Co-Discovering Common Ground in a Collaborative Community

The BoostINNO Participatory Collaboration Mapping Case

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ABSTRACT

Collaborative communities are learning communities aimed at accomplishing common goals within often complex collaboration ecosystems. Their development requires catalyzing the process of co-discovering collaborative common ground. BoostINNO was an EU networking project aimed at building a collaborative community in which ten major European cities who are leaders in social innovation shared knowledge lessons learnt. We show how the CommunitySensor participatory community network mapping methodology and the Kumu online network visualization tool were combined to support participatory collaboration mapping among the BoostINNO community members. Two experiments were conducted: (1) finding collaboration partners and (2) comparing social innovation lessons learnt on urban spaces developed by each of the cities. We found that the mapping process indeed helped to trigger and focus productive sensemaking conversations. Limitations include the complexities of the maps, the mapping technology, and lack of dedicated time for sensemaking processes. Still, promising proof of concept has been shown in using participatory collaboration mapping for common agenda setting towards collective impact.

CCS CONCEPTS

• Human-centered computing • Empirical studies in collaborative and social computing • Social engineering (social sciences)

KEYWORDS

Collaborative communities, collective intelligence, common ground, participatory collaboration mapping, case study.

ACM Reference format:

1. Introduction

Typical case studies of learning communities have been about communities of practice with a well-established context. Such communities frequently evolve around a common field of expertise and a joint organizational context, with sufficient time available for their members to develop a shared body of knowledge, practices and social norms (e.g. [24]). Increasingly, however, we see a shift in focus from grasping the common identity of the community to a better understanding of its outer context: the rich, embedding network of (weaker) social capital and other relationships with the world outside of the community’s core ([10, 11, 25].

A special case of community of practice is emerging: the collaborative community. Such communities need to be productive and coordinate interactions that span a wide range of competencies and knowledge bases, while shifting constantly to accommodate the evolving nature of knowledge projects [1]. An example would be a community of professionals engaging in a substantial, long-term knowledge sharing or creation project, think of many international R&D consortia. Like in any community of practice, developing shared knowledge, practices, and social norms is still key in collaborative communities. However, the participants and practices are more fluid and diverse. Typically, there are significant political, project, budget and time constraints, making it hard to reach the level of maturity needed for them to become effective in reaching their collective goals.

Essential in reaching collective impact among such diverse collaborating stakeholders under pressure, is having a common agenda. Such an agenda shows the common ground in terms of a shared understanding of the problem and a joint approach to solving it through agreed upon actions, while acknowledging that each stakeholder may have a different definition of the problem and the ultimate goals [9]. To accelerate the development of collaborative communities, this process of co-discovering conceptual common ground for joint agenda setting needs catalyzing. Working on and with a common knowledge base can...
be a crucial socio-technical intervention to increase this collaborative capacity, as it provides a common lens for interpreting and using shared practice-based knowledge [22]. In [4, 5], we described how CommunitySensor - a knowledge-base driven approach to participatory collaboration mapping – supported by the online network visualization tool Kumu can help represent and interpret emerging common ground in community networks. Digital participatory mapping approaches in communities have been in use for quite some time. However, they are generally informed by cartographic paradigms and based on geographical information systems [15]. In our conception of exploring and building conceptual common ground, the rich collaboration ecosystem of community relations may form around a much wider range of core reference points than just geographical co-locations. Another significant category is co-discovering and using thematic common ground, such as national communications activities connecting South African Development Informatics researchers [2], and the United Nations Sustainable Development Goals, used by many communities and networks worldwide to coordinate their activities [27].

In [5], we described how we used participatory collaboration mapping to promote knowledge sharing and common agenda setting within and across agricultural communities of practice at the local, regional, and national level in Malawi. The conceptual foundation of CommunitySensor is an ontology explicitly specifying the conceptualization of community networks [4]. We used it to first define a common mapping language tailored to the Malawian situation. We then trained agricultural extension officers in both the CommunitySensor methodology and Kumu tool to let them help agricultural communities at the village level map their own collaboration ecosystems. Digital divide issues like lack of electric power were addressed by villagers mapping their agricultural initiatives using paper posters. The officers then took pictures and converted them into the online maps back in their offices. Since a common mapping language was used, local maps could be aggregated at the district and even national levels. These maps were then used as conversation agendas in, for example, district level meetings or even a national agricultural conference. The approach has been found helpful by many stakeholders involved to improve Malawian agricultural governance and continues to evolve.

