro Castillo\n\nLa agrupaci\u00f3n salud\u00f3 el triunf\u2026",
"user": {"id": 517614994, "location": "Lima", "url": null, "followers_count": 52},
"entities": {"hashtags": [{"text": "Elecciones2021", "indices": [17, 32]}], "urls": [], "user_mentions": [{"screen_name": "Politica_LR", "name": "Pol\u00edtica LRep\u00fablica", "id": 829750511624679424, "id_str": "829750511624679424", "indices": [3, 15]}], "symbols": []}, "favorited": false, "retweeted": false, "filter_level": "low", "lang": "es", "timestamp_ms": "1619149764160"}
```

keikofujimori	1390029423139827714	22
keikofujimori	1348115461918097410	266
keikofujimori	1304176556248621063	52
keikofujimori	2389977313 75	
keikofujimori	7324054893849927729716	
keikofujimori	77664038677730508813	
keikofujimori	1258071217053077504	728
keikofujimori	1374475818823340049	9
keikofujimori	1299756727655706627	40
keikofujimori	1378519794526384128	27
keikofujimori	111057493 13088	
keikofujimori	1064931502423752705	438
keikofujimori	2468470735 109	

01

PROCESSING DATA

Tiktok



```

{
  "id": "6948822391296494853",
  "desc": "#TEATRERO #corrupto #debatepresidencial2021 #parati #vacuna #viral #eleccionesperu2021 #peruano #enunminuto #pedrocastillo #fyp",
  "createTime": 1617898793,
  "video": [...],
  "author": {...},
  "music": {...},
  "challenges": [...],
  "stats": {
    "diggCount": 17200,
    "shareCount": 3597,
    "commentCount": 2263,
    "playCount": 703100
  },
  "duetInfo": {...},
  "originalItem": false,
  "officialItem": false,
  "textExtra": [...],
  "secret": false,
  "forFriend": false,
  "digged": false,
  "itemCommentStatus": 0,
  "showNotPass": false,
  "vl1": false,
  "itemMute": false,
