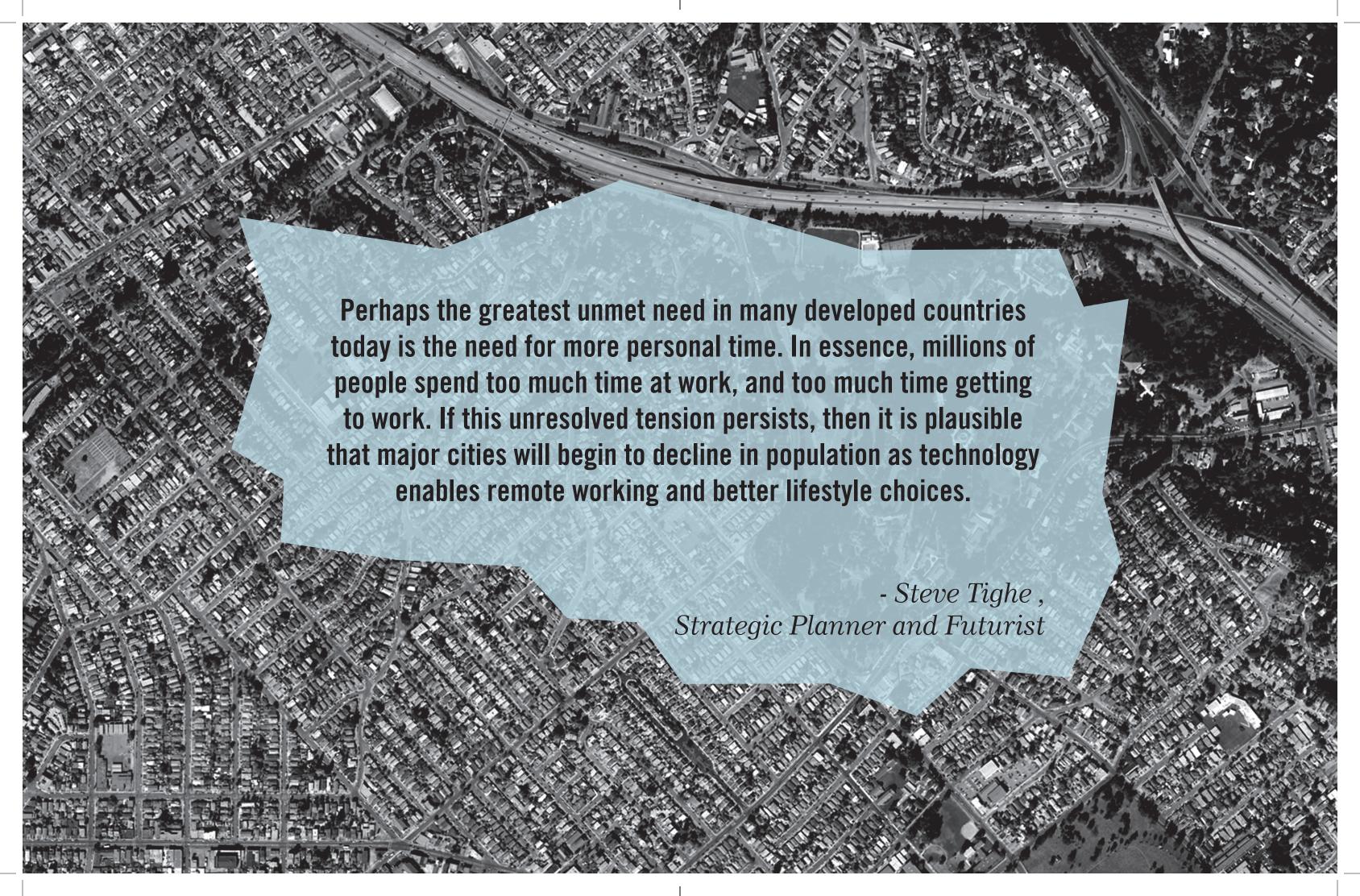


Exploring the Next Big Thing for WWF Switzerland

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Abstract

"Coworking spaces are to knowledge work what bike-share programs are to personal transportation: a community-based, low-cost, convenient, and eco-friendly solution" (The Third Wave of Virtual Work - Harvard Business Review). Coworking is diffusing into the next generation of virtual work and collaboration with new locations being established across the globe at increasing rates. What accounts for this rapid diffusion? Coworking represents a paradigm shift, the result of the convergence of many trends and driven by multiple factors like community, worker mobility, and financial investment.

