Applied Data Science Project

HUMAN CENTRED DESIGN [L07 L08]

Design for the real context:
the stakeholders' map (hands-on)

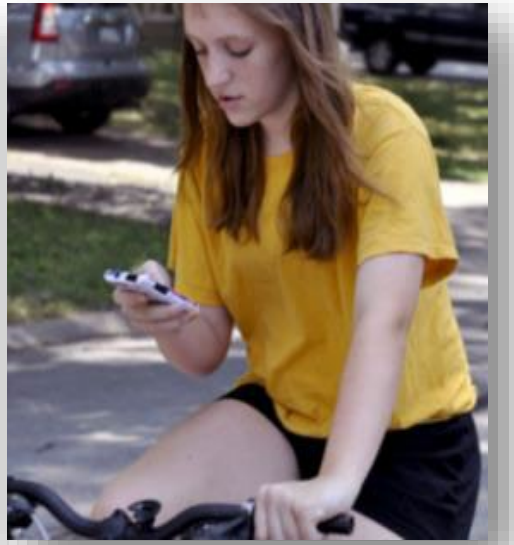
Antonella Frisiello

Politecnico di Torino

A.A.2022/2023

Design for the real context

The context strongly influences human behaviors and the overall experience.
Each context has its own characteristics, rules and limitations.



CONTEXTS:
Physical
Cultural
Organizational
Social
Digital
Legal

Each type entails constraints and opportunities to be kept in consideration when designing and developing.

Any person, group, or institution that, positively or negatively,
affects or is affected by a particular issue or outcome is a stakeholder.

We identify stakeholders as people, institutions, or social groups that are involved in,
or affected by, decision-making
regarding particular design issues.

Retegi, A. et al. *The Co-Create Handbook*. http://www.cocreate.training/

Stakeholders' analysis and mapping

Stakeholders' mapping grounds on **data collection and analysis activities,** based on different sources.

- **Documents** (reports, scientific literature)
- **Ethnographic research** (based on observations, diaries, digital web-ethnography)
- **Ad-hoc research** (questionnaires, interviews, continuous surveys)
- **Collaborative** activities (mapping workshop)

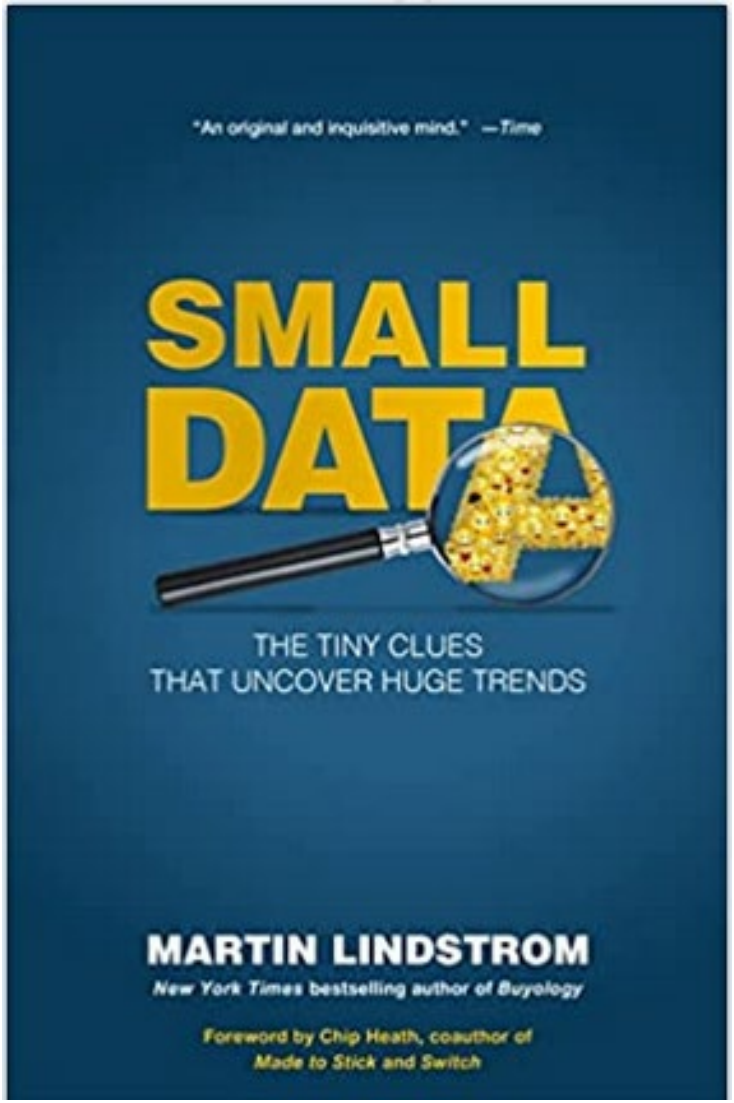
Blend both quali and quantitative data, big and small data.

The Stakeholders' map is a **visual representation** of actors (people in their roles) who can influence the project and how they are connected (to each other and to the project).
It may include individual and collective subjects.

Different visual canvases allow you to display an overview of a complex ecosystem (and then share, process, communicate on and with) of
who and how you are trying to reach.

Worth reading

"No matter how insignificant
it may first appear,
everything in life
tells a story".



Martin Lindstrom, Small Data: The Tiny Clues That Uncover Huge Trends . 2016.

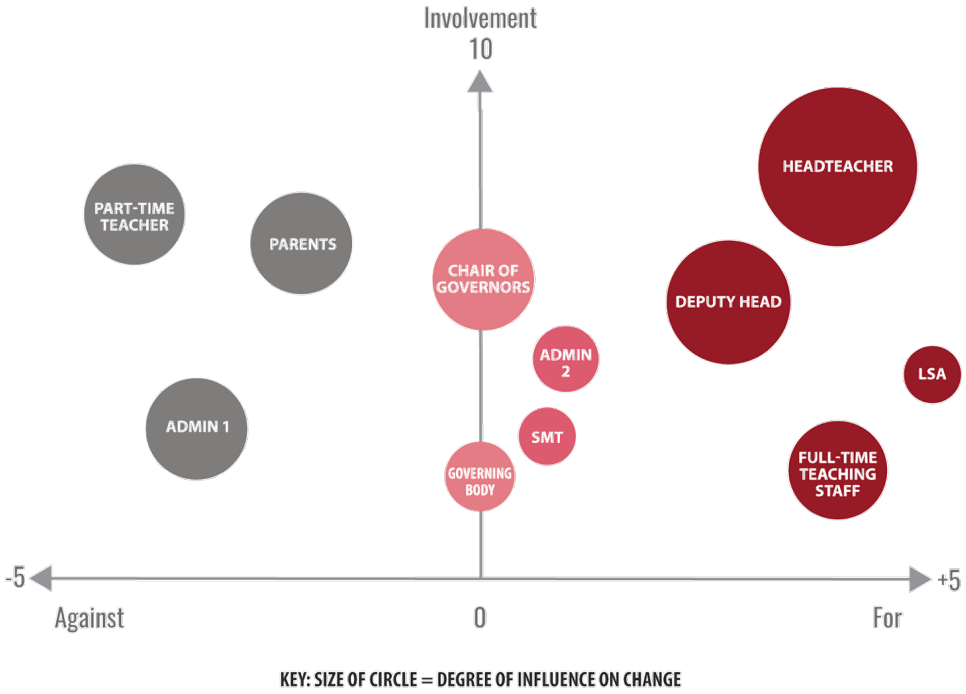
Stakeholders' analysis and mapping

The stakeholders mapping is a **visual representation** commonly used to set up design-related activities, that incorporates data and information collected from primary and in-field research and activities.

A stakeholders map includes the different types of players characterizing the domain of interest and describes their relationship.

A stakeholders map usually identifies:

- **Direct or Primary users** (**CORE players**) are those subjects that because of role, power, authority, responsibilities, or claims over the resources, are central to the system. As end-users or enablers, they will directly affect the final results and their participation in activities is a requirement.
- **Indirects or Secondary users** (**INVOLVED players**) are subjects that may be not directly interested in the system use but can play the role of enablers or barriers.
- **External stakeholders** (**INFORMED players**) are subjects that can positively contribute to the adoption of the system, such as media and policy-makers.