  "authorStats": {...}
},
  
```

01

PROCESSING DATA

Tiktok

```
[{"id": "6966855271222103301": {
    "createTime": 1622097408,
    "idUser": "[REDACTED]1",
    "nickname": "[REDACTED]",
    "hashtags": [
        {
            "id": "1692537489786885",
            "title": "pedrocastillopresidente2021"
        },
        {
            "id": "1661250932532229",
            "title": "pedrocastillo"
        },
        {
            "id": "1595685823793158",
            "title": "perulibre"
        },
        {
            "id": "1697263613423622",
            "title": "nipedronikeiko"
        },
        {
            "id": "107774",
            "title": "keiko"
        },
        ...
    ],
    "followers": 5576,
    "videolikes": 8931,
    "date": 1622097408
}]
```

```
{ "[REDACTED]": [
    "pedrocastillopresidente2021": 46,
    "pedrocastillo": 89,
    "perulibre": 39,
    "nipedronikeiko": 67,
    "keiko": 45,
    "keikopresidenta": 28,
    "peru": 56,
    "peruanos": 52,
    "tuvotoespoder": 16,
    "votoinformado": 8,
    "viral": 78,
    "duo": 55,
    "btsarmy": 6,
    "lesbi": 8,
    "trans": 9,
    "parati": 56,
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    "lgtbtiktok": 5,
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    "votonulo": 12,
    "votoviciado": 36,
    "peruana": 24,
    "lauchulutiktok": 10,
    "fyp": 37,
    "lauchulu": 19,
    "peruanosenusa": 1,
    "peruanoseneuropa": 1,
    "cristianostiktok": 15,
    "catolicos": 17,
    "peruviantiktok": 26,
    "julianaoxenford": 6,
    "f": 3,
    "enbocadetodos": 2,
    "dinapaukar": 1,
    "soniamorales": 1,
    "venezolanosenperu": 1,
    "venezolanosenlima": 1,