This paper focuses on coworking as a nexus for the next evolution in sustainable work practices. The study was a virtual collaborative research project between students at Aalto University, The University of Cologne, Savannah College of Art and Design (SCAD), and MIT's COINs Seminar working in partnership with World Wildlife Fund Switzerland. The team's task was to identify and explore new and evolving trends within sustainability using dynamic social network analysis (DNA) and digital contextual research on internet sites to discover new patterns and insights. Throughout this paper our research and analysis process will be described. The context for the team's choice of methods, such as affinity mapping of trends and systems identification, will be explored.

While the current team has laid the groundwork for exploring coworking, there has also been many opportunities identified for new COINs teams to explore further. It is not only our hope, but the hope of COINs seminar itself to take this project further and develop new research insights and opportunities for the future.



1. Introduction

In the context of the Collaborative Innovation Networks (COINs) course, this team project has been developed with the objective of identifying new and upcoming trends within the areas of focus of our project client WWF Switzerland.

The project has been enriching thanks to a team formed by members of different countries, backgrounds and studies. Three members from the Aalto University in Finland: Faraz Khan, Ingrid Schembri and Pia Tamminen; two members from SCAD in the USA: Farid M.Sadeghi and Caleb Sexton; and one member from the University of Cologne in Germany: Núria Gómez.

This project spun five months of research with weekly meetings and constant communication between the members. Guided by our customer, Damian Oettli from WWF Switzerland, and the COINs professor, Peter Gloor, we passed through an iterative and abductive research and discovery process to finally reach our objective. After weeks of struggling to define and identify general trends within the six areas of interest, proposed by WWF, using Condor, an online social networks analysis tool, we decided to focus in three key areas and deep dive into them exploring various research tools. It was there, that with context and greater understanding we identified a myriad number of trends, and finally cultivated one concrete hypothesis. The hypothesis has become our project goal, and it refers to coworking as the next big thing.

The process of teamwork will be explained in this report, as well as supporting research for our hypothesis and recommending some next steps for both WWF Switzerland and the next team to whom we will pass on the torch.

Our Virtual Team Dynamics

Tuckman's (1965) Forming – Storming – Norming – Performing Model of Group Development has traditionally been used as a framework to evaluate the teams in the COINs course. Data extracted from email archives and processed by the Condor Tool showing for instance frequency of communication, level of contribution and sentiment analysis serve as proxies for the 4 stages. This model is said to apply both for co-located and virtual teams. However, in the latter case the dynamics get more complicated as the team members must rely on ICT tools to both mediate and facilitate their interaction. Yet virtual team member interactions are never equal to physical teams' because the virtual team remains limited by geographical and temporal distributions. Cultural differences play a part in both types of team dynamics, yet their effect can be more distinctive if interactions are mediated through technology like in the case of our virtual team. Trust, cohesion and commitment take longer to form in a virtual team because of a lack of physical interactions. Proponents of virtual team environments would argue that face-to-

face interaction via video conferencing and avatar augmented environments help to bridge that gap.

Yet they would still acknowledge that the most preferred way of building highperforming human teams is via frequent physical social interaction. ICT becomes an aid when that ideal cannot be possible as with geographically distributed teams. Virtual team interaction remains second best!

Other evaluation frameworks exist specifically for virtual teams such as those by Martins et al (2004) and Powell et al. (2004) which take an Input-Process-Output approach (see Appendix). These alternative frameworks seem to be more suited to the COINs course because they consider the realities that surround both individual members and the team as a whole which cannot be glimpsed via an analysis of only one medium of interaction, namely email, even if that is supplemented by a communications log. Our team kept a log of mostly every communication and recorded almost all team calls including the ones with our Coach and Customer. Content analysis of the calls and interviews with team members would give a better reflection of our team dynamics.

Personal experiences are summarized in the Conclusion section of this essay.



2. Background

Customer Aim

WWF World Wildlife Fund is an international non-governmental organization working on issues regarding conservation research and the restoration of the environment (wikipedia).

