



AGENTUR FÜR FORSCHUNG

# **StakeX – Organizational Networks from Web Research**

Content Meets Structure

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Thomas Perry, Paul Simmering

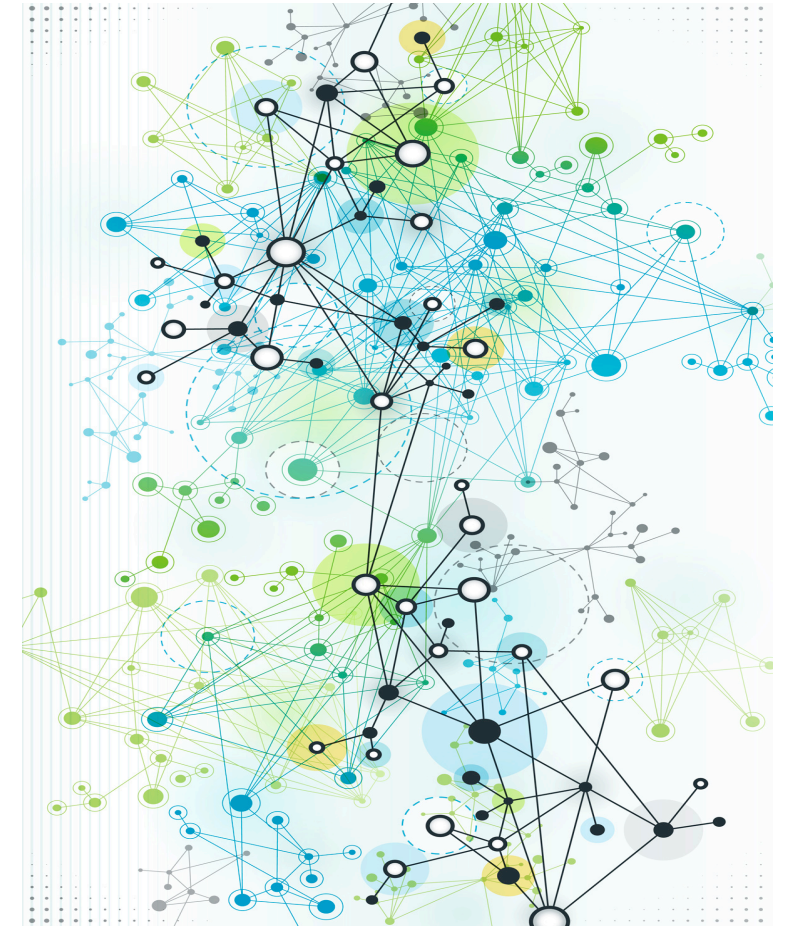


# From Web Networks to Personal Networks

- **What we do:** Research on people in markets and societies
- **Recurring topic:** Acceptance of projects, issues, ideas among relevant stakeholders of particular importance
  - Question 1: Who are they?
  - Question 2: What can we know about them?
- **Solution:** Network analysis
  - Identify unknown stakeholders by identifying the networks of known stakeholders.
  - Learn about interests and relevance by analyzing the networks

# Network of Formal Relationships

- All stakeholders within the network are connected - directly or through others.
  - Find any actor by following relationships within the network!
- Relationships will be formal and/or informal.
- Informal relationships cannot be detected, but formal can!  
We focus on the latter.
  - Formal relationships indicate contact (not necessarily sympathy)
  - Focus on functions executed with others, that can be researched (e.g. boards, certain memberships, co-working/authoring, etc.)



# Manual Research in Public Sources Only and in Full Accordance with GDPR



## Sources we use:

- ✓ Company websites
- ✓ Personal websites
- ✓ Club and society websites
- ✓ Literature databases (Google Scholar)
- ✓ Bundesanzeiger
- ✓ Other databases



## Sources we do not use:

- ⊘ LinkedIn and other social media
- ⊘ Anything that requires logging in

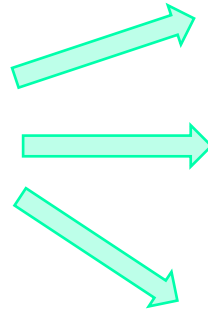
# Starting with a Few to Find out About Many Using the Character of Networks