Dolfing, H. A Step by Step Stakeholder Mapping Guide. 2018.

Sponsors are often those who initiate the project by mobilizing resources and managing activities.
Sponsors own the requirement for the project - and if the requirement changes, they must direct the project accordingly.

Which role for sponsors/clients?

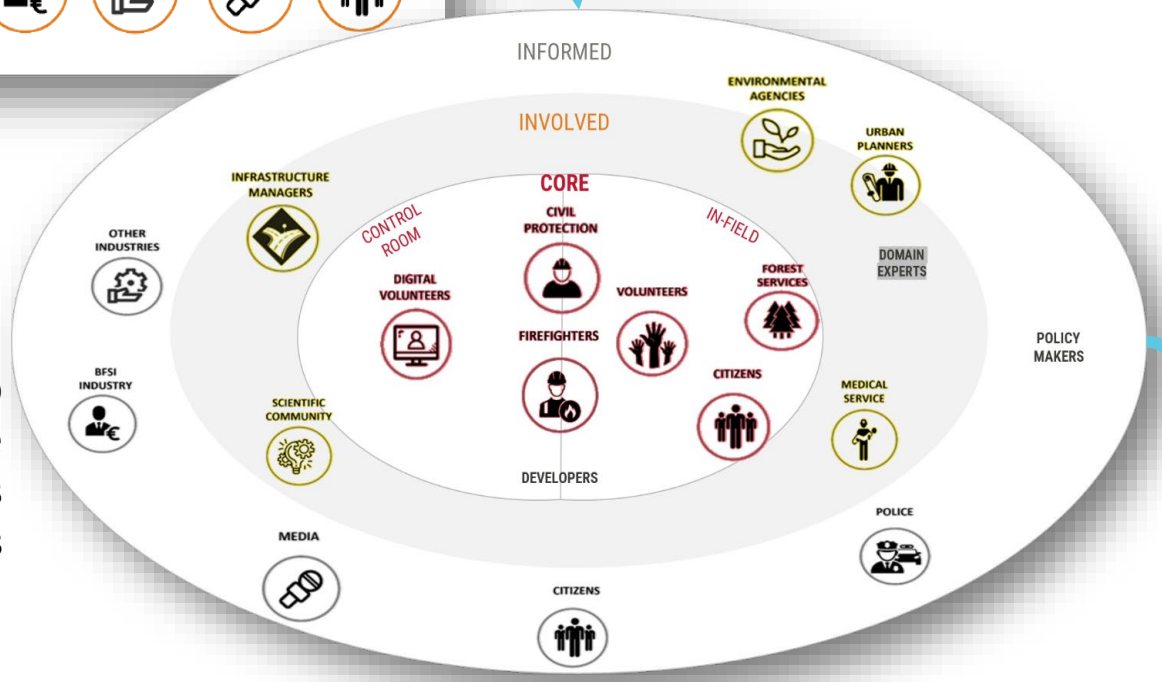
- **Direct or Primary users (CORE players)**
- **Indirects or Secondary users (INVOLVED players**
- **External stakeholders (INFORMED players)**

Dolfing, H. A Step by Step Stakeholder Mapping Guide. 2018.

Stakeholders list

Emergency management stakeholders'map

Stakeholders' map supporting the **User Requirements collection and specifications**



Stakeholders' map to support the **Pilot design and exploitation**

Stakeholder category	Role in SAFERS
Firefighters	**End-users** of SAFERS platform and smart services.
Civil protection	Their contribution revolves around the definition of end-user requirements, the co-design SAFERS solutions, the realization of pilots for testing and demonstrations for validation, and the provision of feedbacks. They will benefit from SAFERS during the emergency management phases: **prevention and preparedness** and **detection and response.**

SAFERS
Structured Approaches for Forest fire Emergencies in Resilient Societies

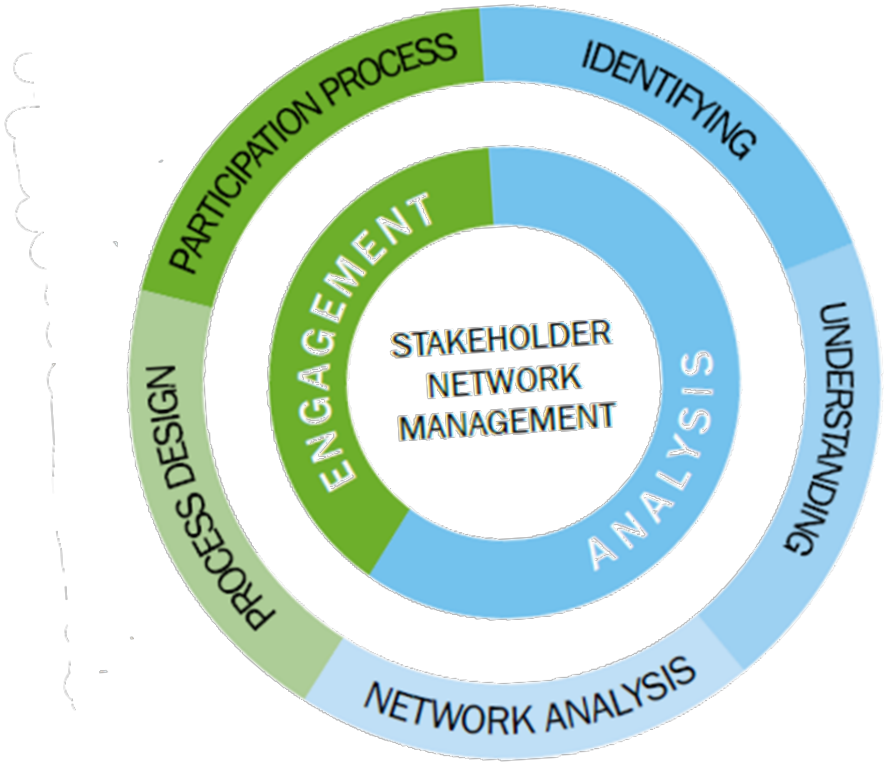
Why and how to use it?

Maps are **dynamic supports** to be updated according to the real scenario (spatial/temporal).

They enable **different activities**: design, testing, trials, experimentation, distribution and marketing, communication, maintenance...)

They provide quick representation of complex information such as:

- Target users real goals
- Different interests
- Success metrics
- Communication hints
- Potential risks
- Engagement of users to be involved in testing activities
- Engagement of key people to be informed
- Negative stakeholders as well as their adverse effects on the project….



Matti, C. Visual toolbox for system innovation. Climate-KIC, 2016

Stakeholder mapping process

1. Identify which population segments or user groups are (live, work, visit, act…) in the reference context
→ MAKE A PONDERATED LIST

2. **Analyze** what roles, expectations and information needs they bring
→ TABLE

3. **Systematize** stakeholders on relevant dimensions. Visualize proportions and relations among groups and goals
→ SELECT A CANVAS

4. **Prioritize** groups and relevant issues to be addressed by the systems/service, in a user-centred perspective
→ MATRIX

HCD – HANDS-ON

the stakeholders' analysis and map

Politecnico di Torino
Antonella Frisiello

STAKEHOLDERS MAP

1. Identify an **area of interest.** It can be the project you'll develop during the course or service you're interested to dig in a use-centred perspective.

2. From the **desk analysis** you'll collect information about different types of actors of the sector/field

   EXAMPLES OF POSSIBLE DATA SOURCES
   - Demografic dataset
   - Reports
   - Research papers
   - Newspaper articles

3. Use **www.miro.com** to collect, display, rearrange and share your work

1

GATHER ALL STAKEHOLDERS

Identify which population segments or user groups are (live, work, visit, act…) in the reference context

→ MAKE A LIST

- **Generate as many types of groups as possible**
- **Then refine and group similar ones**
- **Provide them clear labels (you can refine them afterwards)**
- **Search for evidence in the data and documents**

ANALYSE THEM

- **Which roles do they play (with reference to the specific context you'r focusing on)**
- **What are the NEEDS?**
- **What are their GOALS?**
- **Do you forgot any stakeholder group?**
- **Do you need for different groups or labels? Refine the first list, no problem.**

Consider each of their perspectives using the following inspiring and provocative questions:

- **What matters to them most**?
- **How do they problem solve**? (What they want and expect)
- Who else do they have around them that might be a support for

Segmentation is . . .