Goal and Strategies (http://worldwildlife.org/about)

According to worldwildlife.org by 2020, WWF will conserve 15 of the world's most ecologically important regions by working in partnership with others to:

- Protect and restore species and their habitats
- Strengthen local communities' ability to conserve the natural resources they depend upon
- Transform markets and policies to reduce the impact of the production and consumption of commodities
- Ensure that the value of nature is reflected in decisions made by individuals, communities, governments and businesses
- Mobilize hundreds of millions of people to support conservation

Areas of Investigation

At the beginning of the project, we were provided with a list of broad areas by WWF. These areas represented the multifaceted approach that WWF is considering for their future research and conservation. The challenges posed to us as a team was to identify the domains and subdomains within upcoming trends in sustainability, and what kind of weak and strong signals are circulating in those domains.

The areas provided initially were:

Biodiversity Ecological Footprint Timber **Forest** Climate Change FishTropical Forest Mobility Education (added by Housing the team) Rain forests **Communities** Sustainable Finance Oceans Fresh water (added by the Rivers team) Lakes Food provision **Glaciers Commodities**

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After the initial study of the topics provided by WWF, our team decided to narrow down the focus of the project and chose the following areas. We also included Education and Communities to our research as they had more potential for impact and we saw more action towards sustainability happening in these domains.

Sustainable Mobility

Mobility; in respect to our research meant movement of goods and people from one physical location to another. Mobility in general and transportation more specifically contribute greatly to the carbon monoxide emissions. Governments, organizations and communities are teaming up and working individually to investing time and money in identifying and meeting their ever growing mobility future needs in the most sustainable manner possible. These trends however strong or weak are global, especially in the developed countries. These trends include investment in biofuels, car sharing, carpooling, low consumption engines, mass transit systems and integrated commute systems.

Sustainable Finance

Finances form the backbone of any system with sustainable goals. Whether it be organizations, governments or individuals, financial sustainability becomes the differentiating factor between success, failure and long or short term impact. For our project we researched about the challenges and problems in the finance domain followed by the different upcoming solutions that are overcoming these challenges. These solutions are adapted and reused and are becoming trends in the financial world in their own right. These trends include crowd funding, crowd sourcing communities, time banking/ exchange of services, digital wallets and mobile banking.

Sustainable Communities

Communities are at the core of social engagements. They offer stability and act as incubators of culture, forming societal foundations. From the context of our research, we approached this situation by examining what defines a sustainable community: the physical location, the cultural, and governmental impact. Through this, the team identified a number of current and emerging trends including stronger economic development and competitiveness, new urbanism and space reclamation, and the "Creative Class" and community co-design projects incorporating government and local business.



3. Process

In this section we define the process followed up from the starting point of the course until the end with the final hypothesis. Team's challenge was two-fold and both paths were developed side-by-side; understanding the problem and finding the solution. We used an abductive approach - what might be - in the process which could be described with Roger Martin's model of the Knowledge Funnel (Martin, 2009). Abductive logic combines analytical thinking with past-data-driven world and intuitive thinking with knowing-without-reasoning.

The Knowledge Funnel can be seen as a cone with four development stages; mystery, heuristic, algorithm and binary levels. The model describes a process that starts with a wicked problem, a mystery. The mystery can take an infinite variety of forms. After observations, analytical and creative thinking, heuristics i.e. some pattern recognition can be found within the data. If the heuristic level with general rules of thumbs is not good enough an answer to the problem, the data can be

Focus Areas

Hypothesis

t

t

analyzed further to find algorithms which make understanding of the problem and phenomenon easier. Algorithms explain the phenomenon with a fixed formula. The use of a fixed formula can be replicated within an organization or a team which makes the work more efficient. The last stage of the Knowledge Funnel can be either the algorithm level or a binary level where the solution has been transformed into 0's and 1's (Martin, 2004).

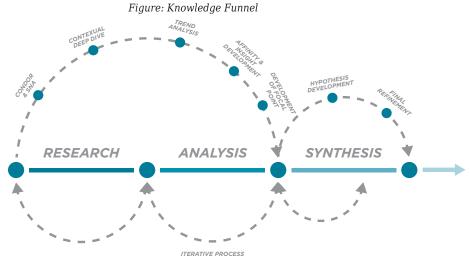


Figure: Research Process made it valid and reliable. team would not have come up with the conclusion without creative thinking.

