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1.0 Introduction

This report presents the findings from the UBC Knowledge Map Survey Phase One – Needs Assessment. The UBC Knowledge Map project uses social network analysis method to survey the intellectual interactions among UBC researchers, instructors and external collaborators characterize their extensity and intensity, and map the Collaborative Knowledge Network (CKN).

In Phase One – Needs Assessment survey data from an online survey were drawn from the UBC Community Learning Initiatives Email list. A total number of 897 external collaborators have been contacted of which 144 participated in the survey. Out of these respondents 83 individuals provided detailed responses in turn identifying 162 collaborators in total.

A university builds upon its scholars but sparkles with the interactions among them. In addition to the formal institutions of faculties and departments, researchers are more fluidly connected via other channels, such as co-teaching a course, co-authoring a paper or co-brainstorming an idea. Do administrative boundaries of faculties and departments respect the more organic ways in which researchers interact? What is more, universities interact beyond the confines of the institutions with a number of external partners ranging widely from public institutions, to private firms and non-profit organizations. What are these interactions and what fields do they cover?

This research uses social network analysis method to survey the intellectual interactions and instructors at UBC, characterize their extensity and intensity, and map the Collaborative Knowledge Network (CKN). Using the CKN, we can identify cohesive sub-communities at UBC and beyond based on researchers' intellectual collaboration and compare them to the administrative boundaries. The key data source will be a 5-minute online questionnaire survey among UBC researchers and existing external collaborators. To our best knowledge, this study will be the first attempt to partition a large-scale, complex and multi-disciplinary research institute based on researchers' intellectual interactions. The comparison between this partition result and the formal administrative structure will reveal the (in) consistency between the two distinct modes of researcher interactions and recommend ways in which the administrative structure can be fine-tuned to better facilitate the interactions among researchers and the wider community.

Social network analysis has been widely applied in sociology, management science, public health, geography, social psychology etc. But the longitudinal and large-scale applications in multi-disciplinary research institutes are rare. In addition to providing UBC with a powerful and practical tool of understanding and presenting its research strength, this research will contribute to the scholarship of social network analysis by applying it to the intellectual interactions within a complex and multi-disciplinary research organization.

1.1 Research Contribution

1. To our best knowledge, this study is the first attempt to partition a large-scale, complex and multi-disciplinary research institute based on researchers' intellectual interactions. The comparison between this partition result and the formal administrative structure will reveal the (in) consistency between the two distinct modes of researcher interactions.

2. This study identified the intellectual interactions among researchers that are beyond what have been commonly characterized by co-authorship of papers. This research covers more diversified means of collaboration including brainstorming, which is an essential part of collaboration but not necessarily materialized into co-authorship.

3. The study provides the social network research community with a valuable data source of a longitudinal and large-scale network of intellectual interactions within a multi-disciplinary research institute. We identified four (4) objectives in this regard:

a) To survey the intellectual interactions between UBC faculty/staff/students and their community partners, including joint research, collaborative teaching, student learning, consulting services, voluntary community services and other interactions and collaborations.

b) To characterize each of the collaboration in terms how it was initiated, the role of the partners, manner of collaboration, topics and issue areas as well as geographic coverage of the interaction.

c) To develop a visual representation of the UBC Knowledge Map that includes a sub map of community collaborations. The goal is to create a central portal that supports connecting and furthering interactions amongst UBC and community partners.

d) To provide a quantitative measure for the breadth, depth, pattern and impact of collaborations between UBC and its community partners. Here identifying leaders and clusters of UBC members in terms of community engagement as well as finding innovative programs and key geographic regions. This in turn may help to inform and suggest new UBC community initiatives and/or services. Here also allowing the matching of services and facilitating of new interactions.

1.2 Impact Value to UBC

1. **Measurement:** this research provides UBC and the Community Learning Initiative in particular with a quantitative measure for the degree of collaboration among researchers and wider community a basis for comparison across units, disciplines and community interactions.

2. **Identification:** this research will help UBC identify: 1) innovation edge: emerging clusters of researchers, who originate and spread new ideas across campus; 2) core strength: established clusters of researchers, who are highly connected and glue the community together.

3. **Informing unit re-structuring:** this research will help evaluate faculty/unit structure by examining if the current institutional structure matches the intellectual collaborative relationship and help us better understand UBC by identifying cohesive clusters of scholars based on their interactions. In addition the research can also help suggest new initiatives to facilitate and promote collaborations.

1.3 Research Methodology

This research implemented a 5-minute online questionnaire survey among UBC researchers. Enterprise Feedback Management (EFM) is a Canadian-hosted survey solution complying with the BC Freedom

of Information and Protection of Privacy Act. This enterprise-level survey tool is web-based and is a comparable alternative to the US-based Survey Monkey. The survey tool has advanced features such as question branching, cross-tabulation, real-time results sharing, and results filtering. The University of British Columbia's IT's holds a contract with Verint Survey Tool through the BC higher education consortium.

The portal to the survey including the questionnaire is available at <https://surveyfeedback.ca/surveys/wsb.dll/s/1g20e1?paction=resume&index=0>.

In Phase One the data collected will be analyzed to identify major trends and needs that Community Learning Initiative partners have identified. Moreover drawing on text based input a more qualitative needs assessment is possible before moving the project into Phase Two – the mapping of the social network interactions - employed to exploit the rich data from the survey. Specifically, exponential random graph model will be used to represent the structure of the social network in a stochastic framework; and the spectral optimization algorithm will be used to identify the cohesive sub-communities based on intellectual interactions.