In the case study presented in the current paper, we engage in a similar exercise for a very different kind of collaborative community: the BoostINNO community of representatives of ten European cities sharing lessons learnt about their social innovation practices. The theoretical underpinning and process details of CommunitySensor and Kumu were explained in [4, 5, 12]. In this case study, we share observations and insights about what worked and what needs further improvement in mapping practice in the BoostINNO case.

2. Co-Discovering Common Ground in the BoostINNO Collaborative Community Case

We first introduce the BoostINNO networking project. We then outline the community network ontology tailored to this project, focusing on the key role of the official BoostINNO themes and Urban Topics. We conclude by explaining how the maps may be used as conversation agendas in sensemaking processes.

2.1. The BoostINNO networking project

URBACT is an EU program that aims “to enable cities to work together and develop integrated solutions to common urban challenges, by networking, learning from one another’s experiences, drawing lessons and identifying good practices to improve urban policies.”

BoostINNO was one of the networks developed in URBACT from 2015–2018, with the aim to “enable public administrations to play a new role as public booster and brokers/facilitators of social innovation activities/projects/policies, by driving social innovation in, through and out the public sector.” The ten member cities included Gdansk, Paris, Milan, Braga (PT), Barcelona, Wroclaw, Skane County (S), Baia Mare (RO), Strasbourg, with Lviv (UA) as an observer.

During the project, this network was to become a tightly knit learning community to effectively share knowledge on social innovation good practices. Many activities and interactions took place. Still, it turned out to be complex to find common ground, since the cities had such widely varying interpretations of what social innovation is and the city initiatives were so wide-ranging. Mid-project, it was proposed that participatory collaboration mapping could help catalyze the process of co-discovering this much needed common ground. As the mapping process was not integrated in the overall project design from the start, only exploratory experiments were done. They were to inform thinking about the potential of such an approach in future, more systematically integrated similar efforts. In this paper, we tell the story of what we found out in the hectic, but rewarding process.

2.2. The BoostINNO community network ontology

In [4, 5], we introduced the conceptual model that is at the heart of the CommunitySensor community network ontology. Grounded in both community ontology engineering theory and the analysis of an array of cases, it shows core element and connection type (sub)categorisation, as well as their interrelationships. The element type (sub)categorisation suggests relevant elements of the common ground/agenda. Key element type categories that can be found in some form in most mapping cases include Purposes (WHY?), Interactions (WHAT and WHEN?) contributing to the purposes, Participants (WHO?) involved in the interactions, Content (HOW?) being used and produced in the interactions, and Resources (HOW?) supporting the interactions. The sub-

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1 http://kumu.io

2 http://urbact.eu/urbact-glance

https://urbact.eu/boostinno
categories further refine this classification, but we will leave them out here for lack of space.

The participatory mapping process starts by using this conceptual model to - jointly with core community members - define a mapping language tailored to their needs. The ontology suggests (sub)categories to be taken into account when defining the relevant element and connection types. It also allows for cross-case analysis by comparing the element and connection types of different maps on the underlying (sub)categories that they may have in common, even though the actual names of their element and connection types may be very different.

We refer the interested reader to [13], where we gave a detailed account of how we used the participatory mapping process in practice to support field building activities at a global agricultural conference.

2.3. The BoostINNO Themes & Urban Topics

In our community network ontology, Purposes are an important category of community network element types. This category consists of two sub-categories: Goals & Objectives and Themes & Topics. The latter are often overlooked in collaborations, but are in fact key when trying to discover ground that goes beyond specific operational goals and objectives. This was the case in the BoostINNO network, where participants from the various cities were not to create new social innovation projects, but to effectively share deeper lessons learnt around existing projects.

Starting point for finding thematic common ground were the four main BoostINNO themes: Spaces, City and Citizens, Governance and Policy Making, and Financial and Social Impact (App. 1: Figure 1). Although these themes were useful in organizing BoostINNO project activities, they were deemed too broad to compare initiatives across the cities and come to a concrete working agenda for knowledge sharing activities.