The used process is a combination of analytical and intuitive thinking. In the beginning the team used analytical thinking when finding data of topics provided by WWF. In the middle of the process creative thinking was needed to find the patterns and common ground with hypothesis within large amounts of data. In the end analytical thinking was used again to find facts that supported the hypothesis, and made it valid and reliable. The

As Albert Einstein has stated: "The workings of intuition transcend those of the intellect, and as is well known, innovation is often a triumph of intuition over logic (Holton, 1997).

Introduction to social network analysis and its application to the project

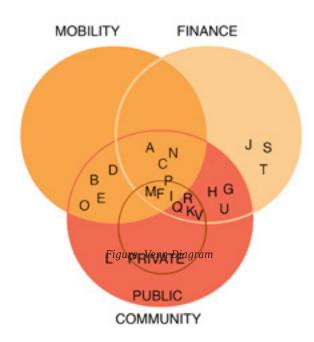
During the COINs course we learned about analyzing online social networks, swarm creativity and coolhunting. By conducting Social Network Analysis (SNA) we were able to achieve a bird's eye view of the Web and the connections between different actors on a given search. The Condor tool used in SNA is developed by the Galaxy Advisors team. Condor is a multipurpose data mapping software program that conducts a variety of searches, contribution measurements, and data visualization. With time we gained a better understanding of how to apply its different features, such as Wiki search, Twitter Search and Blog search. Although there were some initial problems working with it, Condor proved to be very useful in the beginning, because through it, potential trends within the six focus areas were identified after conducting many searches. The areas were: Biodiversity, Education, Sustainable Communities, Sustainable Finance, Sustainable Housing, Sustainable Mobility. Putting the findings into Martin's knowledge funnel model, we would be in the mystery level at this point.

Introduction of deep dive data gathering and digital ethnography

Based on our discussions, we decided to shrink the research and focus on three areas: Sustainable Communities, Sustainable Finance and Sustainable Mobility.

Putting the findings into Martin's knowledge funnel model, we would be in the heuristic level. At this point, the team changed its approach and method, separating into pairs to explore each area, and apply other research tools, such as examining articles and reports on the web and analyzing them to find more concrete trends and dive deep into them. We utilized what could simply be defined as digital ethnography, using immersion into the content to gain a holistic context of the three focus areas. This was a "logical leap of mind" as we began coolhunting to identify trends and drivers.

Trends analysis and pattern recognition



We shared our researched trends among the team and created a Venn diagram:

This allowed us to visualize the overlapping trends within the three areas of focus and see more clearly the path to follow. At this point, we began looking for patterns, searching for overlaps and points at which trends were converging. What new industries and services were leveraging multiple trends? What were the missing links? And how do our hypotheses for each area match? With this work done, the team developed three hypotheses, one per focus area. Discussions within the team eventually led to a convergence into one hypothesis by connecting daily realities and social behaviors that both link and reinforce them.

Sustainable Mobility Hypothesis: "Contrary to predictions on the future rise of mobility, we contend that due to individual and business needs and growth in infrastructure,

the rise in commute will be reduced."

Sustainable Communities Hypothesis: "The following trends will merge when realized and will result in truly sustainable living: New Urbanism, The Creative Class, Corporate Mobility, and Sustainable Business Models"

Sustainable Finance Hypothesis: "Alternative ways of funding businesses will emerge because the traditional financial system does not fulfill the current needs"

Co-working as a nexus for overlapping trends

Through conversation and further exploration we found a nexus that leveraged our areas of research coworking. Coworking became the focal point for a multitude reasons: first, it offers an alternative to traditional working environments; second, these spaces and their leadership are invested within a local community; and third, worker mobility is decreased as a result of teleworking from different locations. Coworking spaces allow for a growth of diverse collaborative cultures, too. An environment where knowledge workers can cross pollinate and multiple businesses have the opportunity to occupy the same space interacting in new ways.

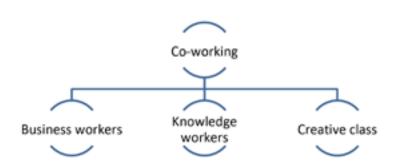
Cultivating a hypothesis: place our final hypothesis

Through convergence in our investigation, the team's consolidated hypothesis on coworking is as follows:

Heterogeneous, flexible, and open coworking spaces are the cradles for the new creative class of businesses and knowledge workers in today's volatile and unpredictable economy.

With technology being the key enabler, the new way of working challenges the individualistic norms and the prevailing cultures of organizations and governments, promoting, provoking and inducing change on many levels.