2.0 Performance: The Measurement

2.1 Target Population

The survey drew on the Community Learning Initiative (CLI) Email list containing a total number of 897 external collaborators. The inclusion criteria captured a wide range of community partners that engage with the researchers, staff and academics at UBC; especially those community partners involved through the UBC Community Learning Initiative. There were no exclusion criteria apart from incomplete contact information or those that had been out of date.

2.2 Measurement Period

A total of three invitations were forward to the CLI Email List generating the following overall response rates during a three-month measuring period from the 2nd of August 2013 until the 10th of October 2013.

Subject*	Date Sent	Sample Base	Success	Click	Submit
UBC Knowledge Map Survey Request	8/2/2013 12:02 pm	897	830	242	62
Reminder: UBC Knowledge Map Survey Request	8/19/2013 4:25 pm	897	828	202	32
Final Reminder: UBC Knowledge Map Survey Request	10/10/2013 1:53 pm	897	817	181	16

*Respective Email invitations are attached in the appendices.

2.3 Data Source(s)

The survey is subdivided into four sections – See overview below:

Description Survey Sections*	Data Collected	Purpose
Overview and Description of Project, Consent Form and Consent Given	Consent Verification	Familiarize Survey Participants with Objectives and Scope Project. Information on Data Usage and Consent Verification
Survey Participant Information	Full Name, Job Title, Postal Code, Email, Website Link, Organizational Type and Sector	Personal Data of Participant and Organizational Affiliation
Identified Collaborators	Up to 3 (three) collaborators, Full Name, Organization Affiliation and Identification, Postal Code, Initiation Process, Collaboration Objectives and Triggers, Level of Collaboration Establishment, Benefit of Collaboration to Survey Participant	Quantitative and Qualitative Assessment of Collaborations, Identification of future Survey Participants for Phase Two, Geographical Data, Subjective Assessment of scope and quality of collaboration
Comments	Survey Participant Comments on Survey	Insights into usability and future consideration as identified by Survey Participants

* The full survey is reproduced in the appendices.

2.4 Measurement System Analysis

The overall data collected provided important information on the interactions amongst community partners with the diverse institution and individuals at the University of British Columbia. The validity of the survey is high in regards to its quantitative and qualitative scope.

Apart from Initiators personal and professional data the measurements include insights into Initiators organizational affiliation, Cross-Sector affiliation and Specified “Other.” Moreover, it offers useful data on geographical location and specification of position within organizations. The Collaborators section offers insights into the collaborators Personal and Professional Data, Number of collaborators per survey participants (from 1 to 3), Collaborators Organizational Affiliation, the initiation process of the collaboration, its strength and impact. The text sections offer qualitative data on collaboration objectives, triggers and survey participants comments on future directions and utility of the project.

Some limitations stem from the tradeoff to produce a short and concise survey that may come at the cost of specificity. Also, given that a number of unclear responses were given not all the data could be fully used in the analysis. In addition, data had to be manually cleaned for typos and grouped. This was, apart from being a labor-intensive issue, also one that entailed subjective qualification on the part of the analyst.

• 2.4 Target Performance Levels

Given the total number of 897 possible respondents the overall response rate lies at 17,1% (144 responses). 82.9% participants abandoned the survey either because they did not consent or did not complete the survey. Out of those 58% (83 survey participants) completed fully and their data was used for the present analysis. The overall **survey performance** thus lies at **9.25%** or one in ten.

A total number of 162 collaborators were identified in the survey. As such the average respondent from usable survey data provided an average of **1.95 collaborators**. This indicates that survey participants usually have 2 collaborators at UBC. (This ratio could rise if survey participants can add more than 3 collaborators, however.)

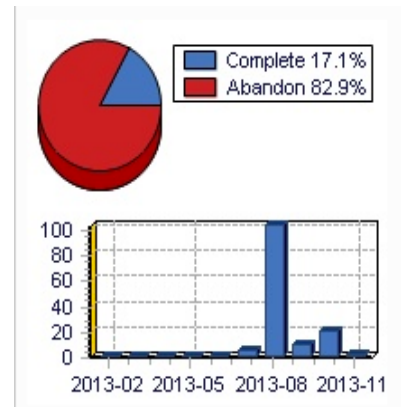


Table1: Response Rate by Completion Ratio and Date

3.0 Data Analysis and Interpretation

In this section this report discusses the major findings of the survey analysis Part One –Needs Assessment. It proceeds by discussing results as outlined under 2.0 Performance: The Measurement – Data Source(s).

3.1 Overview and Description of Project, Consent Form and Consent Given

Upon receiving the survey request by Email respondents were invited to participate in the UBC Knowledge Map online survey. Participants were – by following the survey link –first introduced to the project on a platform that uses a UBC template. The survey description included a link to a Youtube video of an existing UBC Knowledge Map visualization. It also explained – in clear non-academic language – the objectives, scope and the approval through the UBC Behavioural and Research Ethics Board (H11-01213 "Mapping UBC").

By proceeding participants could read and familiarize themselves with the consent form and verify that they have read and understood the consent they provide by offering insights into publicly available data on themselves and their respective collaborators.

A total number of 5 respondents did not consent and aborted the survey at this stage. It can be surmised that consenting to the project was not a significant hindrance to participation. The main issue seemingly was that participants chose to either proceed and fill the survey or abandon it all together. Some respondents wrote Emails to the research assistant explaining that they would not participate.

The main reasons provided were “automatic out of office replies,” “privacy issues” “no longer with the organization” and/or “not understanding the value of the project.” The research Assistant received a total number of 25 Emails during the First Survey request, 55 for the Reminder Request and 29 for the Final Reminder. Thus a total of 109 Emails were received of which the majority was answered if appropriate.

