

# Semantic connections of societal impact: A big data analysis of the meanings attached to societal impact

Tanja Johansson, Sibelius Academy of the University of Arts Helsinki

Annukka Jyrämä, Estonian Academy of Music and Theatre and Aalto University

Beatriz Plaza, University of the Basque Country UPV/EHU

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# Aim of the study

To examine the semantic connections people attach to 'societal impact'.

The research question:

***What are the semantic connections and their relational importance of societal impact?***

We contribute to the existing theory of societal impact by providing a comprehensive view of the meanings people attach to societal impact.

# Societal impact

- As benefits of research (impact and effects)
  - 1) social,
  - 2) cultural,
  - 3) environmental,
  - 4) economic returns

## Viewed through social responsibility:

1. environmental sustainability,
2. philanthropy,
3. gender equality,
4. disabled minority issues. (Marin and Ruiz 2006)
5. contribution to local community (Kajalo and Jyrämä 2015)

## Key areas of societal impact:

- (1) Societal impact as a *product*: Knowledge with a potential societal value is embodied in a product that may or may not be used by societal audiences (Boekholt et al. 2007);
- (2) Societal impact as *knowledge use*: Interaction processes between researchers and societal stakeholders may result in the adoption of knowledge by the latter (Moffat et al. 2000; Roessner et al. 2006; Castro Martinez et al. 2008);
- (3) Societal impact as *societal benefits*: On policy, professional practice, business or on wider impacts, such as the impact on culture, media and community

# Societal impact in the context of arts,

## Art facilitating societal impact:

- connections, vision, innovation, transmission, wellbeing, and sensation
- enriching meaning and imagination, exploring ideas and learning new things, communication between cultures, getting aesthetic experiences
- Enabling new ways for dialogue and joint activity
- *Yet little role of arts in current societal impact or responsibility discussions*