More potential thematic common ground was already available, however: the Urban Topics. These had already been defined at the URBACT program level and signify possible focal points in its participating networks, of which BoostINNO was one (of dozens). The topics consist of five main topic categories (Integrated Urban Development, Economy, Environment, Governance, and Inclusion) subsuming 36 working topics, such as Urban Sprawl (Integrated Urban Development), Circular Economies (Economy) and Low Carbon (Environment). Some sub-topics belong to multiple main categories, such as Abandoned Spaces (Integrated Urban Development and Environment) and Employment (Economy and Inclusion). These interdependencies are hard to grasp in a list of topics (the way they are presented on the URBACT website – Figure 2), but become easily visible when represented as a thematic map (Figure 3). This thematic network was at the heart of the many BoostINNO sensemaking views of the collaboration ecosystem maps that we produced in the project.

2.4. Making sense together: Linking maps and conversations

Jointly with community members mapping their collaboration ecosystem and creating relevant views is only part of the mapping process. Just as – if not more - important as the mapping artefacts is for the stakeholders involved to make sense of what they see on the maps, by engaging in conversation, while focusing on their collaborative goals. Not only do the conversations help members become more productive, but they also help to generate a sense of community through building common understanding as well as establishing and enforcing mutual expectations [23, 21, 1].

The sensemaking cycle (Figure 4) is the driving force of participatory collaboration mapping in CommunitySensor. It generates an evolving knowledge base of the collaboration ecosystem, consisting of one or more maps (including relevant views/perspectives). In conversations, participants can come to see the big picture, while also recognizing each other’s interests in collaborative context. Interpreting this evolving common ground, helps build a common agenda of issues, priorities and next actions. These growing insights and commitments in turn are added to the map, thus creating an ongoing sensemaking cycle.

3. The Participatory Collaboration Mapping Experiments

In the BoostINNO case, we experimented with two such sensemaking cycles: first, we used the approach to help community members find prospective project partners during a working meeting. Second, we compared the lessons learnt in the development of urban spaces in each of the cities.

3.1. Experiment 1: Finding project partners

Method

In November 2016, a working meeting was held in Barcelona with all cities present. One of the meeting goals was for each city to select a couple of other cities to visit and work closely with in the remainder of the project. Given that meeting time for this purpose was very precious, using a map of the collaboration common ground for common agenda setting could be useful.

Prior to the meeting, we sent out a survey asking all cities to briefly describe five of their “flagship projects”: local projects that could serve as showcases of what they had to offer to their European peers. We also asked them to index their projects with topics from the list of BoostINNO themes and URBACT Urban Topics. Moreover, we asked what “sharings” (concrete offerings) the cities wanted to “give” to and “use” from other cities. The author - in the role of mapping expert - then created a map of the collaboration ecosystem consisting of the aggregated flagship project survey results. Relevant perspectives on this map were to be discussed with the cities to help them find potential partners.

Findings

All partners contributed, most cities submitting the requested five flagship projects (called “products” in BoostINNO jargon). The aggregate map consisted of 178 elements, 693 connections and 6 common views on the map (Collaboration Ecosystem; URBACT & BoostINNO Themes; Themes and Products; Sharing Space; Sharing Space (Giving) and Sharing Space (Using)).
Table 1 (App.2) shows the classification of this collaboration ecosystem. Interaction and purpose-elements dominate the map. The majority of connections is about interactions making contributions to map, showing that the map was really about exploring the meaning of what the consortium is doing.

For the Barcelona meeting, the mapping expert set up a “mapping station”, consisting of a table, a laptop, and some extra chairs. City representatives came to see him in small groups to jointly explore the map to find out which thematic ground they had in common with potential partners. As the mapping expert operated the map, the visitors could efficiently select the best cities to talk to, which was of the essence given the limited meeting time available. In total, six of the cities came to the mapping station in the two hours available for the session.

Discussions were lively, and, without exception, the visiting city representatives were very interested in finding out how their projects related to those of the other cities (Figure 5). The main perspective used in the session was the Collaboration Ecosystem view (Figure 6), showing all elements and connections. However, on the fly some sub-views were produced which were found to be particularly useful in finding partners: single project view (Figure 7), single theme view (Figure 8), all projects & themes (Figure 9); projects for selected themes (Figure 10); and projects & themes for selected cities (Figure 11), as city representatives often already had cities in mind they might want to collaborate with.