3.2 Survey Participant Information Analysis

Out of the 83 participants that filled the survey a number of interesting findings are discussed below. I focus here not on the personal and professional information, which is available in the database itself.

3.2.1 Organizational Affiliation

The majority of participants are from the **Non-Profit** sector (45 respondents at 54%), followed **School** (16 respondents at 19%) to **None** (13 respondents at 16%), with **Government** (3 respondents at 4%) to **Business** (3 respondents at 3%) and **Other** (3 respondents at 3%).

These findings indicate that the large majority of survey participants are working in the non-profit sector or the educational sector. Surprisingly the Government and Business Sector are underrepresented (See Chart below).

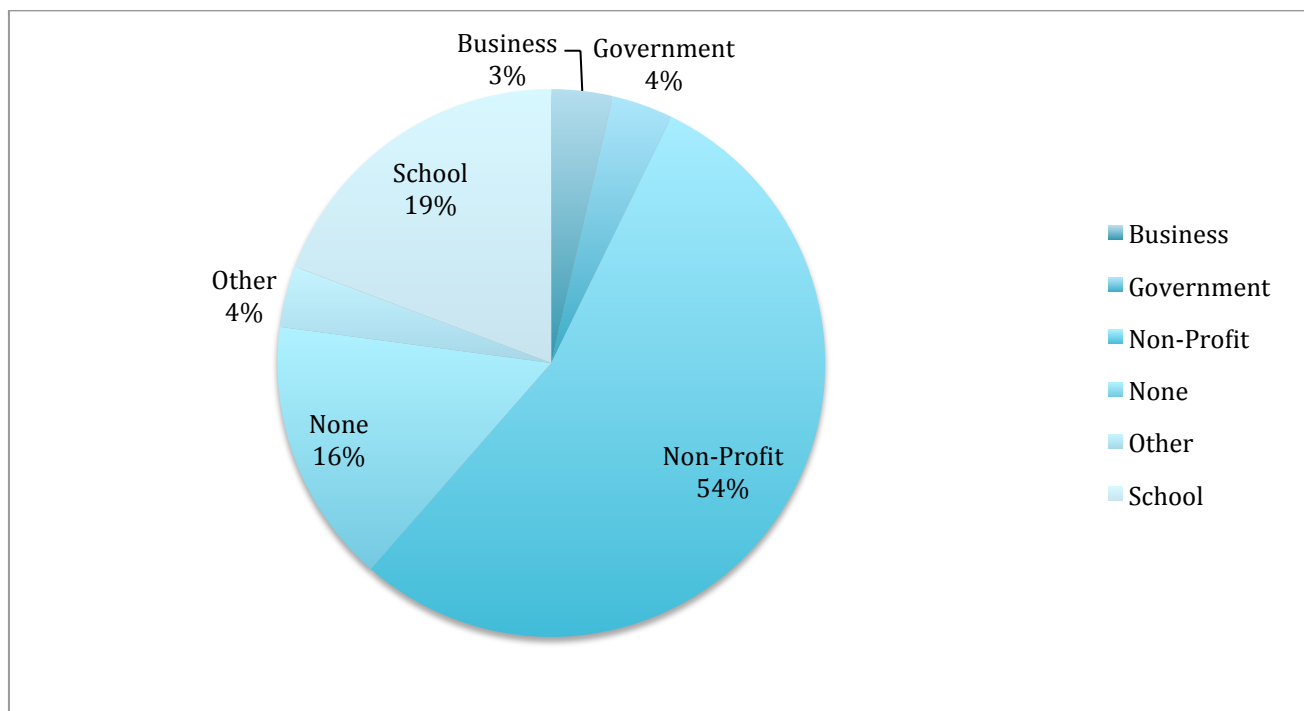


Table 2: Survey Participants by Organizational Affiliation

3.2.2 Aggregate Sectors “Other” and “Non-Specified”

Those participants that answered the Sector in which they identify their work 65 respondents provided the following insights that are grouped alongside clusters around certain sectors.

3.2.3 Environment Cluster – 47%

The largest cluster of sector revolves around environmental issues. Of the 20% of participants describe the sector in which the work under “Environment”; 15% “Environment/Other”; 3% “Environment/Health” and at 3% respectively “Advocacy/Business/Environment/Health”; “Advocacy/Environment/Health”; “Advocacy/Environment/Health/Other”

3.2.4 Health Cluster – 21%

With a value of 15% respondents self-identified to be situated in the “Health” sector; at 3% “Health/Other” and “Environment/Health” respectively.

3.2.5 Advocacy Cluster – 21%

14% of respondents are working in the “Advocacy/Other” sector followed at 3% respectively in “Advocacy/Business/Environment/Health”; “Advocacy/Environment/Health”; “Advocacy/Environment/Health/Other”

3.2.6 First Nation Cluster – 15%

At a response rate of 9% participants described their sector as “First Nation”; 3% “First Nation/Other” and “Advocacy/First Nations/Other”