    "venezuela": 1,
    "maduro": 1
}]
```

02

BIPARTITE GRAPH

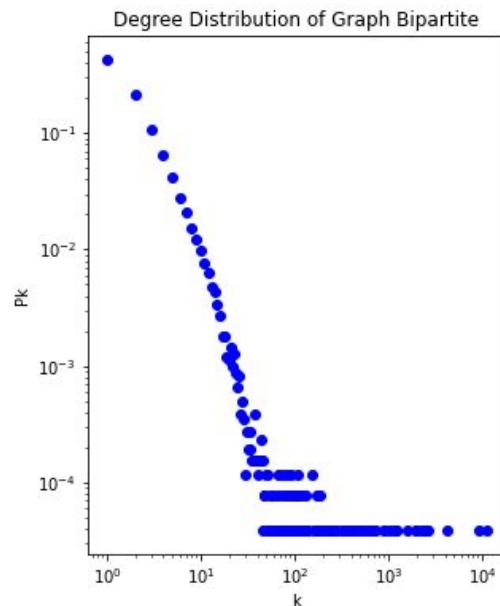
NODES AND LINKS

	TOTAL Number of nodes	TOTAL Number of links
Twitter	25,994	73,935
Tiktok	18,466	69,766

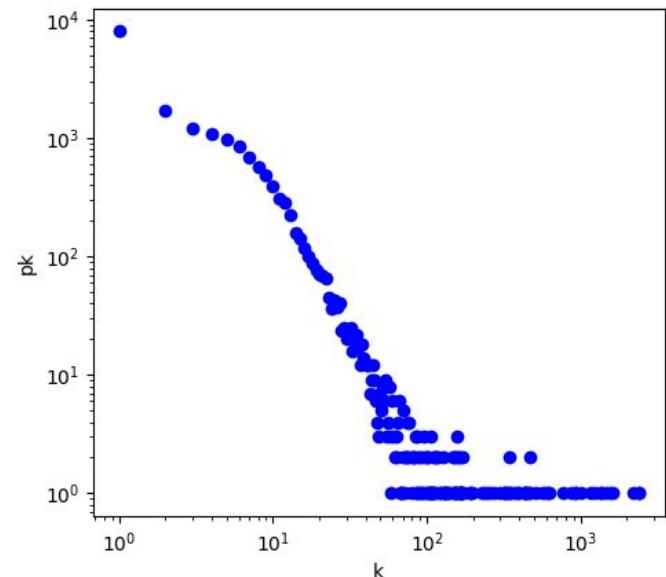
	Part 1		Part 2		Part 3		Part 4	
	Nodes	Links	Nodes	Links	Nodes	Links	Nodes	Links
Twitter	8,204	15,020	10,264	24,446	8,793	19,081	13,008	29,512
Tiktok	7,144	23,418	6,060	18,499	5,666	16,756	6,709	21,043

Degree Distribution

TWITTER



TIKTOK



Measures

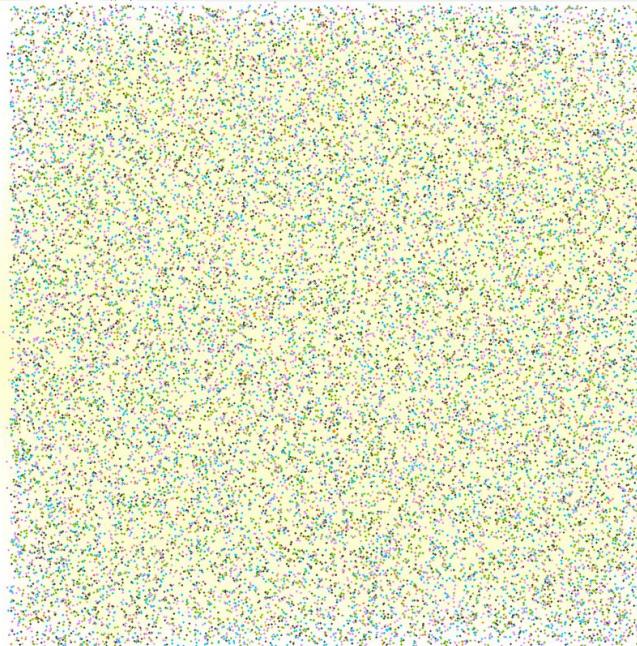
	Twitter	Tiktok
Gamma	1.021	--
Average Degree	5.689	7.507
Average weighted degree	16,325.611	77,462.054
Average path length	3.323	3.9154
Clustering coefficient	0	0
Diameter of the Network	9	8
Assortativity Coefficient	-0.321	-0.23
Number of Communities	663	105

02