"The sub-dividing of people with distinctive shared needs and characteristics into reachable groups based on 3 dimensions - who they are, what they do, how they think and feel"

There are 4 main benefits of segmenting

STRATEGIC APPROACH	Understand, for a given issue, which customer segments are the most important to focus on
GREATER UNDERSTANDING	Identify segments with different needs, giving us a better chance of really understanding them
GREATER RELEVANCE	One size doesn't fit all – target products, services and communication against specific groups
RESOURCE ALLOCATION	Focus resources against people who need it most and where effect will be greatest

Populations segments

GENERATION Z

Born: from 1997 to 2016
Age: from 5 to 24 years
Size: about 9 million (Italian data)
Workers: about 1 million
They are the first digital natives, and widespread users of the **Internet since birth**. Technology and social media play a significant part in their **socialization** process.
They have a great influence on the digital marketing strategies.

Generation Z


Millennials

MILLENIAL / GEN Y / NET GEN

Born: 1980 to 1996
Age: 25 to 41 years
Size: about 10 million (Italian data)
Workers: about 7 million
This generation is characterized by **great use and familiarity with communication, media and digital technologies**. It is the generation of **precariousness**.

GEN X

Born: 1965 to 1979
Age: 42 to 56 years
Size: about 14 million (Italian data)
Workers: about 10 million
They experienced historic events such as the fall of the Berlin Wall and the end of the Cold War.
They come after the Boomers and remain "crushed" between the American dream and the nightmare of the Twin Towers.


Generation X


Generation
Baby Boom

BOOMERS

Born: 1944 to 1964
Age: 57 to 77
Size: about 15 million (Italian data)
Workers: about 5 million
Children of the economic boom and the demographic growth following the end of World War II.
They are **job and career-oriented**, **ambitious**, with average high incomes, but also with a great predisposition to saving.

Factors commonly used to segment customers

1. BASED ON WHAT PEOPLE DO

Behaviour/ 'mode'

Use & Behaviour, e.g.
- Frequency
- Place
- Time
- Occasion
- Extent of use e.g. heavy, light
- Persistency e.g. loyal
- Channels used for contact

Lifestyle, e.g.
- Holidays taken abroad
- Multiple/holiday homes
- Lodgers/rental income
- What money is spent on

Media Consumption e.g.
- Internet and digital usage
- TV channels, radio, press
- Where most info comes from
- How information is absorbed
- What media engage them
- Access to media

2. BASED ON WHO PEOPLE ARE

Socio-demographic

Demographics, e.g.
- Gender
- Ethnicity
- Family
- Age and life stage
- Household type/ composition
- Education
- Income and social class
- Benefits claimants/non-claimants
- Working status
- Physical status
- Urban vs. rural
- Postcode & region
- Mobility
- Moving frequency
- House ownership

3. BASED ON HOW PEOPLE THINK AND FEEL

Attitudes

Needs, Benefits, Motivations, e.g.
- Need convenience, need reliability, need support etc.
- Beliefs, desires, wants
- Deep-seated drivers e.g. love, belonging, praise, security
- Loves & hates

Attitudes & Beliefs, e.g.
- In general
- Specific e.g. to our brands, services
- Balance between time, cost, convenience
- To value and money

Influencers e.g.
- Authority figures, e.g. accountants, solicitors, tax inspectors
- Parents, friends, peers
- Role models
- Community influences

4. A COMBINATION OF MANY FACTORS

Multi-factorial

Example Stakeholders table

Questa è una mappa degli stakeholder ad alto livello sviluppata da un'impresa farmaceutica britannica

Categoria di Stakeholder	Sottogruppi	Categoria di Stakeholder	Sottogruppi
Dipendenti	Consiglio di amministrazione ed esecutivo Management Staff Sindacati Nuovi assunti Potenziali assunti Dipendenti che hanno lasciato l'impresa	Concorrenti	Società Farmaceutiche Società Biotech
		Governo e Enti Regolatori	Ministero della Sanità Autorità regolatrice dell'Attività Farmaceutica Food and Drug Administration (US) Organizzazione Mondiale della Sanità (UN)
Investitori	Investitori istituzionali Fondi Pensione Gestori e analisti di fondi Agenzie di Rating Movimento per l'Investimento Socialmente Responsabile	Partner d'impresa	Licenziatari Partner in R&S Altre società farmaceutiche Cliniche/Università
Clienti	National Health Service Trusts Medici, Pazienti Cliniche Private Ospedali Farmacisti Venditori all'ingrosso Coloro che possono avere influenza sulle prescrizioni mediche (ad es. infermieri, assistenti sociali, insegnanti, psicologi) Clienti interni	Comunità Locali	Aziende vicine Autorità locali/Ministero della Pianificazione Istituzioni benefiche e organizzazioni di volontariato
		Mondo Accademico e Comunità Scientifica	Associazioni ambientaliste Centri Universitari Ricercatori Studenti
Fornitori	Fornitori di materiali e componenti Fornitori a contratto Medici (come consulenti in R&S) Centri clinici di sperimentazione Volontari e pazienti in sperimentazione Fornitori di servizi ed infrastrutture	Mezzi di comunicazione	TV e Radio Pubblicazioni medico/scientifiche Giornali nazionali/locali Giornali finanziari
		ONG e Gruppi di Pressione	Organizzazioni per i diritti del malato Organizzazioni per i diritti umani Organizzazioni per la salvaguardia degli animali

SCS, Il Manuale dello Stakeholder Engagement

2

CREATE YOUR STAKEHOLSER MAP

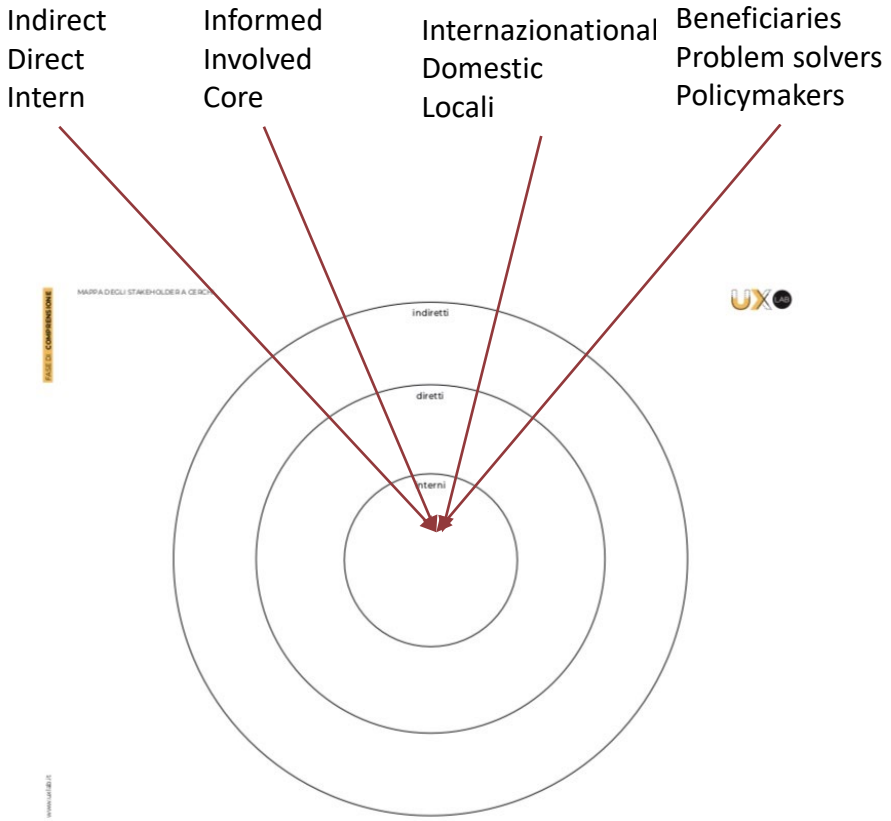
Systematize stakeholders on relevant dimensions. Visualize proportions and relations among groups and goals

→ SELECT A CANVAS

Radar chart

Useful to organize groups on one variable dimensions:

- responsibility
- influence
- proximity
- dependence, involvement
- …



Bottà, D. UX Design design. Hoepli, 2019.
http://www.uxlab.it/strumenti.html

Radar chart

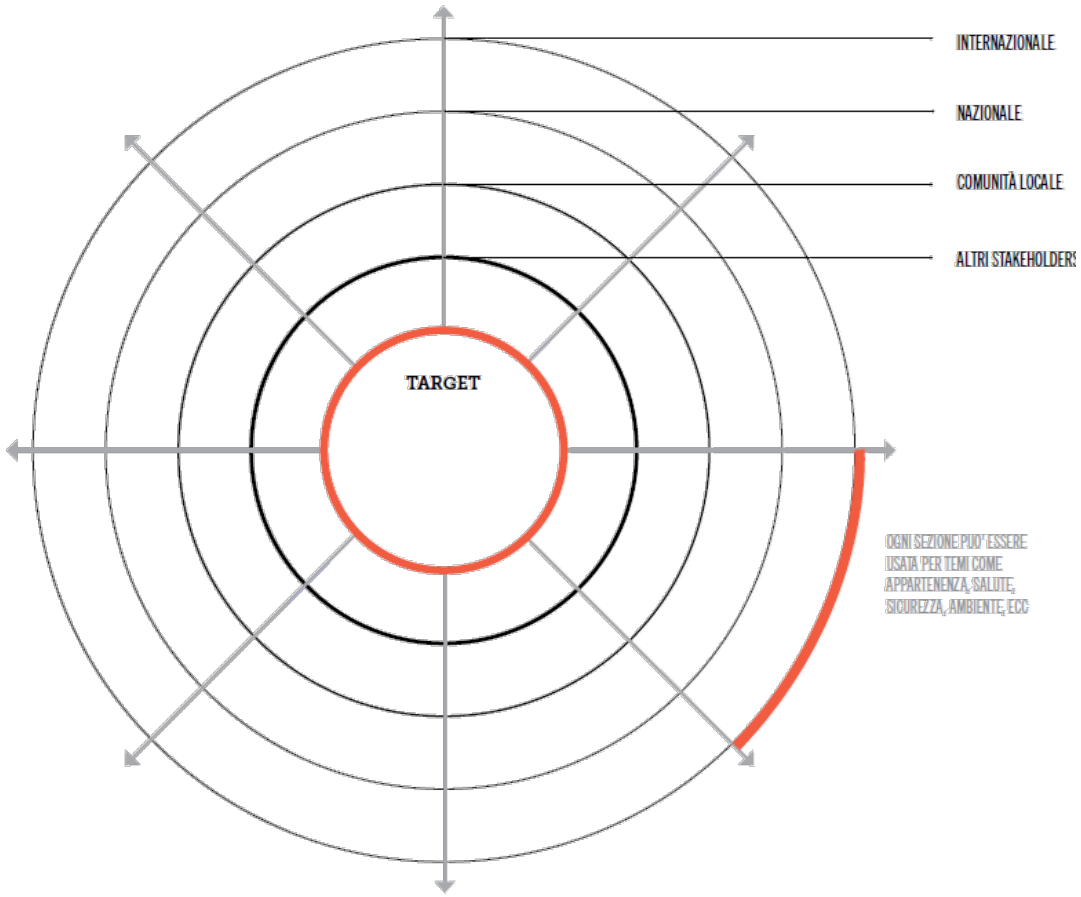
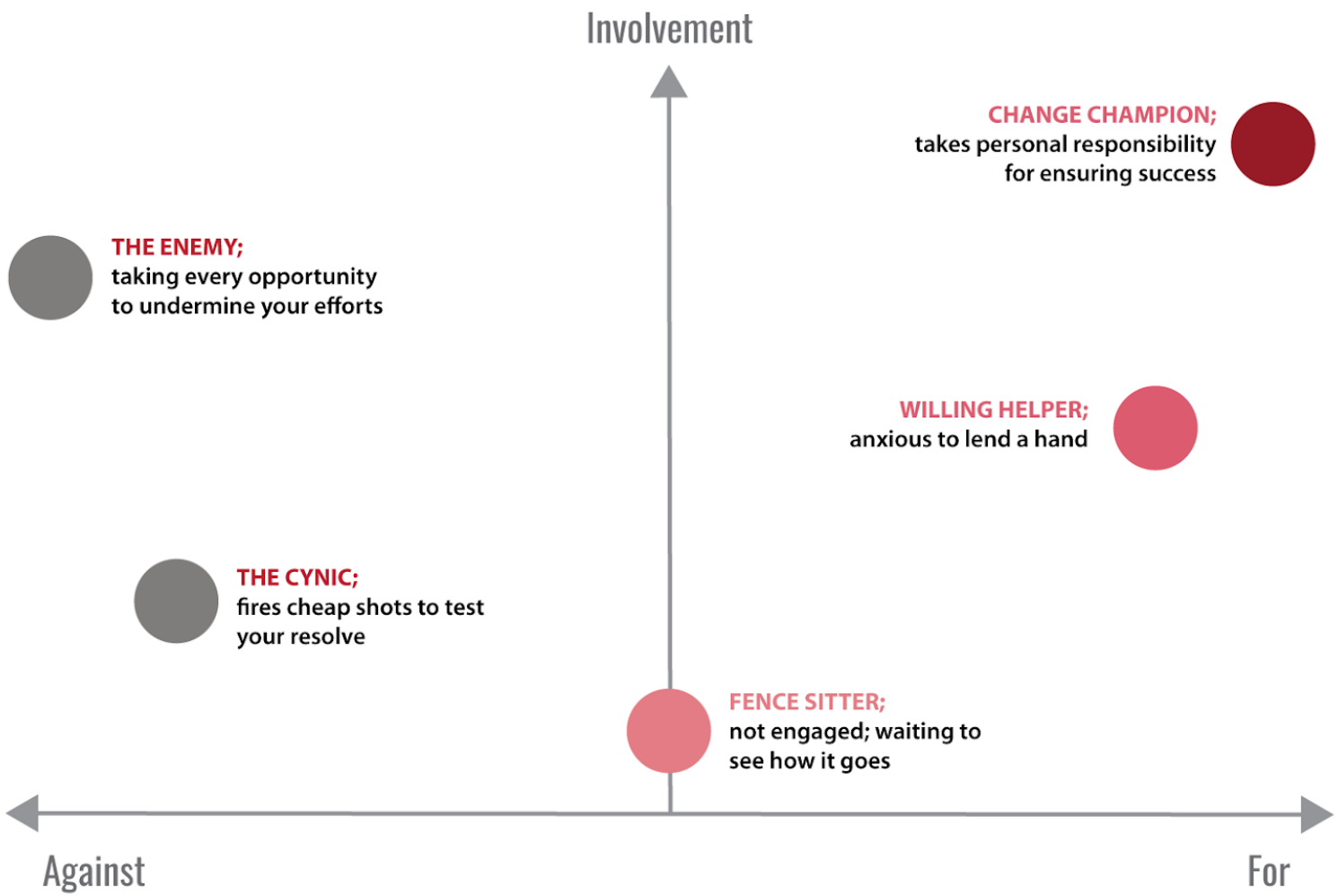

INTERNAZIONALE
NAZIONALE
COMUNITÀ LOCALE
ALTRI STAKEHOLDERS
TARGET
OGNI SEZIONE PUO' ESSERE USATA PER TEMI COME APPARTENENZA, SALUTE, SICUREZZA, AMBIENTE, ECC