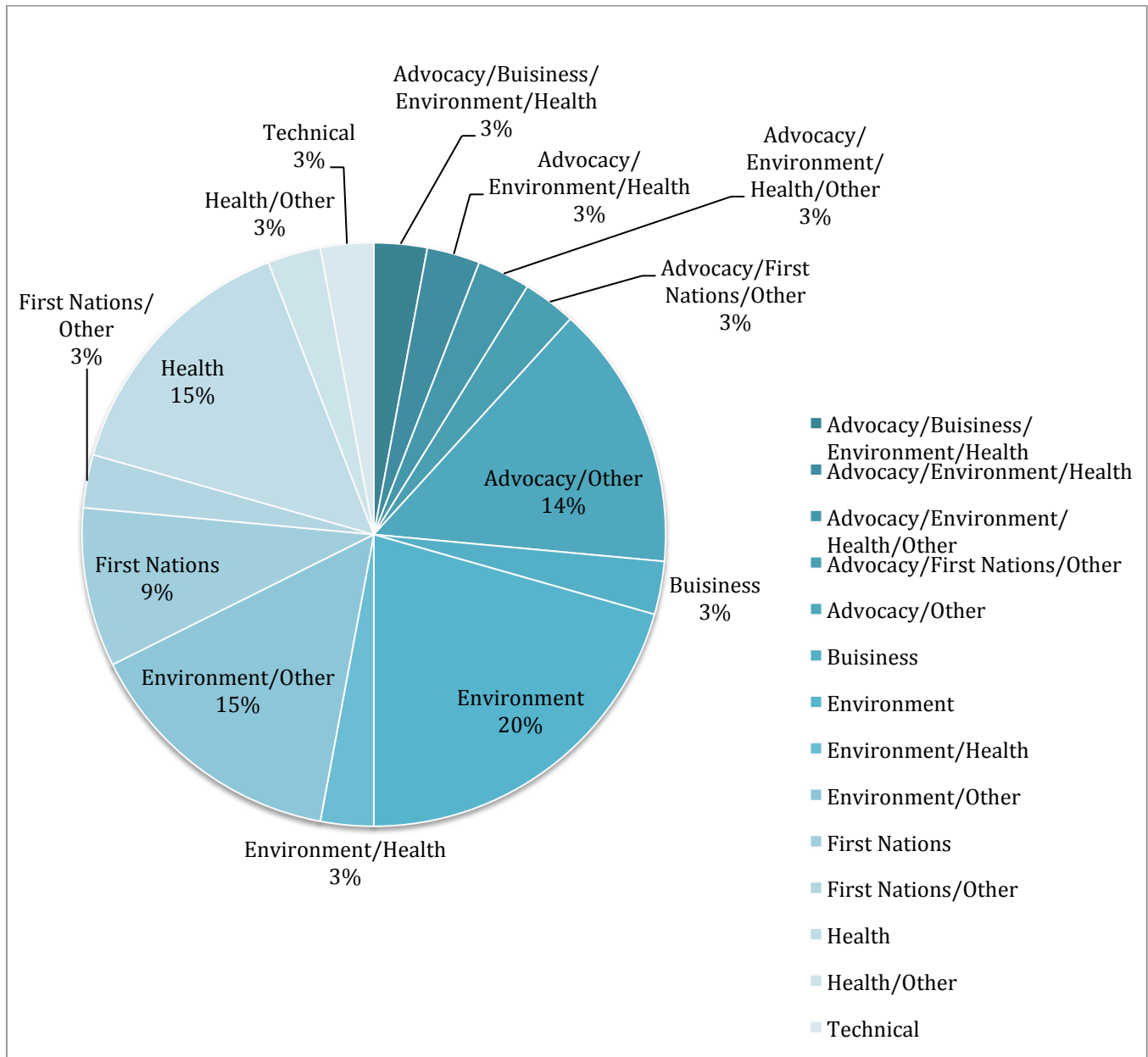


Table 3: Aggregate Sectors “Other” and “Non-Specified”

3.2.7 Continued - Aggregate Sectors “Other” and “Non-Specified”

50% participants specified the “Other” sector as part of “Education” (18 respondents), followed by “Social Services” (5 respondents); “Arts” (5 respondents) “Youth” and “Food” (3 respondents).