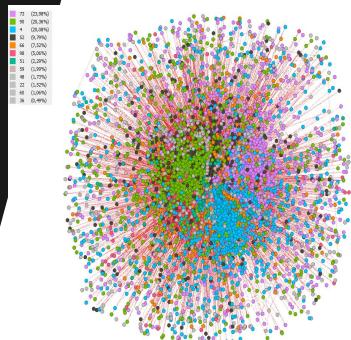
BIPARTITE GRAPH

Twitter Communities

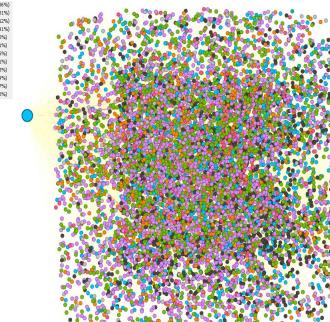
4	(24,5%)
59	(22,93%)
35	(19,5%)
39	(18,7%)
11	(3,89%)
67	(2,34%)
73	(1,41%)
58	(1,07%)
74	(1,07%)
29	(0,42%)
55	(0,38%)
57	(0,17%)



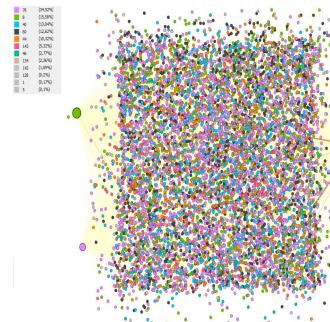
Part 1



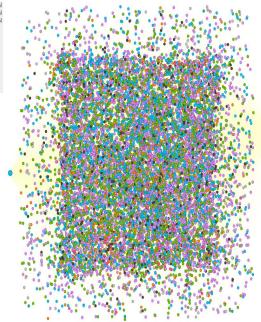
Part 2



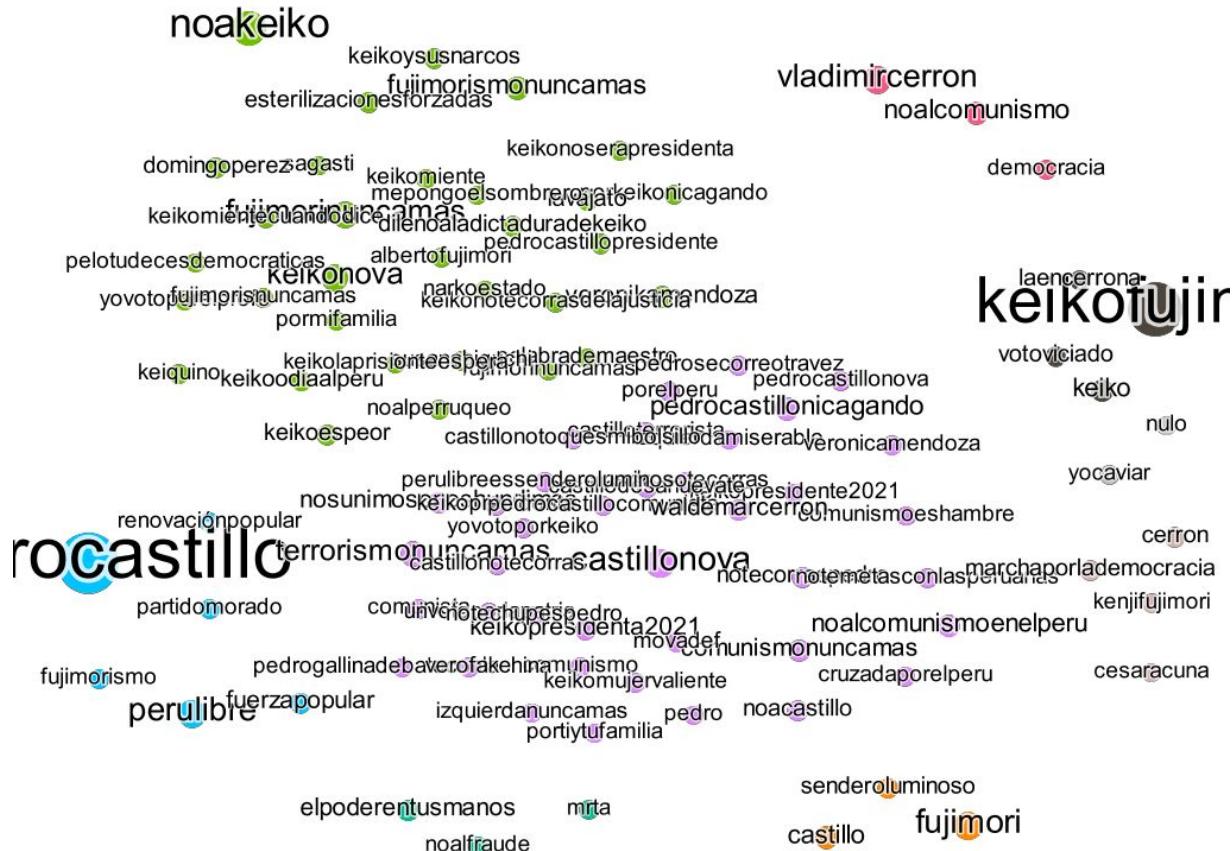
Part 3



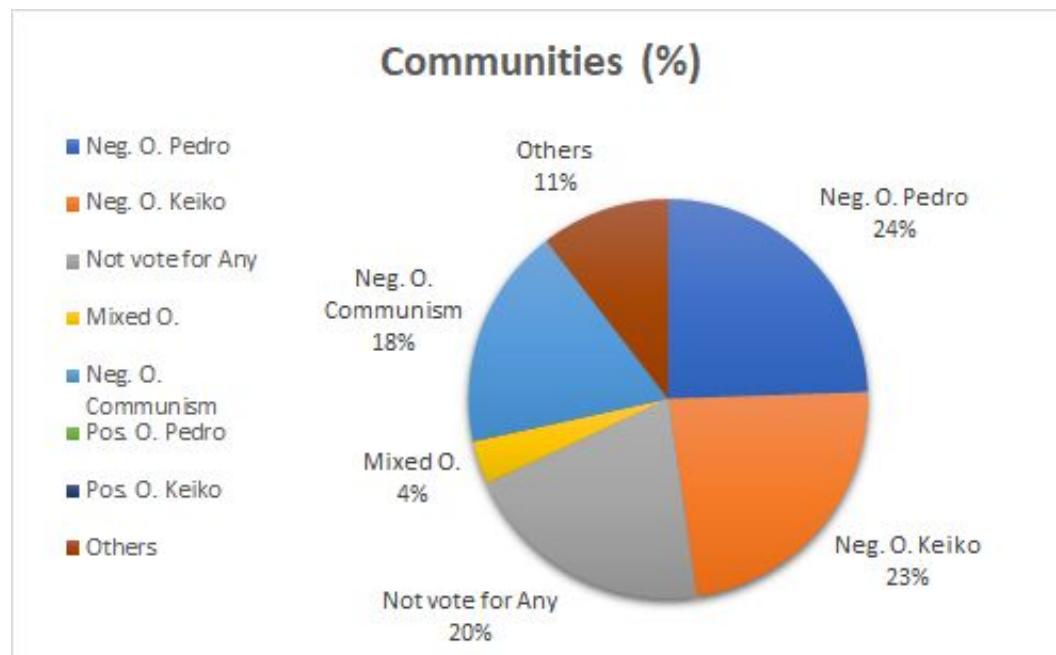
Part 4



Twitter Communities



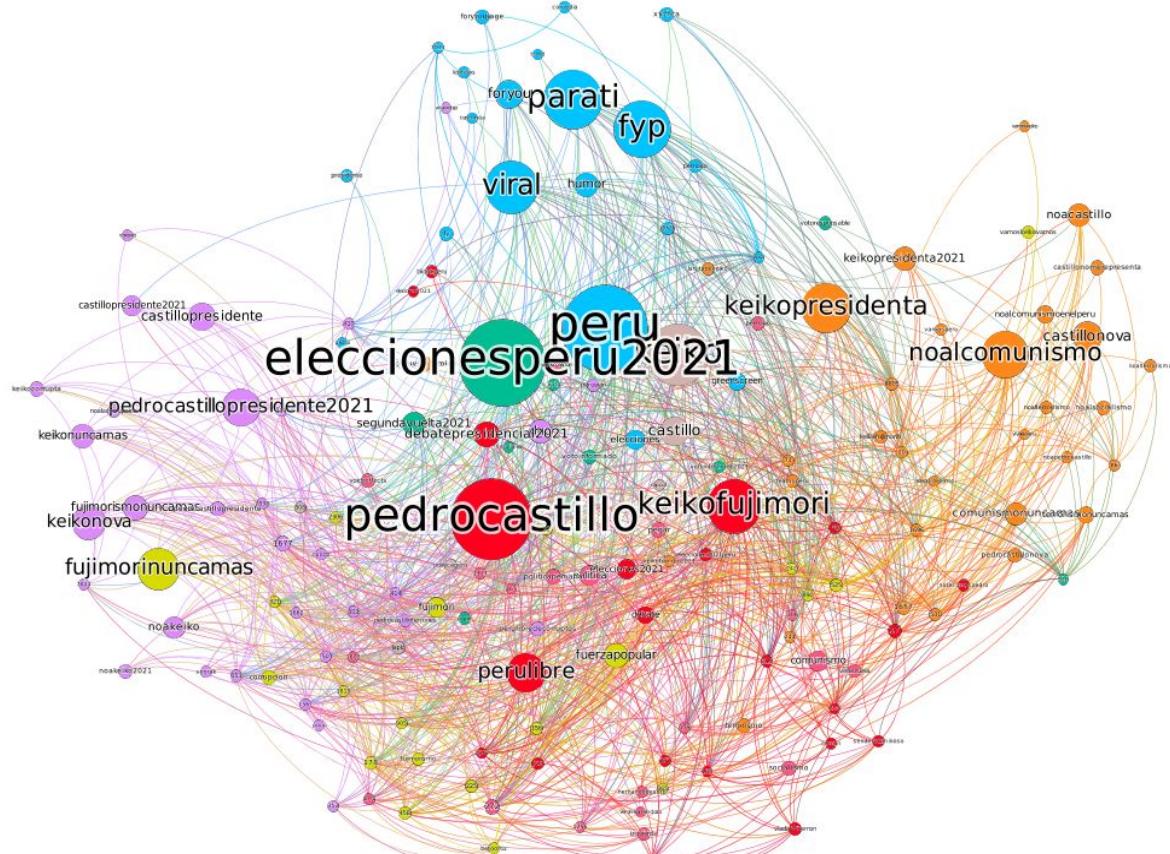
Twitter Communities



02

BIPARTITE GRAPH

Tiktok Communities



02

HASHTAG PROJECTION

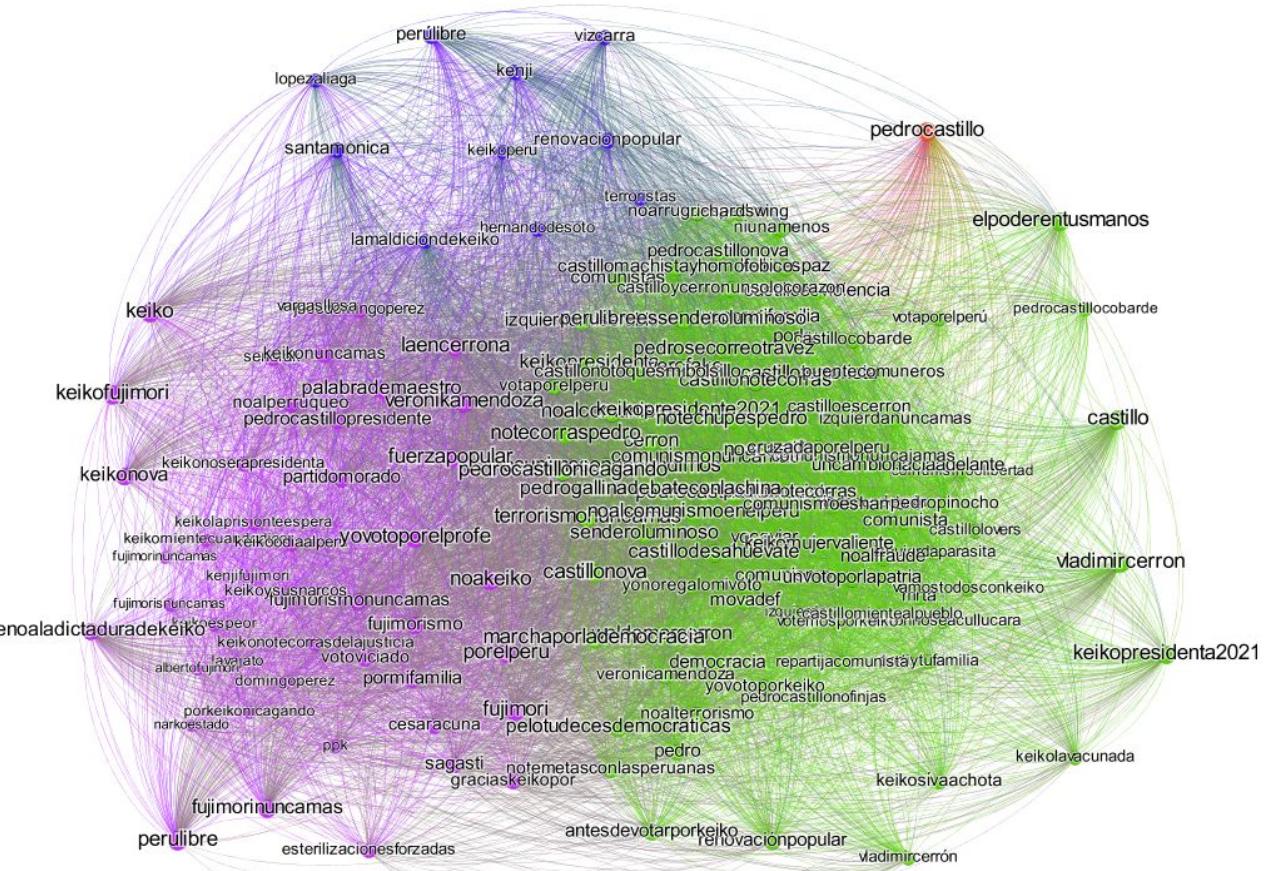
NODES AND LINKS

	TOTAL Number of nodes	TOTAL Number of links
Twitter	828	28,511
Tiktok	11,083	445,274

	Week 1		Week 2		Week 3		Week 4	
	Nodes	Links	Nodes	Links	Nodes	Links	Nodes	Links
