Growing ideas through networks

Researchers' perspectives on impact of Research & Innovation:

a Structural Topic Model approach to COST Action participants

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Starting points

- Increasing emphasis on « societal impact » instead of only « science »

- Lack of conceptualisation and of measurement strategy of « societal impact »

- Potential differences in perspectives between disciplines and professional backgrounds

Societal impact: top-down or bottom-up?

- Top-down definition: « central » decision-making on societal priorities, research follows (missions, challenges…)

- Bottom-up definition: glossary of researchers' activities and potential results:
  « useful interactions »

Impact: researchers' perspectives

- Focus on perspectives of individual researchers on the result of participation in COST Actions

- Do perspectives vary according to the background and experiences of researchers?

Case: COST Actions

- COST Actions are interdisciplinary networks of researchers and professionals, working together on one idea

- Average Action involves 150-200 participants, from different backgrounds and in different roles

Expectations

- Differences in perspectives between:
  - Researchers in leading positions *vs* other researchers
  - Researchers early in their careers *vs* researchers more advanced in their careers
  - Researchers with a non-academic background *vs* researchers with an academic background

Data: Customer Satisfaction Survey

- Participants in 2016/2017

- "What was your direct benefit related to your participation in a COST Action?"

- 6045 analysable responses

Method: Structural Topic Modeling

- Borrowed from political science – used to analyse political blog entries

- Allows « bottom-up » clusters of similar answers

- Distinction between « what » and « how » in content

What did we do?

- Extracted 5 main clusters of responses to the relevant question

- Analysis of most common words and « typical responses » per cluster

- Correlation with variables of interest: age, background, position and gender

Structural topic orientations
Output orientation
People orientation
Knowledge orientation
Activity orientation
General orientation

Output orientation

"public"   "joint"   "project" "propos" "collabor" "build"   "applic" "paper"   "develop" "increas" "activ"   "creat"   "research" "intern" "lead"
« New collaboration with 2 other researchers that led to joint papers being published and a new research project externally funded»
Mentioned more by: researchers in leadership positions Mentioned less by: younger researchers, non-academic researchers

People orientation

"scientist" "differ" "interest" "peopl" "get" "work" "countri" "know" "meet" "field" "european" "discuss" "colleagu" "similar" "expert"
« the interaction with experts from different countries and similar areas and the efforts to search global solutions at the European level»
Mentioned less by: younger researchers, researchers in leadership positions

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project

develop

scientist

cooper

joint

Output-oriented

People-oriented

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Knowledge orientation

"network" "knowledg" "improv" "exchang" "share" "gain" "experi" "scientif" "idea" "connect" "inform" "skill" "profession" "expertis" "access"
« Networking, collaboration development, expertise improvement, exchange of knowledge»
Mentioned more by: non-academic researchers Mentioned less by: researchers in leadership positions

Activity orientation

"action" "school" "cost" "train" "stsm" "particip" "confer" "phd" "student" "workshop" "benefit" "attend" "support" "abl" "organ"

« It provides me chances to go to international training school, conference and another institute for short term visiting. Without the support from COST Action, at least half of them will be impossible. I appreciate it very much. Thanks. »

Mentioned more by: younger researchers, researchers in leadership positions

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school
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network

experi

Knowledge-oriented

Activity-oriented

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General orientation

"learn" "contact" "futur" "partner" "establish" "start" "make" "met" "new" "techniqu" "possibl" "lot" "method" "problem" "open"

« Learned to use new equipment and technology. Met new colleagues with whom there is a possibility for future collaborations. »

Equally mentioned by all researchers

Conclusion

- Perspectives on impact differ between researchers in different roles

- « Outputs » often mentioned by researchers in central roles, but less so by other researchers

- « Impact » can happen all over the lifetime of a research project

Future agenda…?

- Use structural topic models for more value-driven conceptualisations of impact

- Differentiation in scientific disciplines and types of projects

- Cross-funding comparisons?