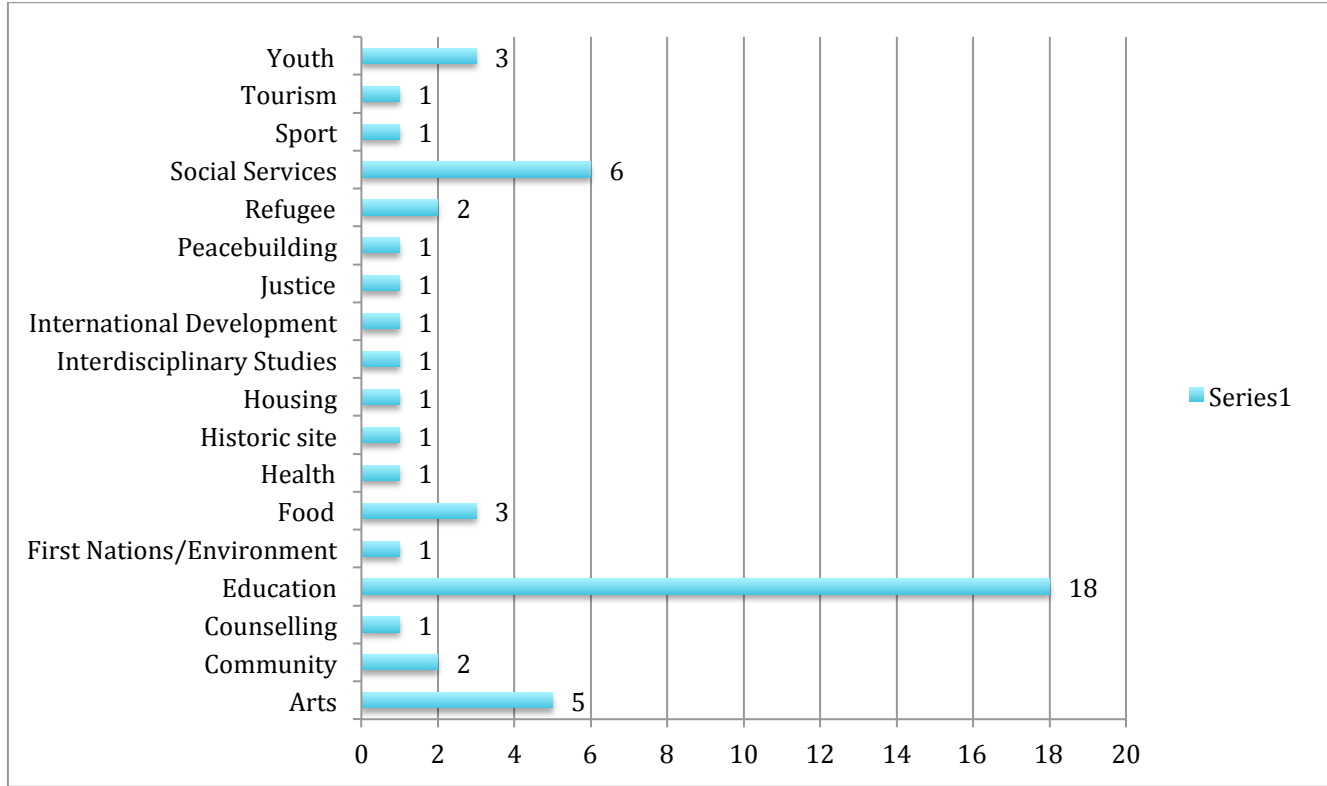


Table 4: Specified “Other” Grouped Results

These results show that sectors, which should be explicit part of the survey, are “Education” and “Social Service” as well as “Arts”. Indeed, it is clear that the “Education” sector is crucial and in fact may be viewed as an additional Cluster.

The clusters become even more evident by analyzing the data that participants provided in respect to the “Other” specified sector. Here a number of key terms come to the fore as visualized in the Word Cloud (right). Major Key terms include: education, community, social, services, teaching, development, arts and food.



Table 4: Word Cloud “Triggers & Objectives”

3.2.8 Geographical Location of Survey Participants

By mapping the survey participant's location geographically by Zip Codes it is evident that most participants are located in Vancouver Downtown and or near-by neighborhoods (36 participants - see maps below). Only a small number of survey participants are located in Greater Vancouver (16 participants) or on Vancouver Island (6 participants). The number of out of province is even smaller.