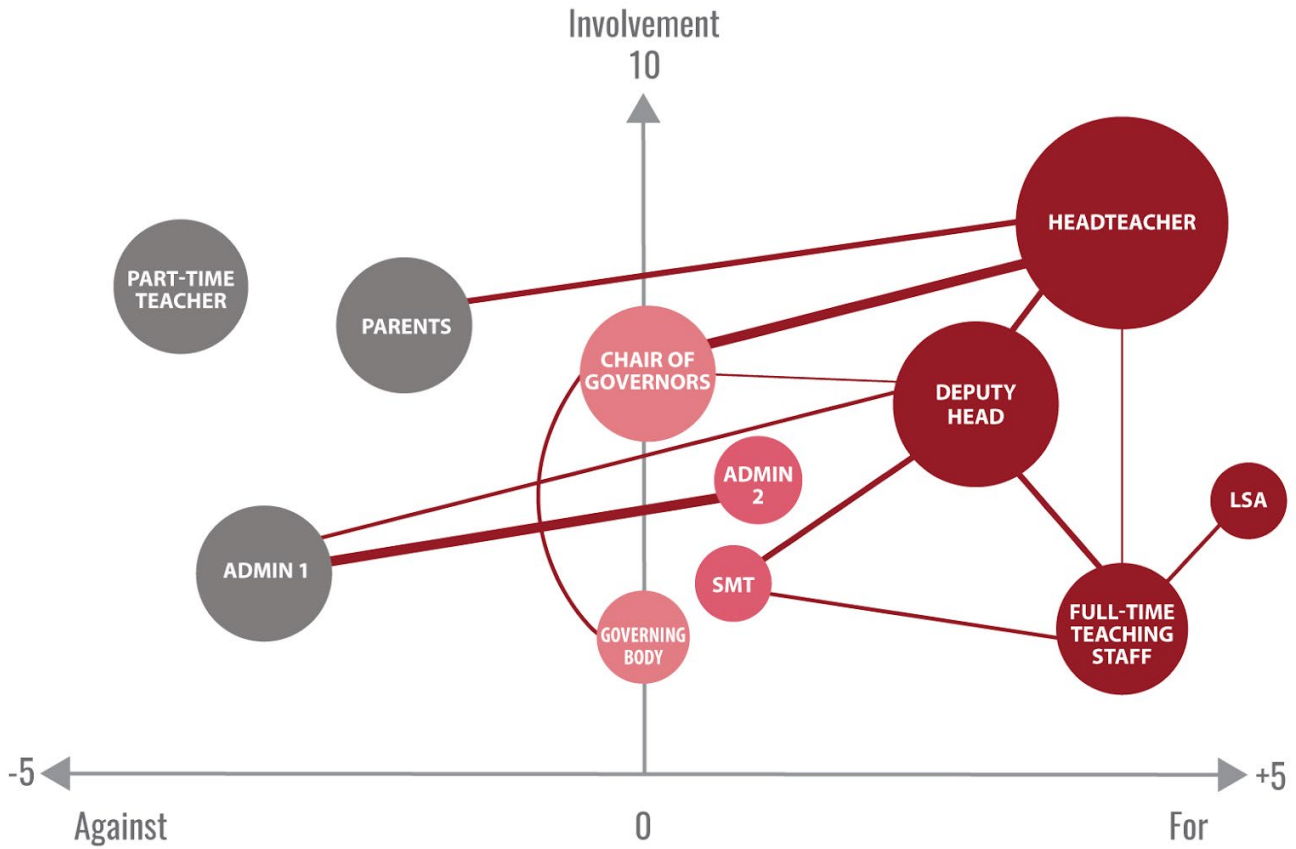
Diagram
Bubble chart



Dolfing, H. A Step by Step Stakeholder Mapping Guide. 2018.

Diagram
Bubble chart

You can also visualize proportions and relations among groups and goals

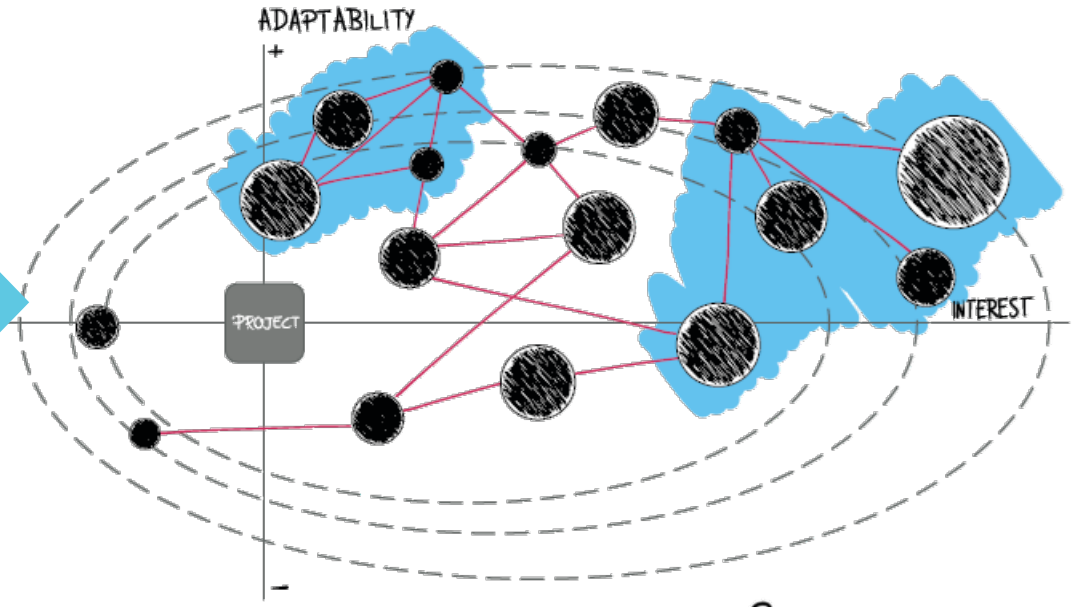


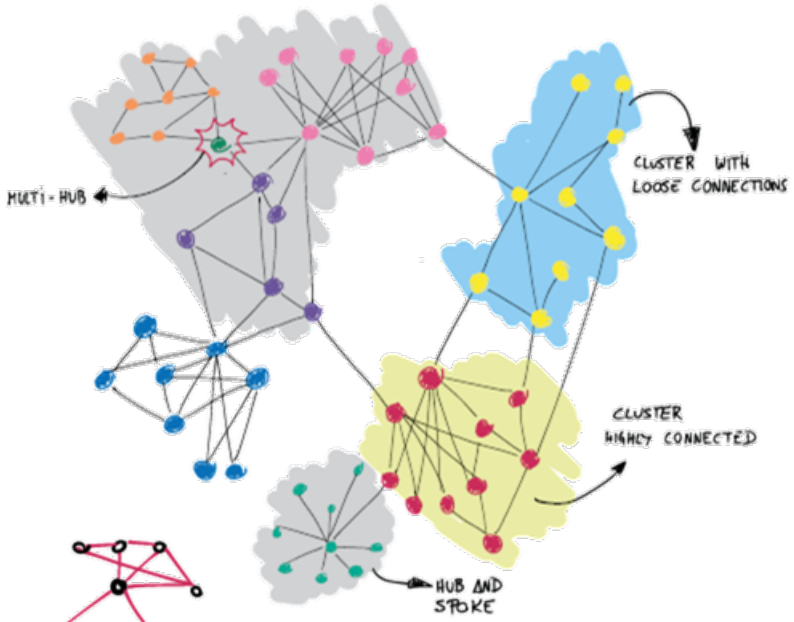
Dolfing, H. A Step by Step Stakeholder Mapping Guide. 2018.

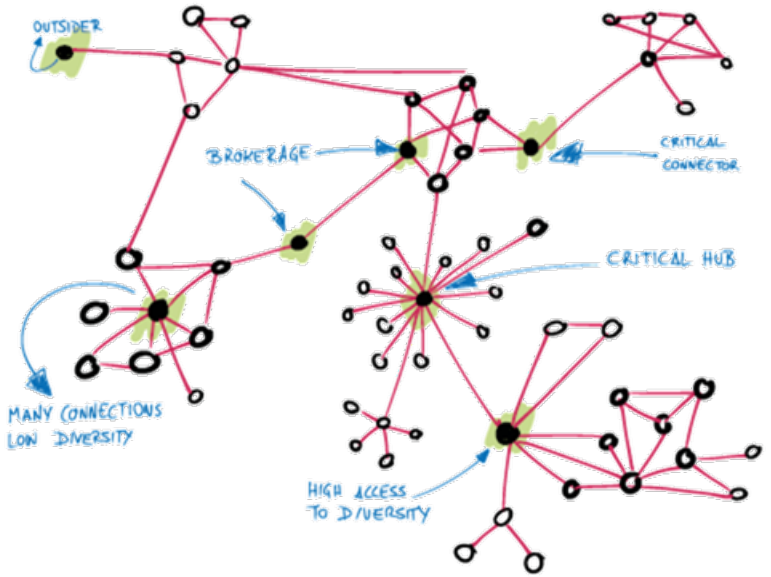
Stakeholders' universe

Visual network analysis tool focusing on the connections among actors and how these connections work and might evolve, affecting the system you are designing.