3.2. Experiment 2: Comparing urban space lessons learnt

Method

Whereas the first experiment focused on finding collaborators, we next aimed to find common ground about the core interest of the network: learning about good practices on social innovation.

The idea was to identify a phenomenon important to all cities, so that practices could be compared; to collect the data per city; to create both individual city maps and an aggregate map of the collaboration ecosystem around that phenomenon; to do a plenary sensemaking session on what it all meant in the November 2017 Paris networking meeting; and jointly discuss the overall findings at the April 2017 final project meeting in Gdansk. The topic chosen was Urban Spaces, as these are important local hubs for social innovation, each participating city had at least one of them, and it was a core BoostINNO project theme.

To collect the data, another survey was sent out. The cities themselves selected their local urban space to be mapped. Each city was free in how to approach the representation of the collaboration ecosystem around their space. The only required commonality were the types of elements and connections being mapped. What elements and connections were mapped and how to do so was up to the cities.

Each city was asked to start by describing the key services that had emerged around their urban space (Figure 12), then to map the collaboration context of each of these services (Figure 13), such as:

- participating organizations, communities/networks and other stakeholders
- locations where the service is situated
- resources used in the service
- themes the service contributes to
- the success factors and challenges that indicate what lessons have been learnt in terms of good practices.

Findings

All ten cities (observer Lviv did not participate in this activity) provided the data for their urban space. All data sets consisted of at least the services provided by the space. Still, the collaboration ecosystems sketched around these services differed widely per space, both in types and number of elements & connections.

The data were used to create both separate city collaboration ecosystem maps (combining the contexts of all services, Figure 14) and an aggregate map combining the individual collaboration city ecosystem maps (Figure 15). We hoped that there would be many interconnections between the city maps, for example, through common themes, organizations, or services. However, not only were the city collaboration ecosystems as a whole very diverse, so were the elements used to describe them. For example, cities mostly mapped local organizations which did not operate in the other cities. Another observation was that cities had indeed mapped many themes, but often used local variations instead of the requested standardized URBACT Urban Topics. Although this provided interesting insights into the rich diversity in approaches, it also made it hard to make conceptual connections between the maps. Still, some interesting collaboration patterns were found at the individual city level. For example, Baia Mare had organized its urban space into a number of subspace (Figure 16), whereas the map of the Strasbourg urban space focused on the dense web of connections between the organizations, communities, and networks intersecting at their urban space (Figure 17).

These findings were presented and discussed at a plenary session at the Paris meeting, although the planned hands-on working session was cancelled due to other meeting priorities. However, as we all felt more common ground was waiting to be found just below the surface, the experiment was extended.

One inter-city collaboration pattern identified in the aggregate map was that the maps of the Baia Mare, Braga, and Skane urban spaces all had the stakeholders Cultural Institutions, Private Investors, and NGOs in common at the center of their maps (Figure 18). How were these stakeholders related in the urban spaces? Did their stories have something in common? Using another - post-Paris - survey, we tried to find out what - if any – the shared meaning of this collaboration pattern was for all the BoostINNO cities. The results were interesting but inconclusive: in some cities these stakeholders played a key role, in others they were barely visible. In this second survey, we had also again urged all cities to index their urban spaces with the official URBACT Urban Topics. In the returned surveys, all spaces had now indeed been indexed with those themes. Certainly, there were now many more inter-city connections between urban spaces (Figure 19).