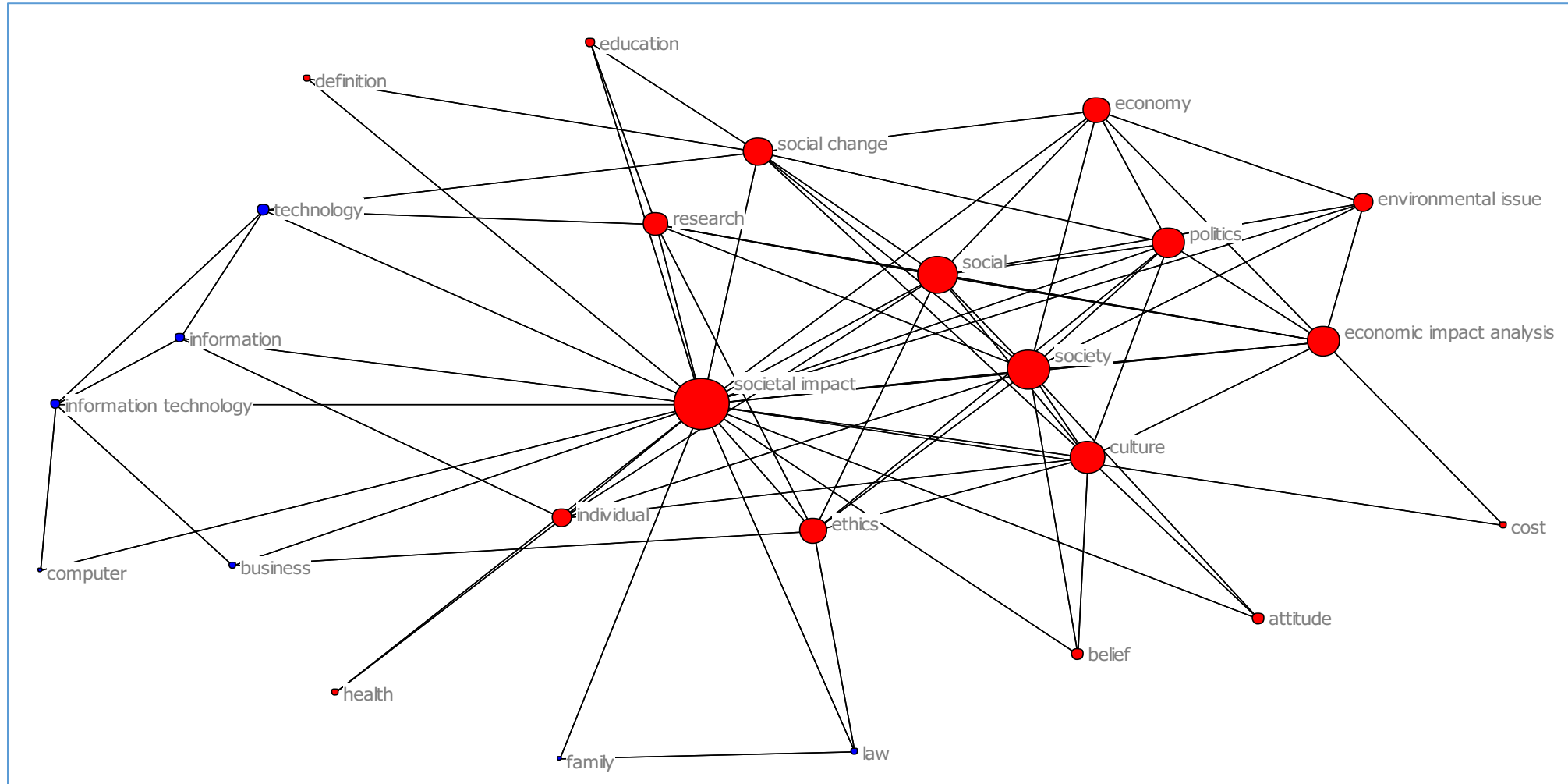
# Research Method

- Using Big Data generated by Google. (2017)
- Discover the meanings people attach to the concept of societal impact, the connection made in their minds.
- A prototype model for approaching the main keywords associated to the term “*Societal Impact*” by Google users

# Google Big Data Keywords associated to “*Societal Impact*” (01.01.2004 to 31.08.2017)

|  |                             |                           |               |  |
|--|-----------------------------|---------------------------|---------------|--|
|  |                             |                           |               |  |
|  | societal impact             | education                 | research      |  |
|  | attitude                    | environmental issue       | social        |  |
|  | belief                      | ethics                    | social change |  |
|  | business                    | family                    | society       |  |
|  | computer                    | health                    | technology    |  |
|  | cost                        | individual                |               |  |
|  | culture                     | information               |               |  |
|  | definition                  | information<br>technology |               |  |
|  | economic impact<br>analysis | law                       |               |  |
|  | economy                     | politics                  |               |  |
|  |                             |                           |               |  |

# Keywords associated to Societal Impact: A Google Big Data Analysis (01.01.2004 to 31.08.2017)



# Discussion

- We were able to identify two clusters where the large nodes indicate larger societal issues, which have been well captured by current discussions and research, such as connections to society ethics and social issues
- We found clear linkages to existing key contexts from theory discussions and measurements, such as culture, society and social, politics, economy, social change; technology, information technology, and research; individual and family; and law, cost analysis, and economic impact analysis.
- We have identified sectors that are missing from this research on societal impact yet present in current discussions, such as welfare, employment, competence & knowledge, entrepreneurship, innovation, startups, and evaluation



# Conclusions

- By understanding the connection within people's minds allows to reflect also on the measurement for social impact, what kinds of dimensions to include, for example, environmental analysis, ethics, economic and cultural.
- The semantic connections analysis points out that there are both markets and economy driven as well as society driven understandings on societal impact. This finding question somewhat current economic impact analysis favored in policy discussions.
- The role of environmental analysis needs further study, particularly studies on looking at the measures used in the fields of environment (ecological) economy in connection to cultural analysis of societal impact.

# Thank you

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