1) List the actors
2) Place them on the axis
3) Define connections
4) Define clusters

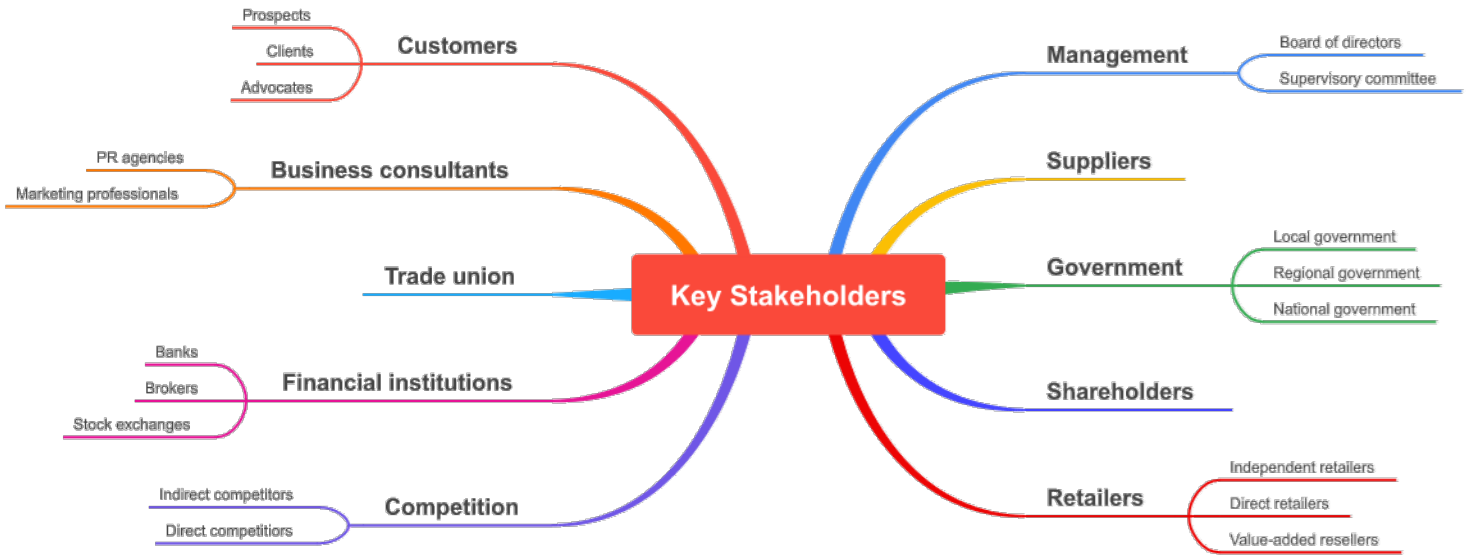






Matti, C. Visual toolbox for system innovation. Climate-KIC, 2016

Hub & spoke

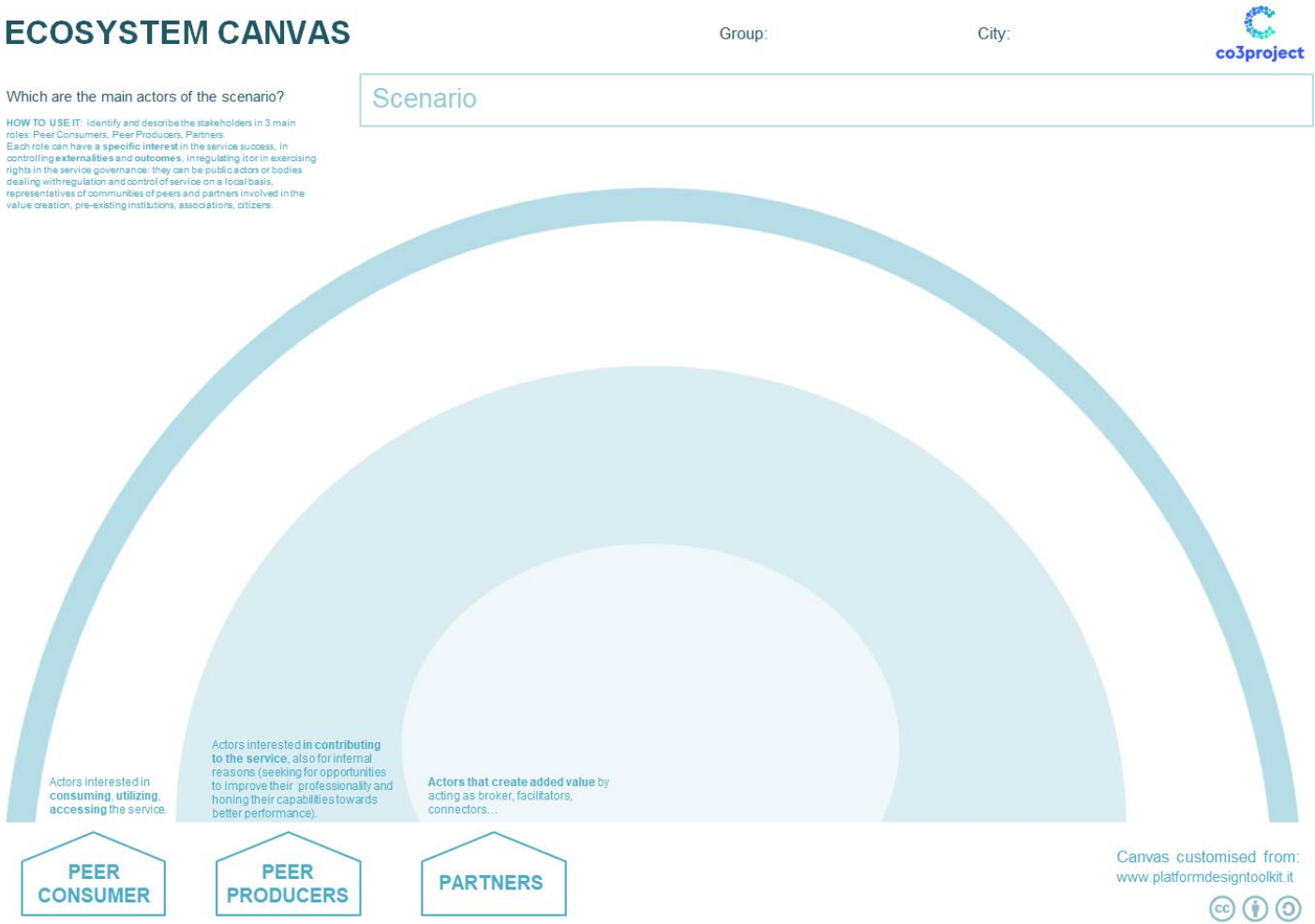


In the centre is the key group and around the other actors of the ecosystem.
It highlights the relationship between the various nodes with different visual encoding:

- **Lines**: continuous, dashed or more marked depending on the type of relationship
- **Colors**: type of target
- **Size**: type of target

It is useful for mapping the width of the ecosystem.
For each branch, quantitative data that complete the picture shall be added and kept updated.

Ecosystem canvas



Cicero et al. Platform Design Toolkit. 2016

There are no standard maps.
You can find many different canvases
and labels (ecosystem canvas, players map, …),
made available in wonderful existing toolkits.