Putting the findings, i.e. coworking, into scientific framework and Martin's knowledge funnel model, we would be in the algorithm level at this point. Dr Martin talks about a leap of faith (2009) which is needed to come up with a solution.



 $Figure: Hypothesis\ Cultivation$

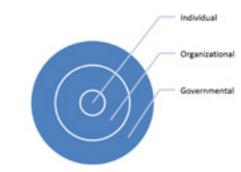


Figure: Systems Thinking Approach



4. Facts: Leveraging the Diffusion of Work

Enabled by ICT, knowledge work can be carried out from anywhere, yet "63.5% still commute to the office four or five days a week" (Regus) Flexible work programs that allow employees to work from home lose their honeymoon effect once people start to feel isolated and experience that missing out on the daily office interaction can be detrimental to their careers. Global surveys conducted by Regus claim that "...only 12.3% of people want to work from home". On the other hand "presenteeism" where one shows up daily to an office to be seen even if the work environment is not conducive to the task is not recommendable either. Placesin-between, also known as third places that are not one's home, nor one's office such as co-working spaces are gaining a following not just by users (corporate employees, students, freelancers and other independent knowledge workers) but also by corporations. The latter recognize that a real estate strategy that include hubs of "satellite offices" that allows access to employees on a needs basis including social interaction needs, makes better business sense than financing the running of large office campuses even if these are located in cheaper off-city locations. Occupancy rates in such establishments are often reported to be 40%, yet rents and other utilities remain constant. Savings obtained by being smarter at work leads also to a greener environment. Consider that according to the US Green Building Council, 38% of 2007 greenhouse emissions were the output of offices. This rate is predicted to grow faster than in any other sector in the next 20 years unless working practices change. Some changes would include a reduction in commuting to far-flung office campuses which not only waste productive time but also contribute to the emission of pollutants into the atmosphere by vehicles that continue to deplete natural resources. According to the US Department of Transportation the average time spent by commuting Americans in traffic amounts to "eight weeks a year spent in the car. In total, this can waste more than 3.7 billion hours in lost productivity and 2.3 billion gallons of gas annually"

Exploring the Next Big Thing for WWF Switzerland



5. Next Steps

At this point of the project, the team would like to leave open the next path to take, without ignoring the next steps for both WWF and for the new group that will take the project as part of the COINs course.

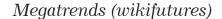
There are some opportunities situated around co-working environments that WWF could take:

They can begin promoting the use of coworking spaces by challenging already collaborating organizations to adapt and excel in this new way of working. WWF can use its influence and resources to introduce this new culture of working in the developing world. As for the developing countries, WWF can invest in introducing the enablers (resources required for this way of working) to create coworking spaces that will help their communities.

In our view, WWF can already start cultivating this new concept in the upcoming generation (through schools, universities and sister organizations) to mold coworking as the new standard of working.

COINs Team 8





Due to similarities in the research, we decided to explore and open conversation with another COINs team, Team 9, who were working with Gottlieb Duttweiler Institute (GDI) examining megatrends and their impact. In late December of 2012, Caleb met with Kelly from Team 9 to talk about both teams' processes. While the two approaches were very similar, their process was quite different. The outcome of the meeting lead to interesting insights, most notably the differences in discourse. Many of our teams' trends were either identical or contained serious overlaps, but at their core, used different language to express themselves. Both Kelly and Caleb concluded that this might largely be due to a lack in communication between entities and organizations. That being said, in the future, what is the potential cause and effect of networking and bridging discourse? While these questions remain unanswered, it made for an anecdotal takeaway.

Next Team

Until now, our team has worked on this project. However, this does not mean that it is over.

During our process we were offered the option to delve further in our trend analysis or identify a range of new business opportunities. We chose to better understand as means of maximizing our efforts. Our materials database composed of practitioner reports, industry surveys, expert opinions is available for the next team as an initiation to the topic.

With the support of WWF Switzerland the next COINs research team can be directed down many avenues:

- 1) Exploring the application of new coworking business models.
- 2) Developing more research into the market areas outlined in the Opportunity Map.
- 3) Developing more research into the next evolution of coworking and the cultures that evolve out of these spaces.

The fact is that new spaces are popping up everywhere (e.g. Otaniemi campus in Espoo Finland where quite a large part of Aalto University is located has many new spaces for coworking purposes). It would be interesting to study how all of the coworking spaces work together and communicate (e.g. what tools, what channels, service providers, etc.) if the client would like to follow this path.