The second version of the aggregate map consisted of 473 elements (including the 44 products collected in the first
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experiment as these are key links to thematic common ground, and 1208 connections. 23 auxiliary perspectives were also created, mainly to be used in the interactive presentation that was used in presenting the end result at the Gdansk final meeting.4 This classification of the BoostINNO collaboration ecosystem (Table 2) tells us much about its conceptual common ground. There is a great diversity of elements across the various ontological categories, suggesting rich urban space collaboration ecosystems. There are also many more (local) themes than the standardized URBACT ones, showing variety, but also the need for further work to arrive at the best common themes for sharing lessons learnt across cities. The connections also led to some interesting observations. First, in the spreadsheet used to collect the mapping data, the cities were not constrained on which element types could be linked in the connections. Whereas, for instance, we intended just Products, Services, and Spaces to be contributing to Themes, in the resulting surveys we also saw Stakeholders contributing to particular themes, which, upon reflection makes sense. The high absolute and relative number of contributions to connections also suggests the interest of the community in reflecting upon and learning what their spaces are about. Furthermore, there are many part-of-relations, often representing complex organizational structures (e.g. departments of organizations). This could be an indication that the formal/political aspects of the urban spaces matter.

Note that we classified Spaces as a Resource, as they are instrumental in generating new connections across the collaboration ecosystem. From the diverse ways in which the cities represented their urban space and the ensuing discussions during the subsequent network meetings - we learnt that such spaces are in fact much more complicated phenomena: some saw them as a kind of organization, others as a location, yet others as a bundle of services, and often as hybrids of these roles.

Finally, we also experimented with another way to co-discover common ground. The Kumu network visualization tool allows for a range of social network analysis-operations. Such operations can be very useful in identifying the deep connections that matter to communities [20]. For example, to find out what topics are most used to describe the urban spaces mapped, we ran an analysis using the indegree metric. The Top 5 URBACT Urban Topics (excluding the main categories and counting maximum one space per city) in our case were:

- Social Innovation (8)
- Local Economic Development (7)
- Participation (7)
- Entrepreneurship & SMEs / Capacity Building (4)
- Culture & Heritage (3)

Given the extensive participatory process we have gone through - including the community selecting the data and all the (individual and joint) reflection that had taken place - these topics should give a rough indication of the essence of what BoostINNO as a network is about, at least from the urban spaces-dimension.

The overall findings were presented at the Gdansk final meeting, in two plenary interactive map presentations/discussions, and follow-up conversations. Two perspectives deemed particularly useful – in accordance with the Barcelona experiment - was seeing the big picture of what themes all urban spaces had in common (Figure 20) and exploring the map around which urban spaces best fit selected themes (Figure 21).

4. Discussion

This case study provided a glimpse of the power – and complexity - of using participatory collaboration mapping to make better sense of the complex collaboration ecosystems of collaborative communities. Co-discovering and treading on the ground revealed is a key way toward more collective intelligence and action [17].

We found that exploring common ground is essential to more effectively unlock – and link - the rich diversity in insights one often sees in collaborative communities. By creating a common conceptual framework - no matter how rudimentary, as long as it is deeply owned - there is an organizing principle to effectively make sense of the uniqueness in the diversity. In our case, the thematic network of BoostINNO themes and in particular URBACT Urban Topics formed essential conceptual scaffolding for guiding the sensemaking conversations. A recommendation to other community networks would therefore be to find a similar “conceptual backbone” that works for them, that fits their sense of community. Better understanding one's common ground does thus paradoxically - not lead to more uniformity, but to more diversity, variety that enriches and unites instead of divides.

Our analysis to create this conceptual backbone for co-discovering common ground was only preliminary. Still, just by looking at the element and connection types, their categories, numbers, and perspectives, one gets an immediate feel for the essence of the community network, its "collaboration DNA". For instance, in the Barcelona Finding Project Partners-experiment, we saw how links between projects and themes predominate, whereas in the Paris/Gdansk Urban Spaces-experiment, a much more varied tapestry was woven between such diverse concepts as participating community/networks and organizations, services, resources, results and outcomes, and success factors/challenges. We also did a rudimentary form of social network analysis by calculating the most-connected themes based on the indegree indicator. In [5], we conducted a more advanced form of "semantic community network analysis", also looking at the subcategories of the element and connection types used, as well as using two other centrality measures (closeness and betweenness) for identification of potential common ground. We will expand our work on (inter)actively using such measures in common agenda setting processes by building on the rapidly growing body of research on addressing wicked societal problems, such as collective impact approaches, e.g. [16, 8, 9, 7, 6].

