



Semantic analysis for innovation policy

Introduction to today's workshop

Caroline Paunov

Paris, 12-13 March 2017



Policy questions addressed at the workshop

- ❖ Explore the potential of semantic analysis to exploit qualitative information for innovation policy analysis on knowledge transfer between industry and science in particular
- ❖ Learn about existing national initiatives that semantically exploit large datasets to inform policy making and analysis
- ❖ Get a hands on experience of the possibilities of text-mining (and its limitations)
- ❖ Learn more about the evolution of innovation policy from text-mining of the TIP corpus





Agenda of workshop

Day 1 Monday, 12 March

9h15 - 9h30: Introduction

9h30 - 11h00: Session 1

Potential, best practice and caveats in using semantic analysis

11h30 - 13h00: Session 2

In-depth semantic analysis of TIP documents

14h30 - 16h00: Session 3

The making of the TIP@50 analyses

16h30 - 17h00: Session 4

Perspectives on semantic analysis

17h00 - 18h30: Session 5

Hands-on exercise

Day 2 Tuesday, 13 March

9h15 - 9h45 : Main conclusions of day 1

9h45 - 13h00 : Session 6

Examples of semantic analysis conducted to study knowledge transfer

14h30 - 16h00: Parallel Sessions 7

Session A: Using semantic analysis tools to analyse data from the STI Policy Survey (room **CC20**)

Session B: From text to impact in ninety minutes (room **MB3122**)

Session C: Applying semantic analysis tools (room **MB4122**)

16h30 - 17h50: Session 8

Concluding panel and next steps

17h50 - 18h00: Wrap up



Session 1: Potential, best practice and caveats in using semantic analysis



Questions to address

- *What can be done using **semantics analysis in the field of innovation policy**?*
- *What are the **strengths** and **caveats** compared to more traditional types of analyses?*
- *What **applications of semantic analysis** relevant to innovation policy can be implemented as of today? What applications need further development?*



Participants

- Chair: **Dominique Guellec**, OECD
- Speakers:
 - **Mary-Ann Grosset**, OECD
 - **Philippe Laredo**, Université Paris-Est, France, and Manchester University, UK
 - **Juan Mateos**, NESTA, UK
 - **Margherita Russo**, University of Modena and Reggio Emilia, Italy



Session 2: In-depth semantic analysis of TIP documents



Questions to address

- *How has **innovation policy thinking** changed in what is reflected in 25 years of TIP, CSTP and national policy discussions?*
- *What **trends** can be identified over the 25-year period for the TIP, CSTP and beyond?*
- *What **lessons** can be taken from the work for the future of the TIP, the CSTP and innovation policy analysis more generally?*



Participants

- Chair: **Caroline Paunov**, OECD
- Speakers:
 - **Michael Keenan**, OECD
 - **Margherita Russo**, University of Modena and Reggio Emilia, Italy; **Pasquale Pavone**, University of Modena and Reggio Emilia, Italy
 - **Dirk Meissner**, National Research University - Higher School of Economics, Russian Federation
 - **Philippe Laredo**, Université Paris-Est, France, and Manchester University, UK; **Antoine Schoen**, ESIEE Paris, France
 - **Byeongwon Park**, Science and Technology Policy Institute, Korea



Session 3: The making of the TIP@50 analyses



Questions to address

- What **material** was used and how did the choices of how the material was organised and analysed affect the analysis?
- What **software** decisions were made? What are the costs involved in using such software? What is freely available and what is proprietary?
- How can these analyses be applied to **other types of analysis** of innovation policy?