Twitter	375	3,293	329	6,303	244	3,802	273	5,232
Tiktok	4,305	86,005	3,891	78,997	3,695	73,411	4,010	76,167

HASHTAG PROJECTION

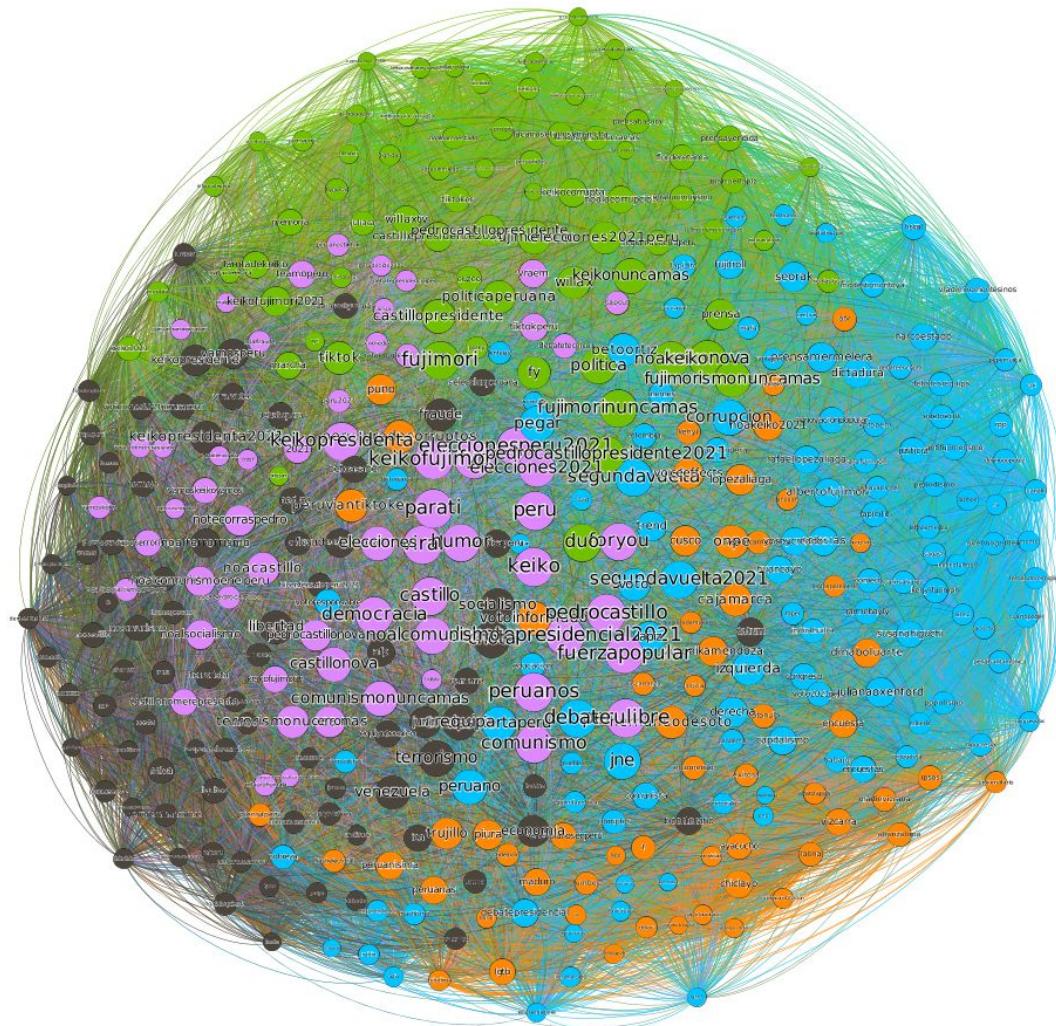
Twitter Communities



02

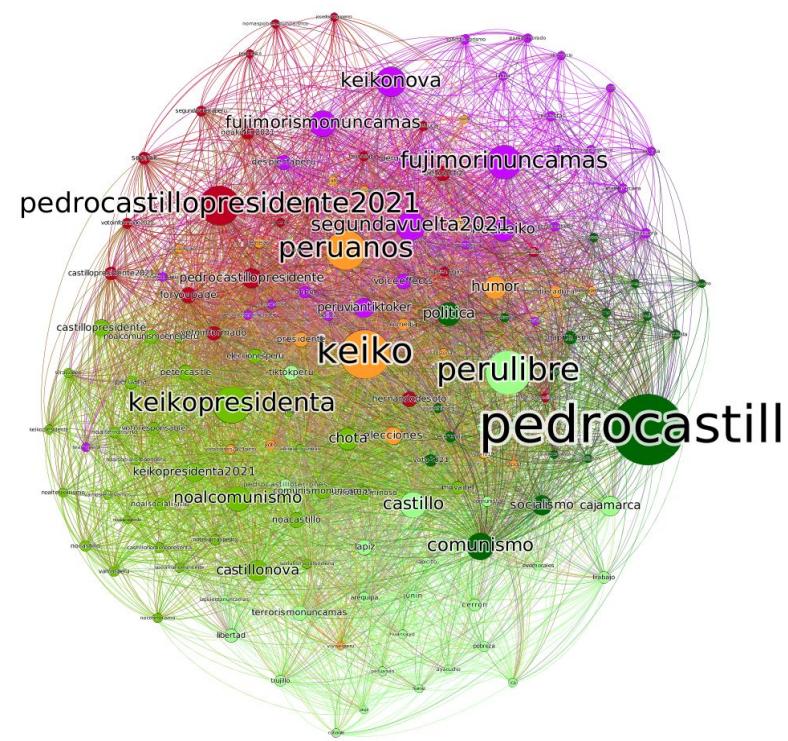
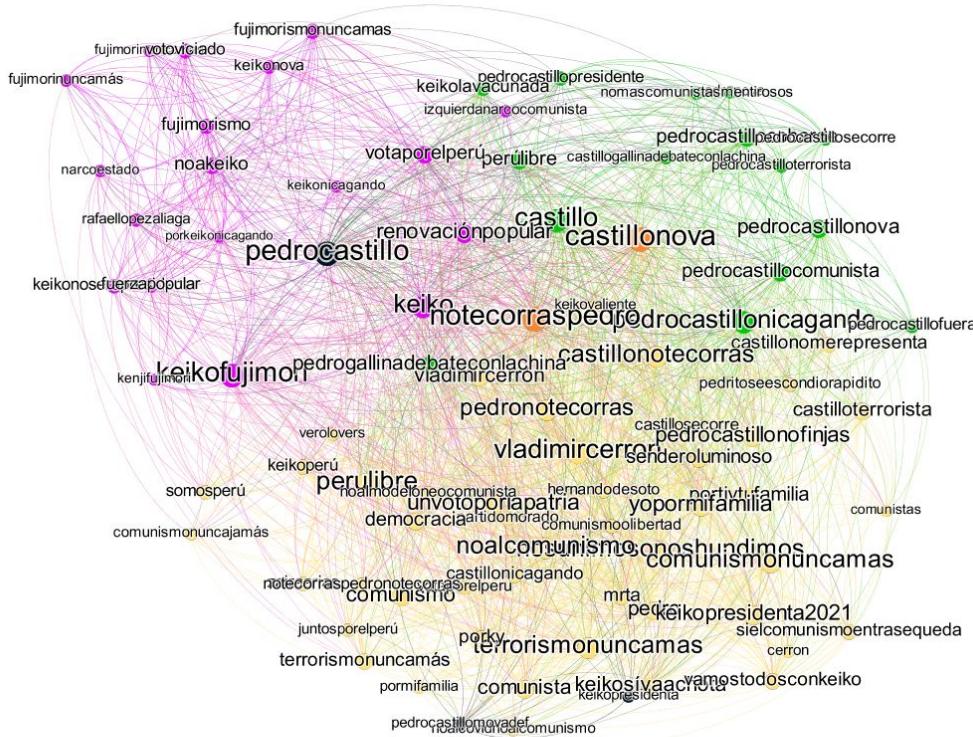
HASHTAG PROJECTION

Tiktok Communities



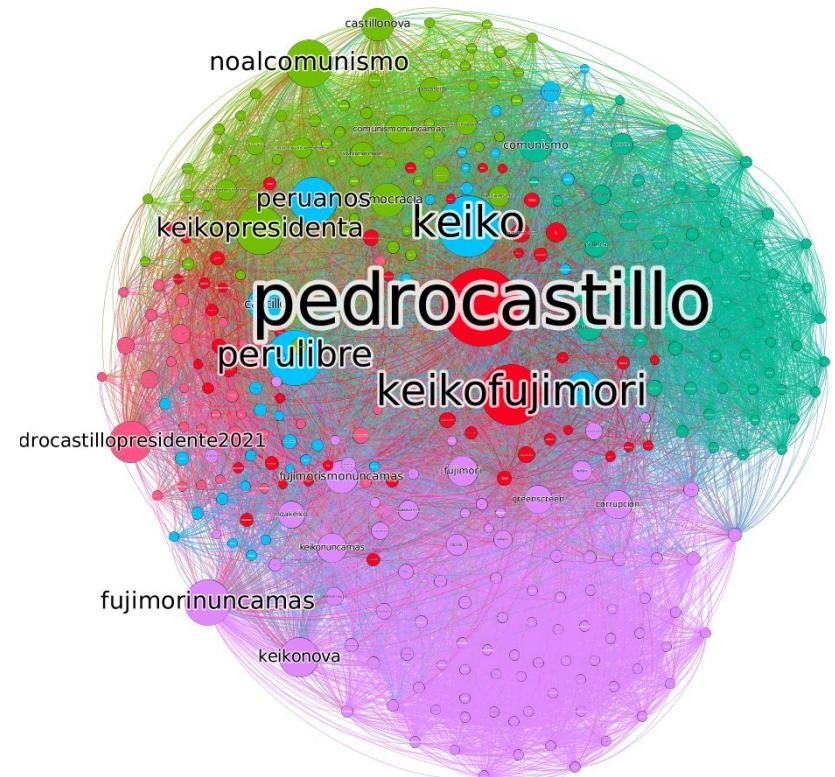
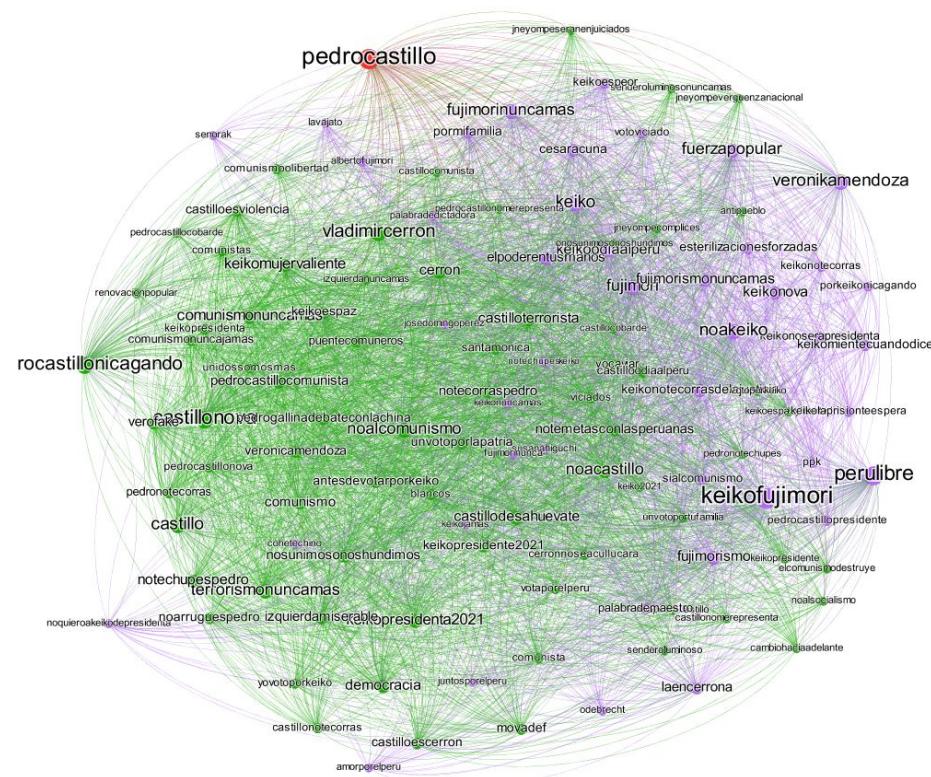
Communities

PART 1



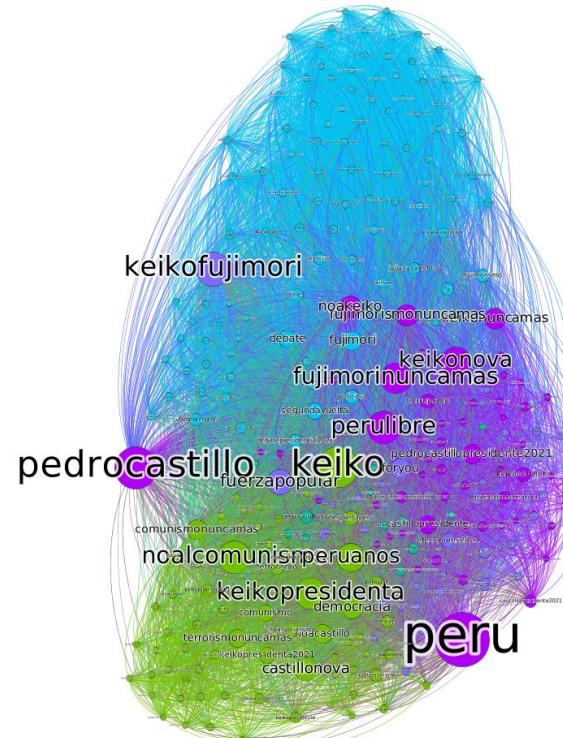
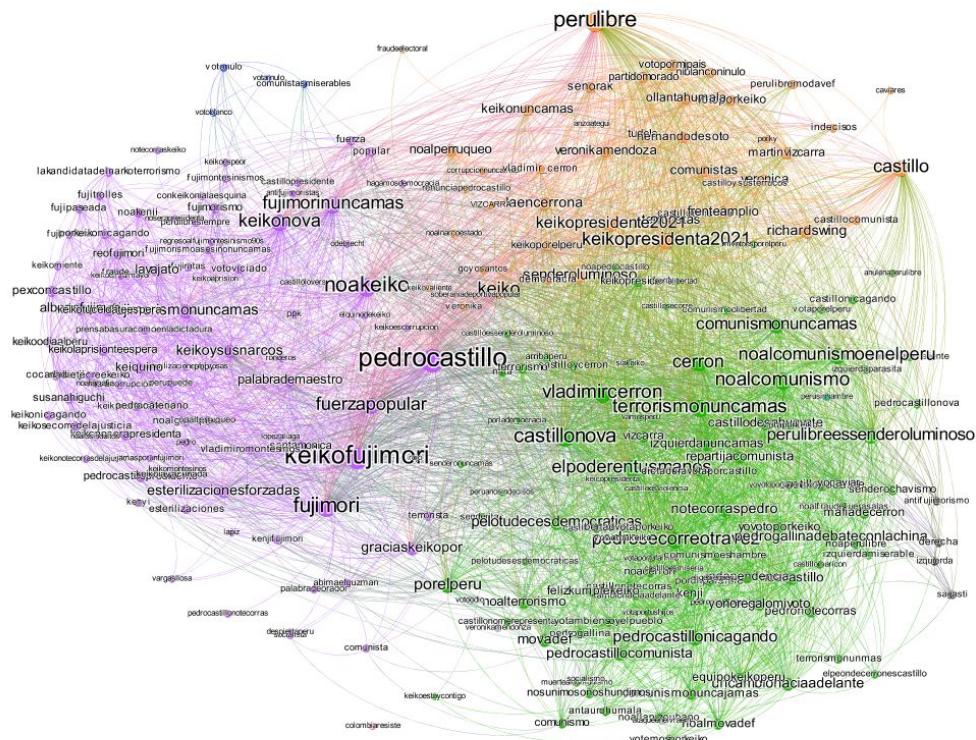
Communities

Part 2



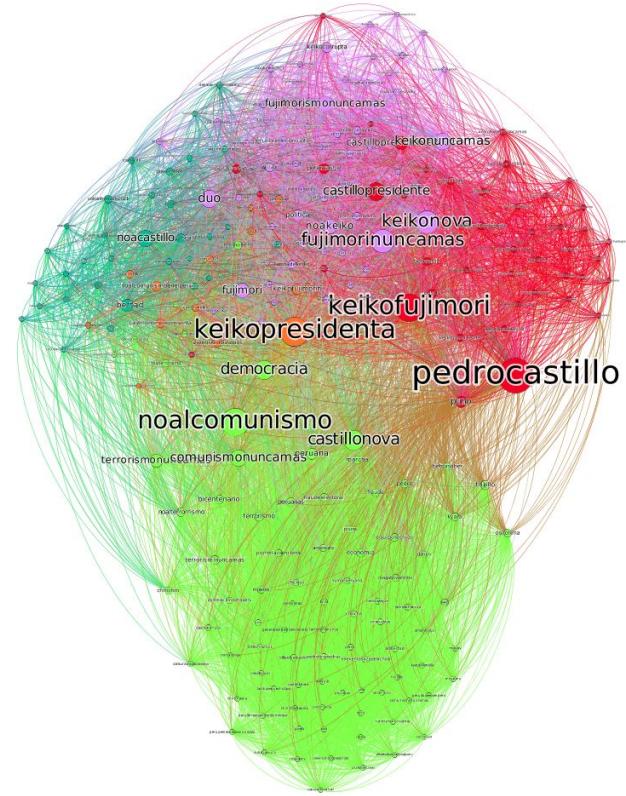
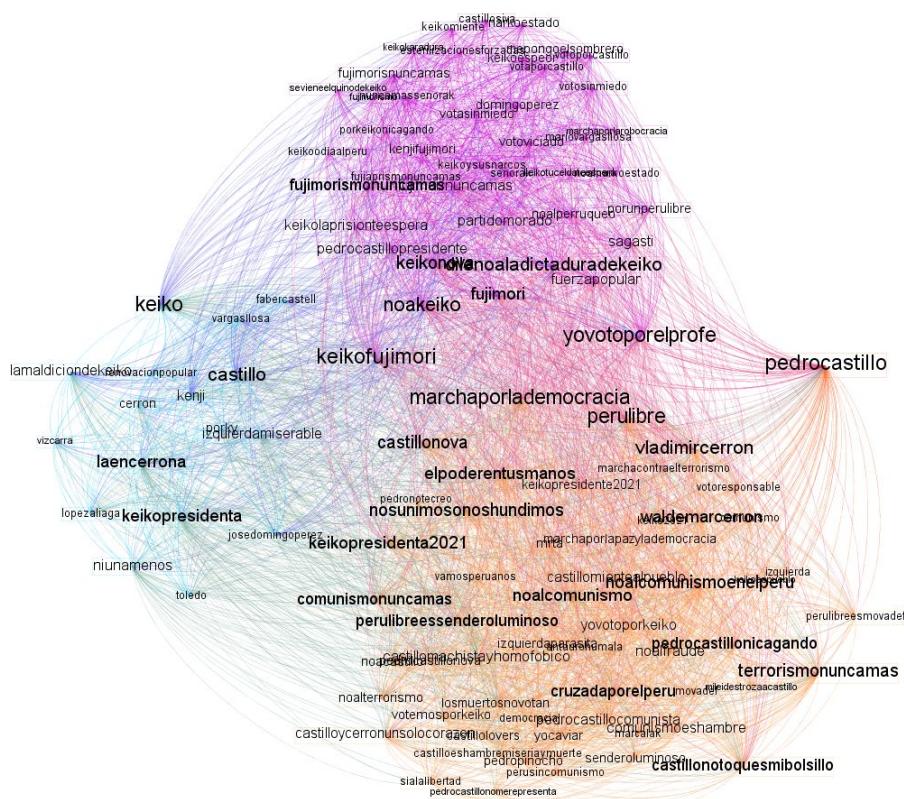
Communities

Part 3



Communities

Week 4

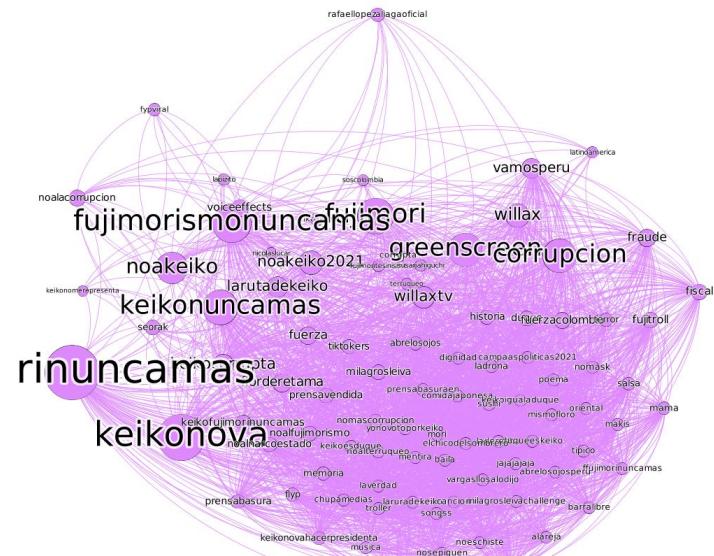


02

HASHTAG PROJECTION

Tiktok Communities

Week 2



TOTAL DE VOTOS			
ORGANIZACIONES POLÍTICAS		TOTAL	%VÁLIDOS
		PARTIDO POLITICO NACIONAL PERU LIBRE	8,836,380
		FUERZA POPULAR	8,792,117
TOTAL DE VOTOS VÁLIDOS		17,628,497	100.000%

**Which social media is most relevant
for this subject?**

**The number of user followers
makes his/her opinion more
relevant?**

**Social media represents the opinion
of the population ?**

IMPORTANCE OF THE NETWORK

The Peru Presidential Election 2021

Social networks allow members of a society to express their opinions, thanks to their accessibility.

In the political sphere, citizens can express their opinion in favour or against the candidates, this could influence the decision of other voters.

So we want to analyze the interactions that exist in social media and how they influence user opinions.

Our network will help us to show the relevance of social networks and the political movement that develops before the elections.