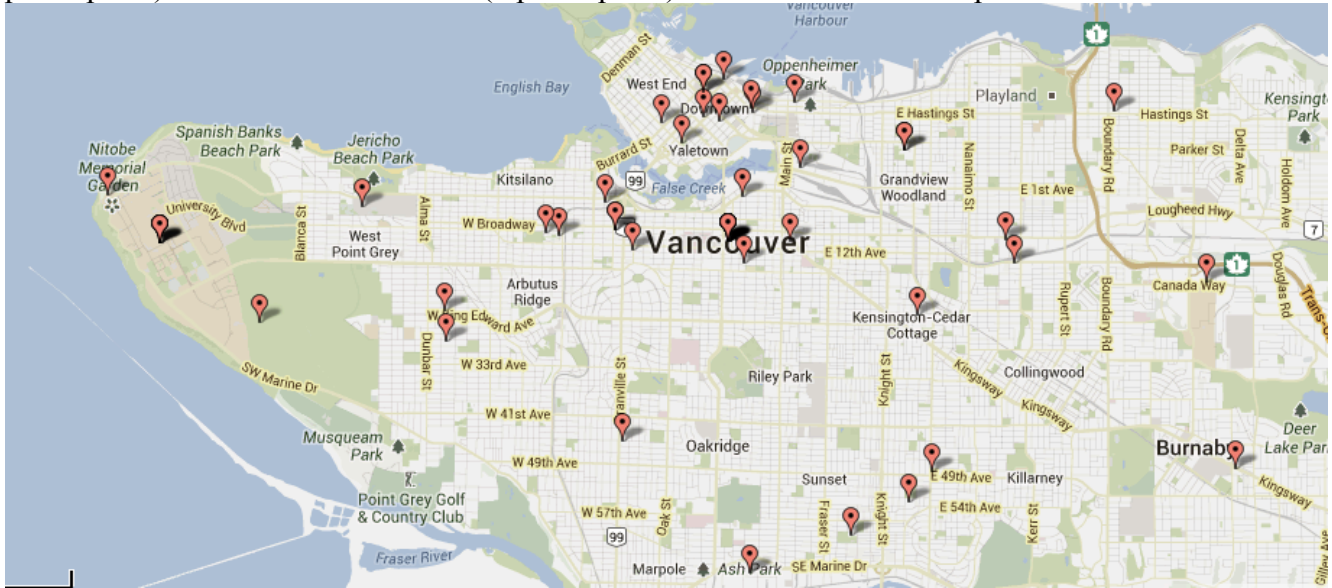


Table 5: Geographical Location of Survey Participant Vancouver

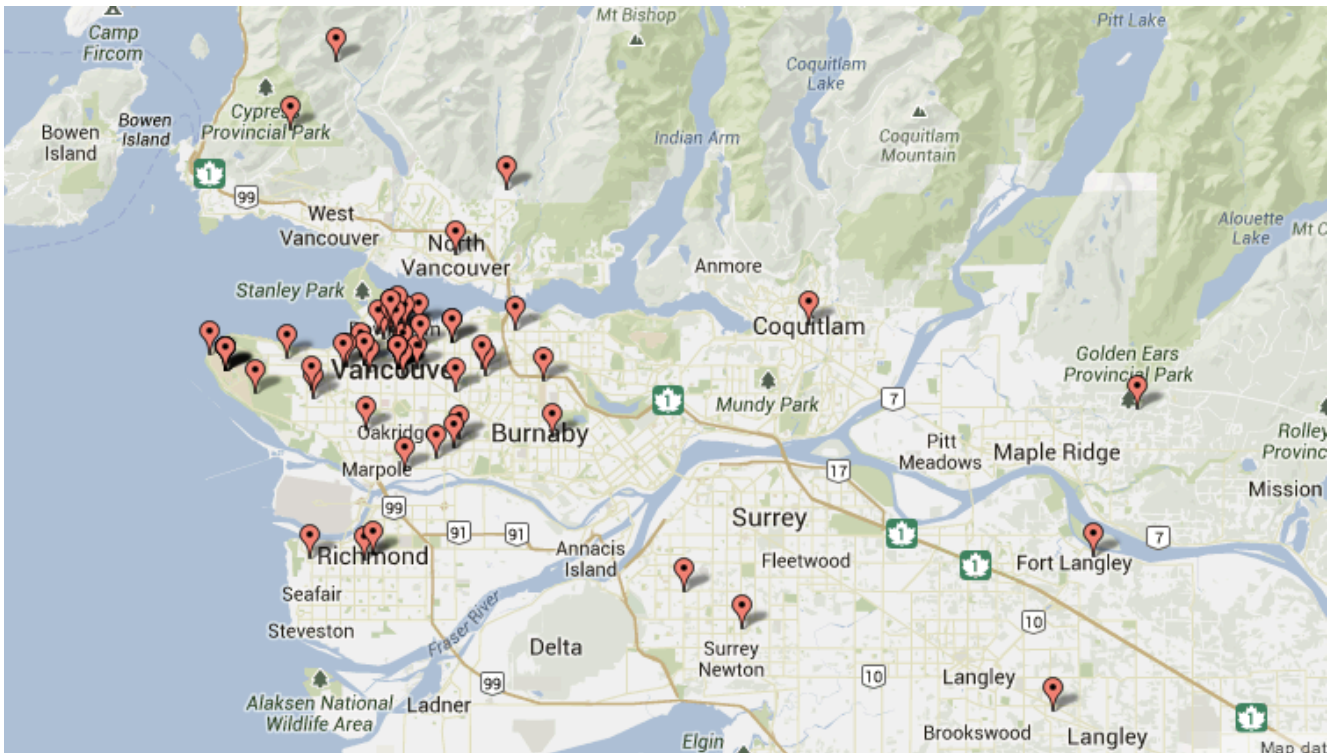
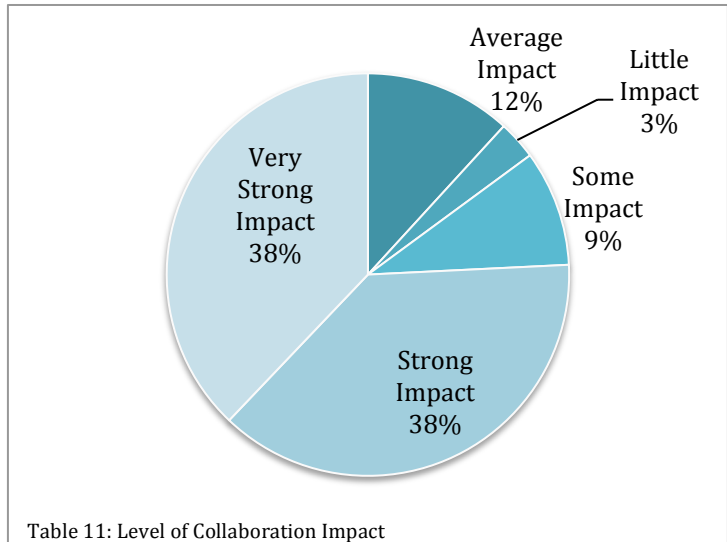


Table 6: Geographical Location of Survey Participants British Columbia

3.3.5 Level of Collaboration Impact

As in the case of the strength of collaboration survey respondents were asked to qualify the benefit the collaboration has thus far had on their own work. Out of the 161 respondents 38% judged the collaboration to have a “Very Strong Impact” on their worked followed by 38% who feel the collaboration has a “Strong Impact.” For 12% the impact was “average” with only 11% on the lower scale.

These results make a strong case for the impact that community partners see in interacting with UBC and the Community Partner Initiative in particular. More than three quarters of the collaborations as such have a positive net benefit for external partners.



3.4 Survey Participant Comments

Under the comments section many respondents appreciated the project and the ongoing work they have with UBC. Some asked for improved collaboration between “academia and industry,” “international collaborations,” and other not yet identified “potential collaborators.” Others asked whether the findings of the survey would be presented to the participants and how a report maybe distributed. In addition, some asked questions surrounding the need to “keep the map up to date” and to further clarify some of the survey design questions. Overall, the response were supportive of the project which can be judged as an indication to expand the survey to include other interested UBC collaboration networks outside of the CLI list.

4.0 Conclusions and Recommendations

A number of conclusions and recommendations can be drawn from the aforementioned findings. Overall, the survey results indicate that collaborations are well established and that collaborators see benefit in interacting with UBC. Given the emerging clusters an interesting aspect has emerged alongside the cross-sectional nature of collaborators. Here, CLI could run focus group discussions to improve further collaborations within these clusters, which may help identify novel approaches to enhance interaction within and across existing clusters. Geographical results show that most collaborators are in close vicinity to UBC this may be useful when organizing meetings with collaborators. At the same time interaction that stretch beyond Vancouver should not be disregarded but may require a different means to keep collaborations active. Given the response rate of the survey it should be considered to enhance participation. Also in light of unclear responses the level of work involved in making the data measurable must be factored in future studies. Some changes to the survey are in order to account for the Organizational Affiliation that have not been included in the study as well as offering a list of Organizational Affiliations to overcome the underspecified Departmental or

Faculty position of collaborators. An avenue to distribute the findings should be identified and carried out.