Participants

- Chair: **Michael Keenan**, OECD
- Speakers:
 - **Jan-Anno Schuur**, OECD
 - **Andrés Barreneche**, OECD
 - **Margherita Russo**, University of Modena and Reggio Emilia, Italy;
 - **Pasquale Pavone**, University of Modena and Reggio Emilia, Italy
 - **Dirk Meissner**, National Research University - Higher School of Economics, Russian Federation
 - **Philippe Laredo**, Université Paris-Est, France, and Manchester University, UK; **Antoine Schoen**, ESIEE Paris, France



Session 4: Perspectives on semantic analysis



Questions to address

- ***Reconstruction and monitoring of the scientific debates from digital traces: the cases of science and politics***



Participants

- Presenter:
 - **David Chavalarias**, National Centre for Scientific Research and Complex Systems Institute of Paris Ile-de-France, France



Session 5: Hands-on exercise



Questions to address

- ***Replicating results from TIP@50 analysis using Cortext***
- *The session will allow participants to **produce a simple semantic analysis** with the support of those involved in the TIP@50 analysis.*



Participants

- Presenter:
 - **Antoine Schoen**, ESIEE Paris, France



Session 6a: Examples of semantic analysis conducted to study knowledge transfer



Questions to address

- What **new questions** can be addressed using semantic analysis?
- What information are they semantically analysing and how is this accessed?
- What **infrastructure requirements** were needed to set them up?
- What **new answers** have these studies identified, with a special **focus on knowledge transfer**?



Participants

- Chair: **Frédérique Sachwald**, Higher Council for Evaluation of Research and Higher Education (HCERES), France
- Speakers:
 - **Antoine Schoen**, ESIEE Paris, France
 - **Sam Arts**, KU Leuven, Belgium
 - **Cinzia Daraio**, University of Rome La Sapienza, Italy
 - **Francesco Osborne**, The Open University, UK



Session 6b: Examples of semantic analysis conducted to study knowledge transfer



Questions to address

- What **new questions** can be addressed using semantic analysis?
- What information are they semantically analysing and how is this accessed?
- What **infrastructure requirements** were needed to set them up?
- What **new answers** have these studies identified, with a special **focus on knowledge transfer**?



Participants

- Chair: **András Hlács**, Permanent Delegation of Hungary to the OECD
- Speakers:
 - **Andrés Barreneche**, OECD
 - **Juan Mateos**, NESTA, UK
 - **Maarten van Leeuwen**, Leiden University, the Netherlands
 - **Georg Licht**, Centre for European Economic Research (ZEW), Germany



Session 7: Hands-on experience

Parallel Session A – ROOM CC20

Using semantic analysis tools to analyse data from the EC/OECD 2017 STI Policy Survey

- Presenter: **Andrés Barreneche**, OECD

Parallel Session B – ROOM MB3122

From text to impact in ninety minutes

- Presenters: **Juan Mateos**, **Chantale Tippett**, and **Joel Klinger**, NESTA, UK

Parallel Session C – ROOM MB4122

Applying semantic analysis tools

- Presenter: **Francesco Osborne**, The Open University, UK



Session 8: Concluding panel and next steps



Questions to address

- *What do you think is the **potential and feasibility for semantic analysis** in your own context?*
- *What could be **useful next steps** to facilitate exchange on best practice?*
- ***How can CSTP and TIP provide support** to help exploit the potential of these tools?*
- *What other tools should be part of the basket to consider?*



Participants

- Chair: **Göran Marklund**, VINNOVA, Sweden
- Speakers:
 - **Marnix Surgeon**, Directorate-General for Research and Innovation, European Commission
 - **Frédérique Sachwald**, Higher Council for Evaluation of Research and Higher Education, France
 - **Armin Mahr**, Federal Ministry of Science, Research and Economy, Austria
 - **Cinzia Daraio**, University of Rome La Sapienza, Italy



Rules of the workshop: Time to discuss !

- Speakers have **13 minutes**
- Signs will go up at 3 minutes, 1 minutes and when it is over
- **To all: questions and discussion points are welcome**
- **Let speakers know if anything is not clear or too technical !**





Further information and contact

The **summary of the workshop discussions** and all presentations will be available at:
<https://www.innovationpolicyplatform.org/workshop-semantic-analysis-innovation-policy>

OECD digital and open innovation project:
<https://www.innovationpolicyplatform.org/digital-and-open-innovation-project>

OECD Working Party on Innovation and Technology Policy (TIP) website:
<https://www.innovationpolicyplatform.org/CSTP/TIP>

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