Participants often think that collaboration mapping means “just getting started”, which the visually dazzling features of

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4 See https://urbact-boostinno.kumu.io/boostinno-participatory-collaboration-mapping-experiment for the interactive presentation.
network visualization tools like Kumu make very easy to do. However, this is not sufficient for achieving collective impact. Meaningful community building requires a careful, engaged socio-technical systems design/innovation and community involvement process [3] - in our case starting with the scoping and joint definition of a relevant mapping language. The technology is essential, but only part of the equation. The maps as artefacts were only meaningful since the mapping process was so participatory: the mapping expert working together closely with the core project team in designing the language and experiments; the community being consulted on whether the language and experiments made sense; the case selection and data collection by the cities themselves; the many plenary and individual sensemaking conversations that took place throughout the project. Our approach thus adds a living community layer to more traditional collaborative engineering methodologies [19]. Whereas those tend to be dominated by formal representations elicited by external experts, participatorily created collaboration maps in contrast are on the boundary of the “systems world” of information systems and formal semantics and the energetic “lifeworld” of the real-world collaborative communities.

No formal evaluation of the benefits and limitations of the mapping methodology was conducted. Instead, there were many reflections during conversations: one-on-one during project partner sessions at the mapping station in Barcelona, a plenary presentation and discussion of the first version of the urban spaces map in Paris, and two plenary presentations and many informal discussions of the second version of that map in Gdansk, as well as many other conversations throughout the project. In general, participants were fascinated by the approach, eager to see how their own parts were positioned in the BoostINNO whole, and they found the maps inspiring and thought-provoking. Also, a wide range of (potential) applications came up over time: for example, showing the project “collaboration core”, finding collaboration partners, defining relevant conversation agendas, storytelling, and program management.

The usefulness of the mapping process was also indicated by the authors of the final report: “[I]n the Boosting Social Innovation network we emphasize that without building, reinforcing and understanding the importance of human relations nothing can be achieved. Within the network it was only when the participants got to know each other that they started to really interact, to exchange and to work on a priori trust. The analysis of their structures shows that this aspect of co-construction and co-decision is central to the success of cities going forward and has a slowing down effect where it does not exist. This was strongly emphasised by the work done on the quality of relations through the sense mapping process. [26]”. Another concrete indicator of its value was that - inspired by our approach - URBACT program management created their own collaboration ecosystem map using the same URBACT Urban Topics to show the thematic connections between multiple of their networks during the URBACT City Festival in Lisbon in September 2018.

There were also limitations. Generally, participants have two responses when shown the maps: they are fascinated, but also perplexed by the complexity. Indeed, ecosystem maps are complex, yet trying to make sense of the fragmented reality of working together on large, long-term, inter-connected projects without having such knowledge maps as a “visual anchor” is even more daunting [18]. Still, what ecosystem perspectives best fit what collaborative needs remains an open question.

Technology is also still in the way. The functionalities for gathering data, creating maps, and selecting relevant views are still cumbersome. Data had to be supplied by participants in the form of complex spreadsheets. For example, separate element and connection worksheets needed to be synchronized manually by the contributors, making sure that each element used in a connection in one worksheet, was fully defined in the other worksheet. This was often confusing and error-prone. Similarly, it is still hard to use the Kumu tool to synchronize multiple versions of element and connection definitions. A definition imported from one spreadsheet can then unintendedly overwrite the definition made in an earlier imported spreadsheet by another participant.

An organizational challenge was the lack of sensemaking time. Our mapping experiments were added mid-flight, when all work packages had already been designed and were in full-swing. A recommendation is therefore to build in mapping from the start of a project, possibly as a separate work package - when collective sensemaking about the project’s purposes and directions is still very open-ended and urgent. This charting of common conceptual space is especially needed in complex domains such as social innovation, with its numerous wicked problems, perspectives, approaches, and results [14]. Jointly representing common conceptual ground in a richly visualized, semantics-based context of varying interests and perspectives can help make such sensemaking sessions much more focused, rewarding and impactful. The common agenda setting role of the methodology can then also be more systematically developed. For example, collaborations could be sketched only roughly at the kickoff of the project. As the community - and thus its collaboration ecosystem - evolves, the maps could then grow in relevant detail and richness, by re-interpreting the maps in intermediate sensemaking sessions.