Appendices

Invitation Email

Dear Name of Collaborator|,

Final Reminder

we sent out a call for the UBC Knowledge Map survey in early August and received many replies. Thank you if you have taken the time to fill out the survey or to those who opted not to participate.

However, we also realized that mid August was not the perfect time to ask for your participation, which is why we forward you this reminder today.

Please read on as your feedback is important to us to further enhance your collaboration with the wider University of British Columbia.

Reminder

we wanted to remind you of the UBC Knowledge Map Survey. Please do take the time to put yourself and collaborators on the UBC Knowledge Map.

You as the representative for |Organization| are being contacted because you have been recognized as a previous or existing UBC community partner, and we would like to give you the opportunity to put yourself on the UBC Knowledge Map!

The survey will only take 5 – 10 minutes to complete, and you can begin the survey link below:
|LINK1|

By participating in a short survey you have a chance to win an Ipad Mini and other exciting prizes.

What is the UBC Knowledge Map?

The UBC Knowledge Map is an interactive and searchable visual interface allowing you to identify the interactions of your own and other community partners -- including joint partnerships, research, teaching, student learning, consulting and volunteering -- with UBC faculty and staff. The map is a joint project between the UBC Community Learning Initiative (CLI), the Irving K. Barber Learning Centre, and the School of Community and Regional Planning (SCARP). Currently, the map depicts interactions within the university but leaves out the diverse interactions between the university and other organizations. You can find a current version by logging onto <http://www.knowledgenetwork.ubc.ca/CKNet/Home.html>

Why is the UBC Knowledge Map useful to you?

The Knowledge Map is a great tool that you can use to search for projects and people that are engaged in interactions and collaborations that matter to you. The data collected from this survey will capture your organizations profile and interactions with your UBC partners. The map will help you find partners who you may want to connect with, deepen existing collaborations and more broadly identify connections that you can leverage to advance your organizations goals when working with and beyond UBC. We anticipate the map to become your go to guide when collaborating with UBC and its broader network.

In case you have any additional questions please contact Jan Lüdert at jan.luedert@alumni.ubc.ca

Thank you for your time.

Survey Questionnaire

UBC Knowledge Map

This project aims to gather information about the interactions between faculty, staff, students and the wider community, and then to represent those interactions in a dynamic map - the UBC Knowledge Map.

The goal of the map is to enable an understanding of collaborations both within UBC, and between UBC and the wider community. 'Social Network Analysis' will be used to identify 'hubs' of activities around individuals or topic themes. We hope that the map will not only depict what is happening but provide information to those who are interested in initiating new collaborations.

We invite you to map yourself (this should take 5minutes). UBC's Map of Knowledge will be drawn based on your input!

1. Research, teaching, and outreach collaborations are the subject.
2. Collaborators may be within or beyond UBC (academia, communities, industries, governments, non-profit).
3. Community members, UBC, faculty, staff, alumni and graduate students are all welcome to participate.

[Click here to see the current UBC Knowledge Map on Youtube!](#)

The UBC Knowledge Map - a social network analysis - has ethics approval through the UBC Behavioural and Research Ethics Board (H11-01213 "Mapping UBC"). Please note that this is a test version of the survey and we will include the ethics approval letter and a participant agreement in the final version.

Mapping UBC's Knowledge Network

A social network analysis of the intellectual interactions in and beyond UBC

Dear UBC Faculties, Instructors, Research Staff and Community Partners,

We are writing to invite you to participate in a research project "Mapping the Collaborative Knowledge Network: A social network analysis of the intellectual interactions at the UBC." This research uses social network analysis method to survey the intellectual interactions at UBC which are on public record, characterize their extensity and intensity, map the Collaborative Knowledge Network (CKN) and identify cohesive sub-communities in and beyond UBC based on such interactions.

As a participant in the survey you stand a chance to win an iPad Mini or a \$CAN20 Starbucks card. Participants enter the draw automatically and are considered whether or not they complete the survey fully and/or withdraw from the study. Winners are selected by a random draw from a unique and anonymous identification number. The winners are individually contacted by Email at the end of September 2013.

The online survey is one page long (and should take no more than 5-10 minutes). It will ask you to identify up to 3 of your collaborators describe, for each collaborator, the type, starting year and occasion, and key words for the research or teaching areas. Both research and teaching collaborations are subject of this survey. The collaborators can be inside or outside UBC (academia, communities, industries, governments or NGOs).

All information collected in this survey, including your name, unit and research collaborators will be publicly available online to everyone who visits the www.CKNet.org. Your participation in this study is entirely voluntary and you may refuse to participate or withdraw from the study at any time prior to submitting the questionnaire. If the questionnaire is completed, it will be assumed that consent has been given. We ask participants to only use information in the survey that is on public record.

After the information about your collaboration is collected and published online, you can still withdraw or alter their information by contacting the research team. The team can remove your information and republish the map online within a week. If any of your collaborators do not want their names to be included in the map, they can contact the research team to remove their names from the map within a week as well.

Collaboration can be in diverse forms and initiated by various occasions. The current questionnaire may not be able to capture all the richness and uniqueness of the collaboration. We do anticipate that the tool, however, the data collected from the survey captures your profile and interactions with your internal or external UBC partners. The map may help you *find partners* who you may want to connect with, *deepen existing collaborations* and more broadly *identify connections* that

you can leverage to advance your goals when working with and beyond UBC. We anticipate the map to become your go to guide when collaborating on campus and UBC's broader network.