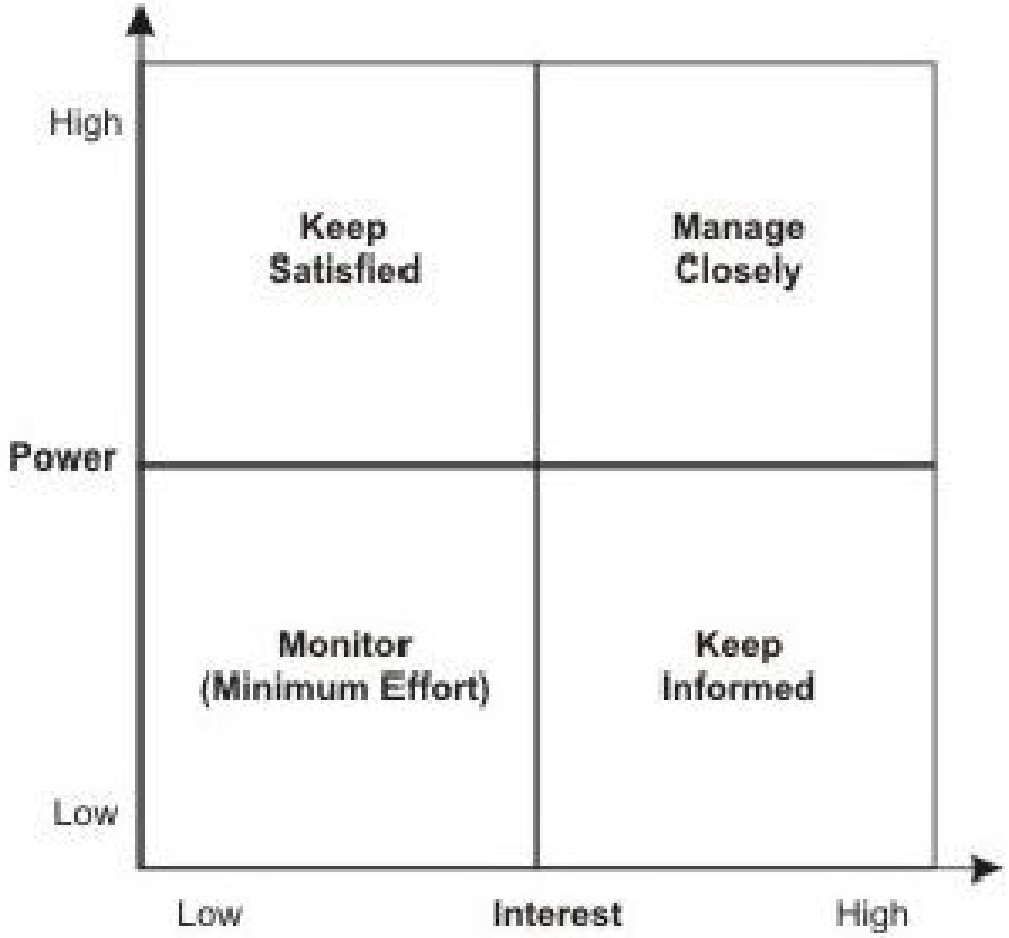
You can also create yours for ad-hoc purposes and specific needs.

The gold rule is:
Keep it
simple and clear
stick to data (real world)
and updated

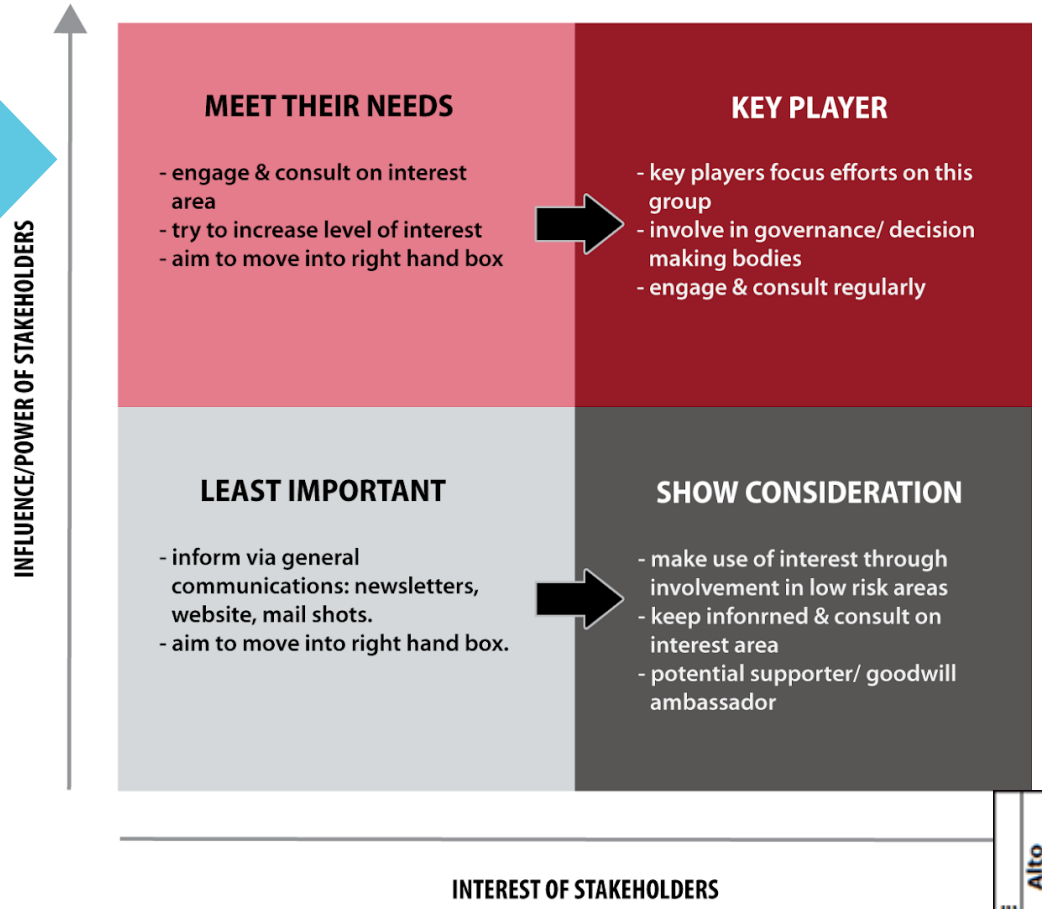
3

Prioritize groups and relevant issues to be addressed by the systems/service, in a user-centred perspective

→ MATRIX



Power x interest matrix



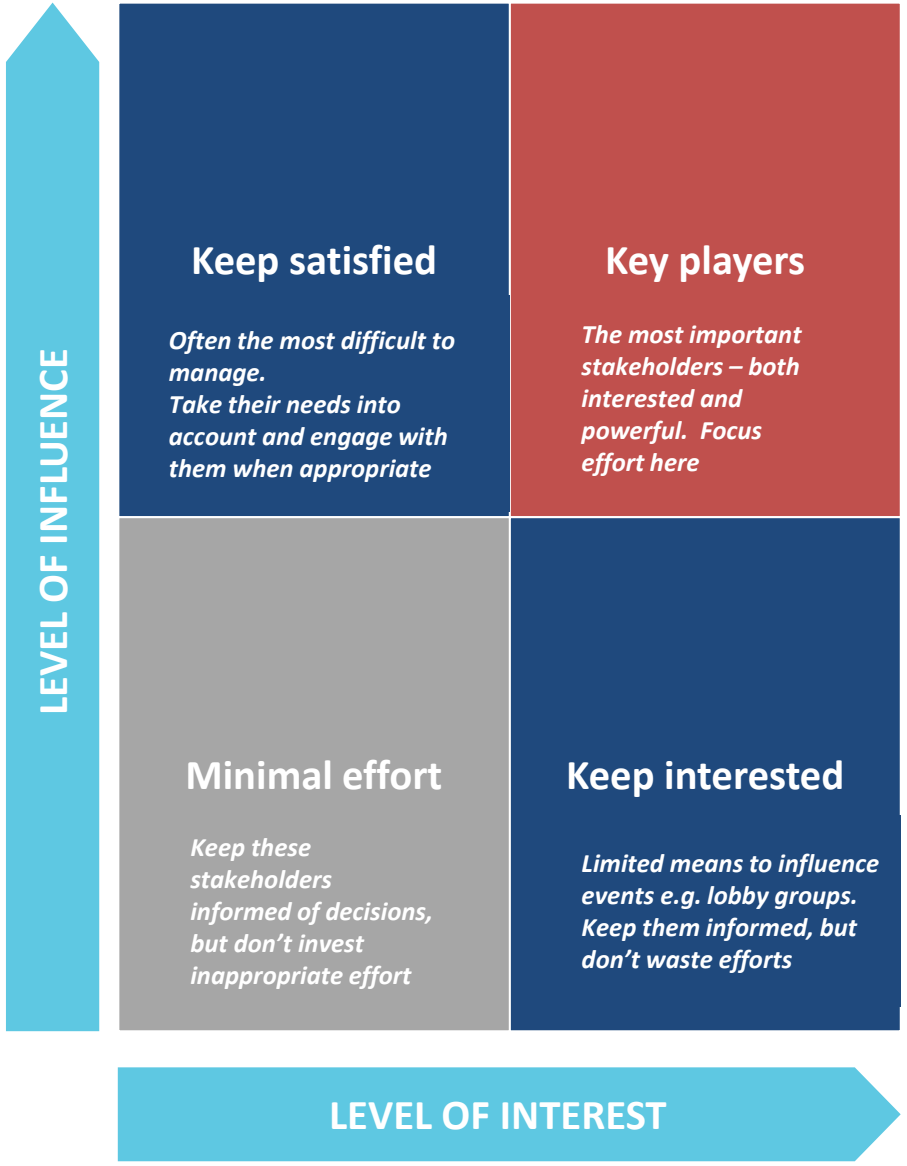
Dolfing, H. A Step by Step Stakeholder Mapping Guide. 2018.