5. Conclusion

We presented the BoostINNO case as an example of applying a participatory collaboration mapping process to co-discover common ground in an intricate, international collaborative community. This community was created as part of the URBACT program to share lessons learnt between European cities on social innovation. Given the complexity, as well as political and time pressures, catalyzing the process of finding conceptual common ground in the rich diversity of backgrounds, approaches and interests in such complex collaboration contexts is key.

We shared our experiences to co-discover common ground using the CommunitySensor methodology for participatory community network mapping together with the Kumu online network visualization tool. We conducted two experiments: finding project partners and sharing insights on developing urban spaces as local hubs for social innovation in the cities. The results
indicate that our approach indeed helped to catalyze these learning activities. Still, many challenges remain, such as the complexity of the visualization technologies used and the lack of time for sensemaking efforts. We are also still only at the early stages for finding relevant patterns and indicators for what it means to have (or lack) common ground, and to embed the mapping process in more general common agenda setting processes.

Participatory collaboration mapping to co-discover common ground in a collaborative community shows a lot of promise. Although much work still remains to be done, we hope it can contribute to communities having more collective impact. As a world in crisis, we urgently need every help we can get in finding what we have in common, instead of what increasingly divides us.

ACKNOWLEDGMENTS

Part of this research was supported by the EU URBACT BoostINNO project. The author wishes to thank the “BoostINNos” for their enthusiasm and involvement in jointly visualizing, exploring, and interpreting their common ground.

REFERENCES


APPENDIX 1: A VISUAL WALKTHROUGH OF THE BOOSTINNO MAPPING EXPERIMENTS

Figure 1: The BoostINNO Themes

Figure 2: The URBACT Urban Topics - listed (excerpt)

Figure 3: The URBACT Urban Topics - on the map (excerpt)

Figure 4: The sensemaking cycle

Figure 5: Making sense together - finding project partners

Figure 6. Exploring the map: the collaboration ecosystem view
Figure 7: Exploring the map: single project view

Figure 8: Exploring the map: single theme view

Figure 9: Exploring the map: all projects & themes (excerpt)

Figure 10: Exploring the map: projects for selected themes (excerpt)

Figure 11: Exploring the map: projects & themes for selected cities (excerpt)

Figure 12: Urban space services (selected space)
Figure 13: The context of a selected urban space service

Figure 14: The total collaboration ecosystem of an urban space (excerpt)

Figure 15: Looking for the common ground BETWEEN the urban spaces (excerpt)

Figure 16: Collaboration pattern- subspaces (excerpt)

Figure 17: Collaboration pattern- strongly connected network participants (excerpt)

Figure 18: Inter-city collaboration pattern: common stakeholders. But is it meaningful?
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Links to map views in selected figures:

You can interactively explore the high-resolution views presented in the selected figures via these links:

- Figure 1: The BoostINNO Themes [https://kumu.io/urbact-boostinno/urban-spaces-experiment#collaboration-ecosystem-v2/boostinno-themes]
- Figure 2: The URBACT Urban Topics [http://urbact.eu]
- Figure 3: The URBACT Urban Topics - on the map [https://kumu.io/urbact-boostinno/urban-spaces-experiment#collaboration-ecosystem-v2/urbact-urban-topic]
- Figure 4: Exploring the map: the collaboration ecosystem view [https://kumu.io/urbact-boostinno/finding-project-partners-experiment#boostinno]
- Figure 5: Exploring the map: single project view [https://kumu.io/urbact-boostinno/finding-project-partners-experiment#boostinno/pars-les-berges-de-seine?focus=1]
- Figure 6: Exploring the map: single theme view [https://kumu.io/urbact-boostinno/finding-project-partners-experiment#boostinno/themes-products]
- Figure 7: Exploring the map: all projects & themes [https://kumu.io/urbact-boostinno/finding-project-partners-experiment#boostinno/themes-products]
- Figure 8: Exploring the map: projects & selected themes [https://kumu.io/urbact-boostinno/finding-project-partners-experiment#boostinno/themes-products?selection=%5B%22label%22%3D%22Education%22%5D,%20%5B%22label%22%3D%22Employment%22%5D&focus=1]
- Figure 9: Exploring the map: urban spaces & themes [https://kumu.io/urbact-boostinno/finding-project-partners-experiment#boostinno/themes-products?selection=%5B%22label%22%3D%22Youth%22%5D,%20%5B%22label%22%3D%22Ecology%22%5D%2C%20%5B%22label%22%3D%22Smart%22%5D%2C%20%5B%22label%22%3D%22SD%22%5D%2C%20%5B%22label%22%3D%22Barcelona%22%5D%22SD%22%5D&focus=2]
- Figure 10: Exploring the map: projects & themes around selected cities [https://kumu.io/urbact-boostinno/finding-project-partners-experiment#boostinno/themes-products?selection=%5B%22label%22%3D%22Barcelona%22%5D%22SD%22%5D%2C%20%5B%22label%22%3D%22Gdansk%22%5D%22SD%22%5D%2C%20%5B%22label%22%3D%22London%22%5D%22SD%22%5D&focus=2]
- Figure 11: Exploring the map: urban spaces & themes [https://kumu.io/urbact-boostinno/urban-spaces-experiment#collaboration-ecosystem]
- Figure 12: Exploring the map: urban spaces (selected space) [https://kumu.io/urbact-boostinno/urban-spaces-experiment#collaboration-ecosystem/open-metropolis-workshop-and-network-creation?focus=1]
- Figure 13: The context of a selected urban space [https://kumu.io/urbact-boostinno/urban-spaces-experiment#collaboration-ecosystem/innovation-and-smart-city-project-service-market-quality-of-turn?focus=1]
- Figure 14: The total collaboration ecosystem of an urban space [https://kumu.io/urbact-boostinno/urban-spaces-experiment#gdonk]
- Figure 15: Link to the map: looking for the common ground BETWEEN the urban spaces [https://kumu.io/urbact-boostinno/urban-spaces-experiment#collaboration-ecosystem]
- Figure 16: Link to the collaboration pattern- subspaces [https://kumu.io/urbact-boostinno/urban-spaces-experiment#collaboration-ecosystem]
- Figure 17: Link to the collaboration pattern- strongly connected network participants [https://kumu.io/urbact-boostinno/urban-spaces-experiment#collaboration-ecosystem]
- Figure 18: Link to the collaboration pattern- common stakeholders. But is it meaningful? [https://kumu.io/urbact-boostinno/urban-spaces-experiment#collaboration-ecosystem]
- Figure 19: More common ground between urban spaces in the aggregate map (excerpt)
- Figure 20: The map: all urban spaces & themes (excerpt)
- Figure 21: Exploring the map: spaces around selected themes (excerpt)
## APPENDIX 2: COLLABORATION ECOSYSTEM CLASSIFICATIONS

### Table 1: Collaboration Ecosystem Classification: Experiment 1 - Finding Project Partners

<table>
<thead>
<tr>
<th>ELEMENTS</th>
<th>Num.</th>
<th>Perc.</th>
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<tbody>
<tr>
<td>PURPOSES</td>
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<td>27.8%</td>
</tr>
<tr>
<td>Theme</td>
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</tr>
<tr>
<td>INTERACTIONS</td>
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</tr>
<tr>
<td>Product</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>Project</td>
<td>1</td>
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</tr>
<tr>
<td>Programme</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sharing</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>PARTICIPANTS</td>
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<td>11.8%</td>
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<tr>
<td>City</td>
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<tr>
<td>URBACT Local Group</td>
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<tr>
<td>CONTENT</td>
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<tr>
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### Table 2: Collaboration Ecosystem Classification: Experiment 2 – Comparing Urban Spaces

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<tr>
<td>Result/Outcome</td>
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<tr>
<td>Location</td>
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<tr>
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<tr>
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### CONNECTIONS

**Experiment 1 - Finding Project Partners**

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<th>Dest Element Type</th>
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<th>Perc.</th>
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<td>City</td>
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<td>Project; ULG</td>
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<tr>
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<td>Produces</td>
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<td>Uses</td>
<td>Sharing</td>
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**Experiment 2 – Comparing Urban Spaces**

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<td>City; Community/Network; Space; Stakeholder</td>
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<td>City; Organization; Space</td>
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<td>Result/Outcome</td>
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<tr>
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<td>Strengthens</td>
<td>Organisation; Service; Space</td>
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<td>Service; Space; Theme</td>
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