The questionnaire is hosted by UBC IT services and the platform that is used is Enterprise Feedback Management (EFM) is a Canadian-hosted survey solution complying with the BC Freedom of Information and Protection of Privacy Act. All data is stored and backed up in Canada. More information on the UBC survey tool can be found here:

http://www.it.ubc.ca/service_catalogue/social-media-collaboration/survey-tool

Should you have any additional comments or suggestions, please do not hesitate to contact us at Jinhua.Zhao@ubc.ca or Research Assistant jan.luedert@alumni.ubc.ca. If you have any concerns about your treatment or rights as a research subject, you may contact the Research Subject Information Line in the UBC Office of Research Services at RSIL@ors.ubc.ca.

Thank you very much!

Best,

Jinhua Zhao (PI)
Assistant Professor, PhD
Department of Civil Engineering / School of
Community and Regional Planning

Penny Gurstein (Co-PI)
Professor and Director, PhD, MCIP
School of Community & Regional Planning/
Centre for Human Settlements

1) Please verify that you have read and understood the above consent form:

- I agree
- I don't agree

2) Your Profile:

What is your last name?

3) What is your first name?

4) What is your job title?

5) Please provide the postal code of your workplace. Alternatively provide the city and country (divided by a comma).

This information will be used to Geo-Tag your location on the UBC Knowledge Map.

6) Please provide your Email:

Your Email will appear on the UBC Knowledge Map for potential collaborators to contact you. It will not be used otherwise.

7) Please paste a link of your professional website:

Providing a link will help others to find out more about you and your work. It will only be used as part of the UBC Knowledge Map visualization.

8) If you are based at UBC please select your role.

Or move to the next question.

- Faculty
- Graduate Student
- Staff
- Other (please specify)

If you selected other, please specify

9) If you are based outside of UBC please select your organization type.

- Non-Profit
- Business
- School
- Government
- Other (please specify)

If you selected other, please specify

10) If based outside of UBC select your sector(s).

You may choose more than one. Please use 'Other' to indicate your specific sector if not listed below.

- Advocacy
- Business
- Environment
- First Nations
- Health

- Technical (ie. IT, Engeneering)
- Other (please specify)

If you selected other, please specify

11) Collaborations

Please provide information on at least one and up to three collaborators with whom you are currently collaborating or have previously collaborated. These may include interactions within UBC or between UBC and other organizations, such as teaching or research related interactions, community involvement, skills transfer, advocacy etc. We suggest you choose those that you deem most important to your work at this point.

First Collaborator:

Please name a collaborator with whom you are currently or have previously engaged.
Please provide the last and first name of the collaborator divided by a comma.

12) If this collaborator is part of an organization please provide the full name of the organization:

13) What is the Email for this collaborator?

A collaborator's Email will only be used to forward this survey - in order for a collaborator to map themselves. It will not be used for any other purposes while strict confidentiality is upheld.

14) If known please enter the postal code of this collaborators location. Alternatively provide the city and country (divided by a comma):

15) Who initiated this collaboration?

- I did.
- This collaborator did.
- We jointly did.
- A third party introduced us.

16) What triggered the collaboration?

Please specify the purpose(s), objective(s) and/or need(s) of the collaboration. Use appropriate keywords that best

describe this collaboration.

17) How established, according to your evaluation, is the collaboration itself up to this point?

*Ranging from Starting Phase (1) to Very established (5)
If an ongoing interaction please evaluate its current status.*

- 1
- 2
- 3
- 4
- 5

18) How has the collaboration benefited your own work?

Range from Little (1) to Very (5).

- 1
- 2
- 3
- 4
- 5

19)

Second Collaborator:

Please name a collaborator with whom you are currently or have previously engaged.

Please provide the last and first name of the collaborator divided by a comma.

20) If this collaborator is part of an organization please provide the full name of the organization:

21) What is the Email for this collaborator?

22) If known please enter the postal code of this collaborators location. Alternatively provide the city and country (divided by a comma):

23) Who initiated this collaboration?

- I did.
- This collaborator did.
- We jointly did.
- A third party introduced us.

24) What triggered the collaboration?

Please specify the purpose(s), objective(s) and/or need(s) of the collaboration. Use appropriate keywords that best describe this collaboration.

25) How established is the collaboration itself up to this point?

*Ranging from Starting Phase (1) to Very established (5)
If an ongoing interaction please evaluate its current status.*

- 1
- 2
- 3
- 4
- 5

26) How has the collaboration benefited your own work?

Range from Little (1) to Very (5).

- 1
- 2
- 3
- 4
- 5

27)

Third Collaborator:

Please name a collaborator with whom you are currently or have previously engaged.

Please provide the last and first name of the collaborator divided by a comma.

28) If this collaborator is part of an organization please provide the full name of the organization:

29) What is the Email for this collaborator?

30) If known please enter the postal code of this collaborators location. Alternatively provide the city and country (divided by a comma):

31) Who initiated this collaboration?

- I did.
- This collaborator did.
- We jointly did.
- A third party introduced us.

32) What triggered the collaboration?

Please specify the purpose(s), objective(s) and/or need(s) of the collaboration. Use appropriate keywords that best describe this collaboration.

33) How established is the collaboration itself up to this point?

*Ranging from Starting Phase (1) to Very established (5)
If an ongoing interaction please evaluate its current status.*

- 1
- 2
- 3
- 4
- 5

34) How has the collaboration benefited your own work?

Range from Little (1) to Very (5).

- 1
- 2
- 3
- 4
- 5

35) Please use the space below to forward any ideas, questions or suggestions to the UBC Knowledge Map team:

Thank you for your participation.