Seed Stakeholders  
- Named by experts  
- Web search

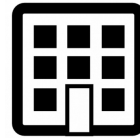
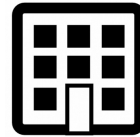
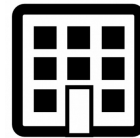


for each

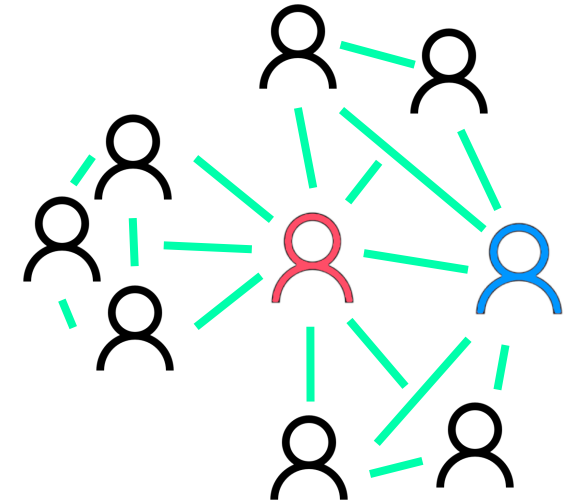
Research affiliations



Research affiliation contacts



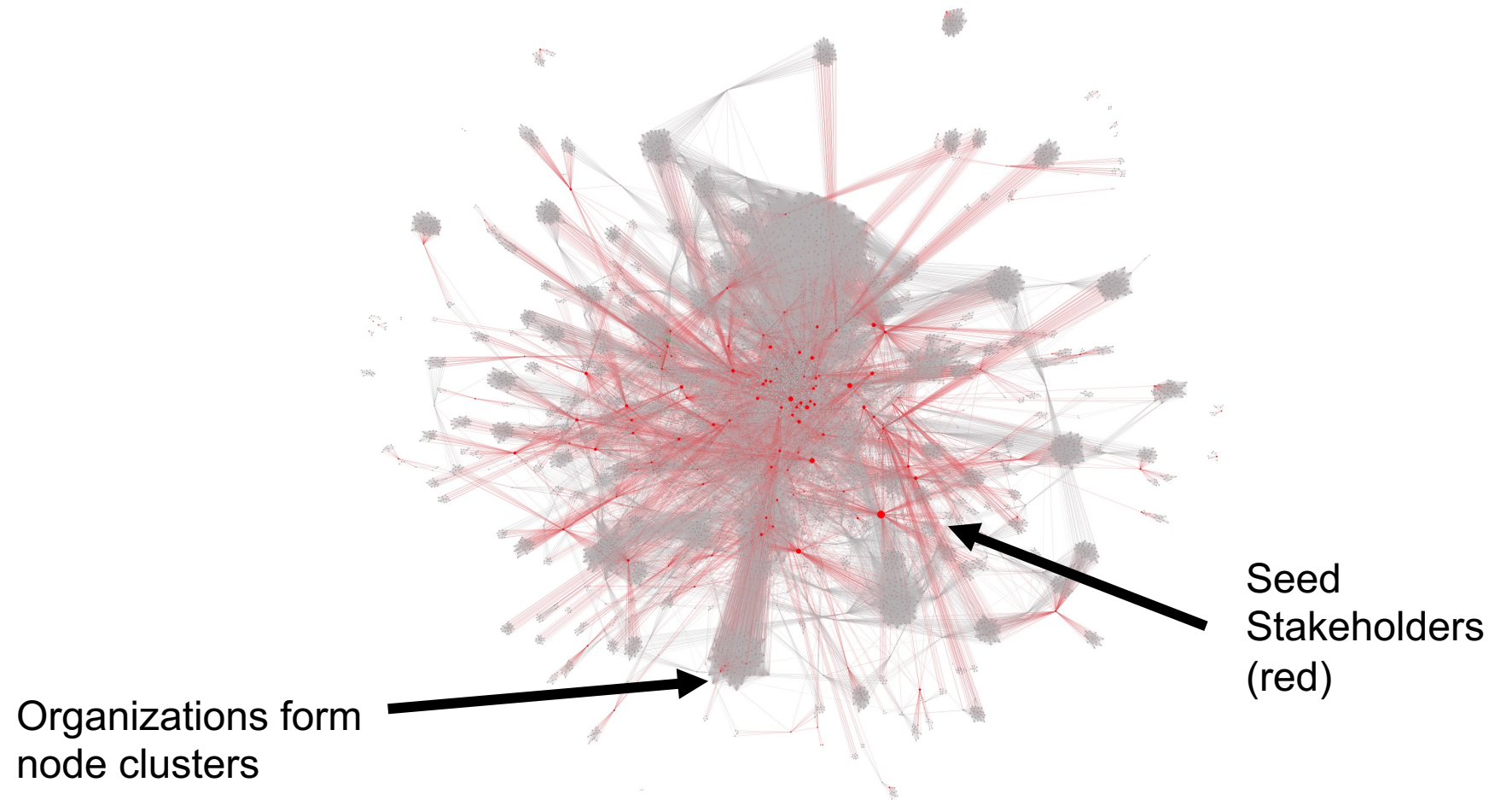
Add edges



Some newly added people have multiple affiliations and become hubs (blue)