POTERE			
	Alto	**STAKEHOLDER ISTITUZIONALE** *Es.: altri PM, fornitori esterni minori*	**STAKEHOLDER CHIAVE** *Es.: membri del team, committente, fornitori partner*
	Basso	**STAKEHOLDER MARGINALE** *Es.: logistica, acquisti, controllo di gestione*	**STAKEHOLDER OPERATIVO** *Es.: utenti finali, altri consulenti*
		Basso	**Alto**
		INTERESSE	

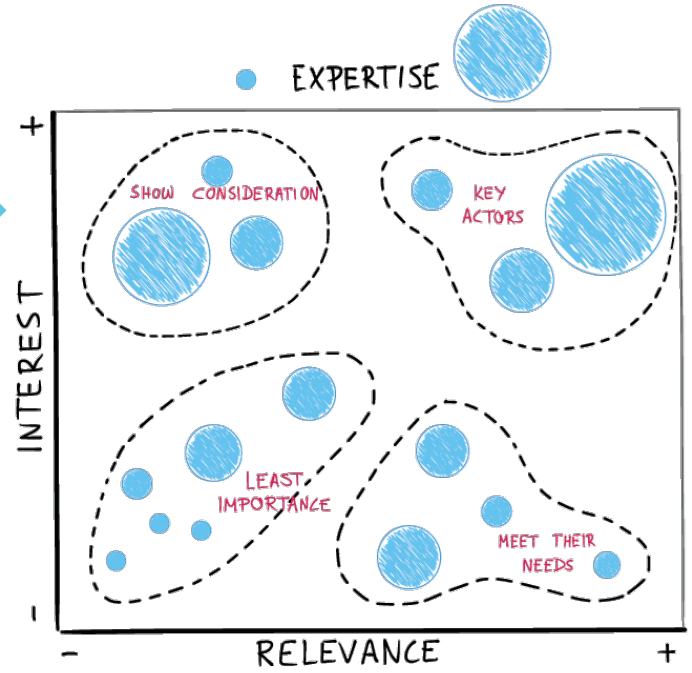
www.pmi.it

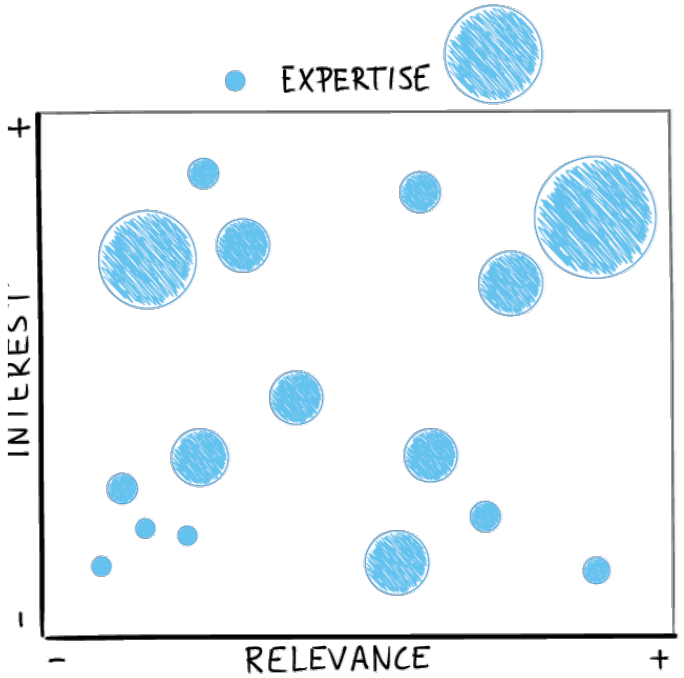
Stakeholder prioritisation

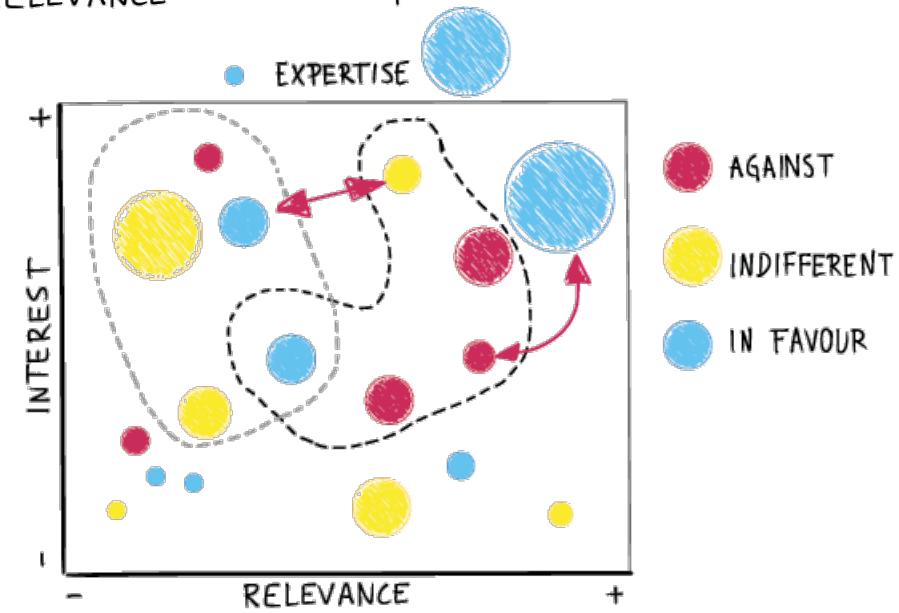
Use this to understand which stakeholders are most important and how you should best interact with them.



Power x interest matrix







Matti, C. Visual toolbox for system innovation. Climate-KIC, 2016

5

Questions?
Confirmations?
Difficulties?
Applicability?

Keep on working

You can refine your analysis and visualization

- Searching for more data to get deeper insights.
- Discussing and validating your analysis witstakeholders' representatives
- Searching for alternative views, diverging from your first analysis
- Refine the visualization: create better labels, add additional data, identify inspiring visual representations.

Next hands-on (preparation)

USER RESEARCH
DATA DISPLAY TECHNICQUES

STAKEHOLDERS MAP

PERSONAS

USER JOURNEY

1. Identify the **core stakeholder group from your map. The main users you will design for**.
   EXAMPLES OF POSSIBLE AREAS
   - Students, patients
   - Caregivers, assistants, administrative
   - Specialists (physicians, environmental eng., lawyers)
   - Sellers
   -

2. Collect information about their needs and wants (desk research or interviews)
   EXAMPLES OF POSSIBLE INFORMATON
   - What do they need or want? (GOALS)
   - What skill do they have in the field?
   - What systems they already use to reach their goal?
   - Will the use be occasional? Or repetitive?
   - What barriers they pose?

These elements will be the base of the hands-on activities of the next lessons of this module.

Questions ?

Antonella Frisiello
antonella.frisiello@polito.it