# Project Example: Regional Stakeholder Network

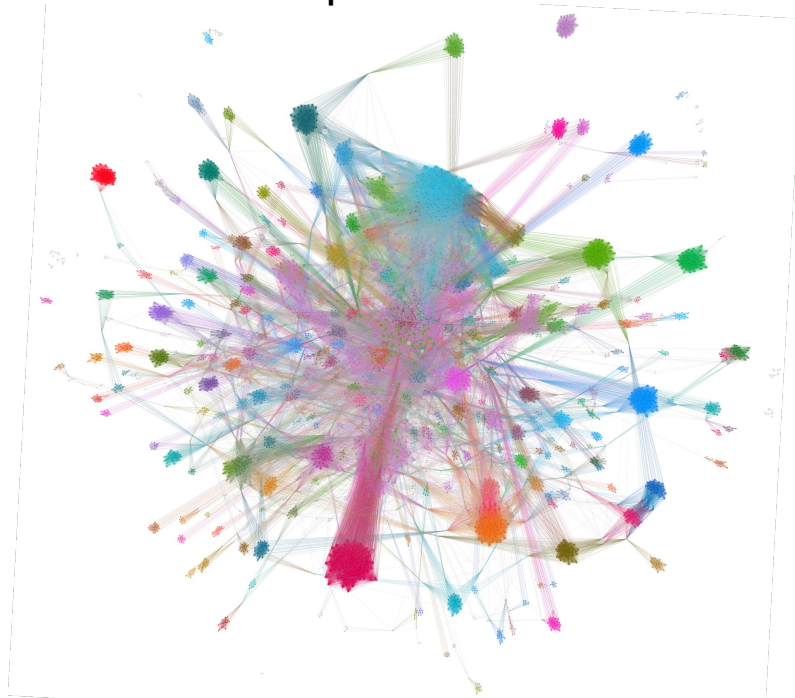
- Researched for an infrastructure project
- 140 seed stakeholders
- 606 organizations
- 6.378 persons
- 9.088 memberships
- 139.545 relationships between persons



# Reducing Visual Clutter by Merging People Nodes

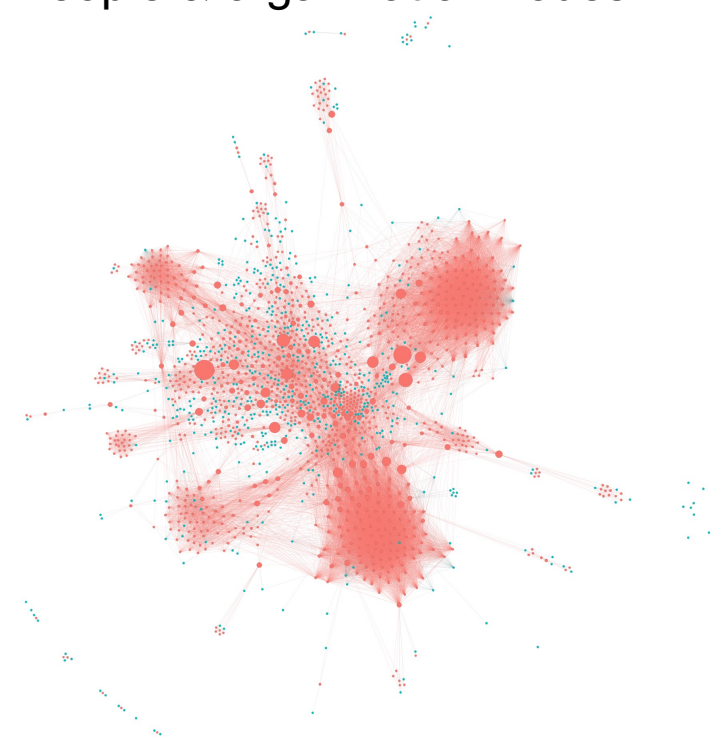
## Nodes Associated with Only One Organization Are Merged

**Full network**  
People nodes



6.378 Nodes, 139.545 Edges  
Colors by organizations

**Compact network**  
People & organization nodes



1.709 Nodes (-73.2%), 30.834 Edges (-77.9%)

# Web Apps for Data Collection and Presentation

## Data collection

### Organisation

Name	Kategorie	Str. und Hausnummer	PLZ	Ort	Land		Auswahl löschen
<input type="text"/>	Bürgerinitiative ▾	<input type="text"/>	<input type="text"/>	<input type="text"/>	Deutschland	<button>Mitgliedschaft aufnehmen</button>	<button>Auswahl löschen</button>

6 ▾ Einträge anzeigen

Name	Kategorie	Str. und Hausn.	PLZ	Ort	Land	Bearbeiter	Suchen	Geändert
Börner	Wirtschaft	Kimmelsstraße 7	20249	Hamburg	Deutschland	paul.simmering@teamq.de		2020-09-01T16:36:45Z
Kitzmann GbR	Wirtschaft	Moorkamp 26	20357	Hamburg	Deutschland	paul.simmering@teamq.de		2020-09-01T16:36:45Z
Heintze KG	Wirtschaft	Rathausmarkt 1	20095	Hamburg	Deutschland	paul.simmering@teamq.de		2020-09-01T16:36:45Z
Junken Junken GmbH	Wirtschaft	Barkhovallee 1	45239	Essen	Deutschland	paul.simmering@teamq.de		2020-09-01T16:36:45Z
Schenk	Wirtschaft	Sophienstraße 2929	10178	Berlin	Deutschland	paul.simmering@teamq.de		2020-09-01T16:36:45Z

1 bis 5 von 607 Einträgen Zurück 1 2 3 4 5 ... 122 Nächste

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### Personen

☐ Erweiterte Eingabe (Basisrecherche)

Vorname	Nachname	Titel	Namen ID	Seed		Auswahl löschen
<input type="text"/>	<input type="text"/>	- ▾	1 ▾	Nein ▾	<button>Person aufnehmen</button>	<button>Auswahl löschen</button>

Wenn Seed = Ja markiert wird, dann kommt die Person auf die To-do Liste.

6 ▾ Einträge anzeigen

Vorname	Nachname	Namen ID	Titel	Seed	Bearbeiter	Suchen	Geändert
Hanspachern	Pohl	1	Ja	paul.simmering@teamq.de			2020-09-01T16:36:44Z
Henner	Weiß	1	Ja	paul.simmering@teamq.de			2020-09-01T16:36:44Z
Dieter	Krebs	1	Ja	paul.simmering@teamq.de			2020-09-01T16:36:44Z
Jerzy	Dietz	1	Ja	paul.simmering@teamq.de			2020-09-01T16:36:44Z
Donald	Kreusel	1 Prof. Dr.	Ja	paul.simmering@teamq.de			2020-09-01T16:36:44Z

1 bis 5 von 6.378 Einträgen Zurück 1 2 3 4 5 ... 1270 Nächste

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### Mitgliedschaften

Person	Organisation	Position	Anmerkung	Quelle (Link)		Auswahl löschen
Doppel, Cord (1) ▾	Binner GmbH ▾	Mitglied	<input type="text"/>	<input type="text"/>	<button>Mitgliedschaft aufnehmen</button>	<button>Auswahl löschen</button>

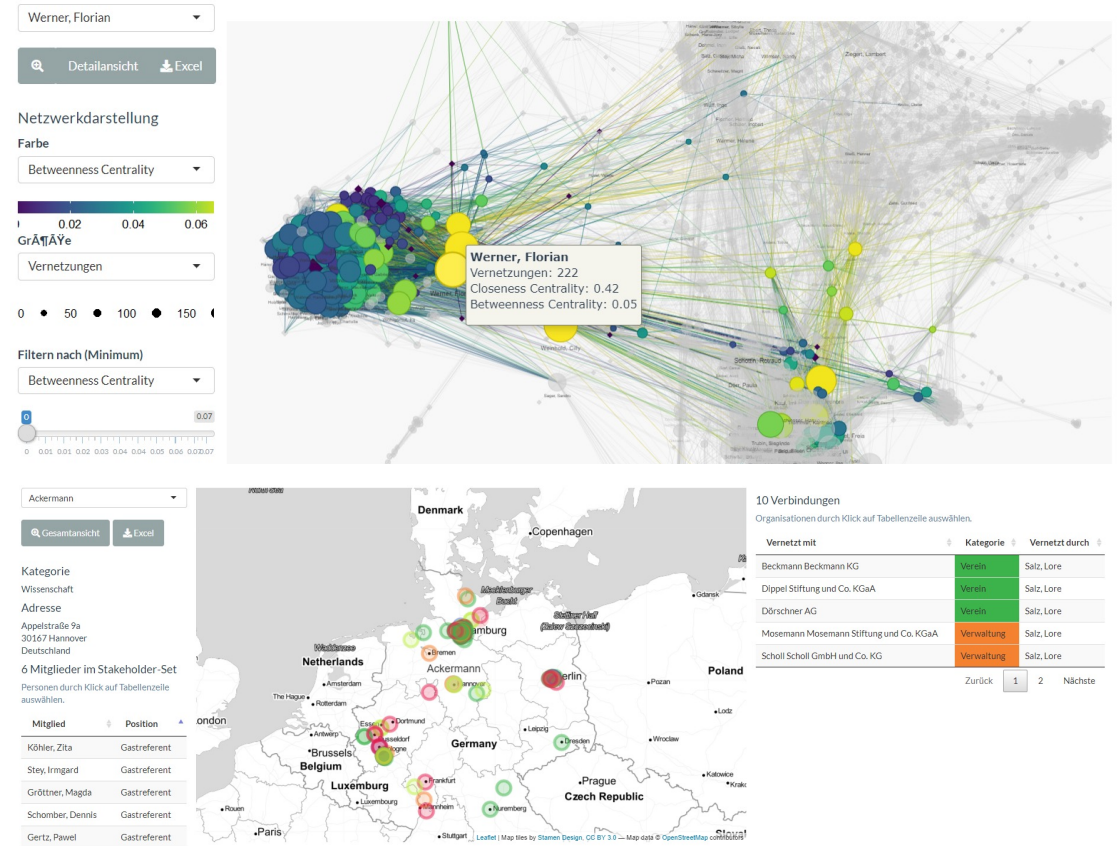
  

6 ▾ Einträge anzeigen

Vorname	Nachname	Namen ID	Organisation	Position	Anmerkung	Quelle	Bearbeiter	Suchen	Geändert
Eckhard	Gottward	1	Börner	Vorsitzendes Mitglied		www.google.com	paul.simmering@teamq.de		2020-09-01T16:37:53Z
Klaus-Peter	Mühle	1	Kitzmann GbR	Mitglied		www.google.com	paul.simmering@teamq.de		2020-09-01T16:37:53Z
Torsten	Kient	1	Heintze KG	Abgeordneter SPD		www.google.com	paul.simmering@teamq.de		2020-09-01T16:37:53Z
Anna-Marie	Häring	1	Heintze KG	Abgeordneter SPD		www.google.com	paul.simmering@teamq.de		2020-09-01T16:37:53Z
Annermarie	Vogt	1	Junken Junken GmbH	ExofficioMitglied		www.google.com	paul.simmering@teamq.de		2020-09-01T16:37:53Z

1 bis 5 von 9.197 Einträgen Zurück 1 2 3 4 5 ... 1840 Nächste

## Analysis platform



Both apps are built with R Shiny + PostgreSQL database

# Client Use Cases

## Improve stakeholder understanding and communication



### Identify stakeholder groups

Visual clusters through force layouts

Modularity class

Association by category (e.g. companies, political parties, societies, universities)



### Assess stakeholder interests

Understand different perspectives

Follow up with more desk research or interview projects to learn more about each stakeholder group



### Identify key multipliers

In every relationship network we have seen, a small number of key people have outsized influence

Also important: hubs

Centrality measures: betweenness & closeness centrality, influencers



### Target communication and content

Draft messages for each stakeholder group

Speak with fewer, but more influential stakeholders

Monitor groups to identify communication problems early



# Some Learnings, Assumptions and Limitations



Formal contacts create interaction  
and indicate relationships



Basic assumption, used to define „relationship“  
and to research the network. Need to define limits.

Quality of analytical output depends on breadth  
of selected seed stakeholders



Strategic imperative for research design: include  
stakeholder from different fields of interests

Manual research is expensive and takes time



Set priorities to limit costs.  
Build and extend network step by step

Affiliations change over time



Networks need to be refreshed from time to time

# StakeX – Organizational Networks From Web Research

Thomas Perry: [thomas.perry@teamq.de](mailto:thomas.perry@teamq.de)

Paul Simmering: [paul.simmering@teamq.de](mailto:paul.simmering@teamq.de)

Q Agentur für Forschung GmbH: [www.teamq.de](http://www.teamq.de)



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