6. Discussion

Scientific background of the team members varied. All team members found the topics WWF provided interesting although nobody was an expert in any area. As the project progressed, the team chose other topics to complement the original ones. The time when coworking was chosen to be the common nominator of the study can be seen as the leap of faith according to Dr Martin (2009). Martin's knowledge funnel model combines analytical and creative thinking. Creative thinking has an intuitive element in it, and years of experience and knowledge help when thinking intuitively. Half of the team had studied coworking from different angles so coworking was actually a familiar topic. When the decision about the common theme was made, only team members who had studied coworking participated the meeting. Based on little data on the topic (not the focus of this study), it is difficult to know about the causality of events; did the coworking emerge from the research data, or was it such a familiar topic that it was already there when the project started.



7. Conclusion

Summary

The COINs seminar project with WWF Switzerland proved to be a true coolhunting experience. Operating with a team of international students in both Europe and the U.S., we utilized social network analysis and ethnographic practices to find and explore emerging trends within sustainability. Initially, this project began with six different, but similar, options to examine proved to us by WWF. With time and combined collaborative efforts, we narrowed our focus down to three: sustainable communities, sustainable mobility, and sustainable finance. At that point the team analyzed current and emerging trends and sought to find patterns and connections. Ultimately, we consolidated even further culminating our research around coworking as not only an emerging trend but one that leverages other trends to aid in cultivating the next generation of sustainable work process.

The Value of the Research Process

Using coolhunting and the design process as framework tools for our research process, the team developed and utilized a process that applied ethnographic approaches, intuitive pattern recognition, and multiple stages of iteration. This allowed us to funnel and hone our work. While our project does not follow a traditional scientific model with hard data, it did allow for us to be exploratory on many different levels, especially during the initial phase where the team looked at various different areas. In the end, our methodology proved successful for the use of this project where there were no clearly defined starting points, allowing us to identify a hypothesis which could be leveraged by the next team to take further.

The discussions with the Customer showed once again how controversial the use of abductive logic is; it is challenging to convince the rightness of the research without clear description of an analytical thinking process used in deductive or inductive reasoning. Designers and architects are examples of persons who operate from abductive mode of thinking which is also called design thinking. Design philosophy has its roots in Egyptian and Mesopotamian bureaucracies, but the design thinking has lately become quite popular in some American companies (e.g. P & G, SAP, IDEO) as well as among some management sciences (Pourdehnad et al., 2011). As a matter of fact, design thinking process can include inductive, deductive and abductive logics, hence design thinkers use all three modes to understand the context of the problem and its solution.

Personal Experience

"My motivation to participate in the course was to understand better what working with big data means. During the course I got some understanding of the big data but the more I learned the better I understood how little I understand. Another target was to learn something I did not even know existed. The target became more interesting than I had anticipated; I deliberately took "an unnatural" role in the team, the kind of role that is not my usual work role. I have many years of experience working in virtual teams, and it was interesting to study own perceptions within the team from a new angle. Lessons learned from the role change is a positive one; I would recommend to everybody to step out of own comfort zone and take a new role in a safe and friendly environment like the COINS course."

"I'm pretty sure the opportunity of working with group members from all around the world with different language and culture as well as different backgrounds will help me a lot on my educational and work carrier however the blind vision of this course at the beginning made me upset and disappointed a lot and made plenty of misunderstanding and miscommunication at the beginning having different course loud and schedule in different locations make it a little bit complicated to fully contribute to the project."

"I would not recommend this course because the description and expectations were inconsistent. I feel I have signed up to learn something which did not materialise because there were other aims that were latent and took precedence eg. using the student community as a laboratory experiment. We have all had experience in working in teams both physical and virtual. Course tasks that rely on team effort are over-rated especially when the evaluation criteria are unclear. The only positive team outcome has been the collegial atmosphere that developed after we found our own topic and an alternative way forward, in unison against the unfriendly Condor. Otherwise it has been a frustrating drag"

"I found this course to be rather interesting. While it was required of me to participate, I think there are some new tools that I can leverage later on. This was my first real dealing with big data in any context, and it had its ups and downs. In my opinion, I believe that for the next iteration of the course there should be more explanation and emphasis that Condor isn't the only tool for exploring (granted I am sure this is a common piece of feedback). For us, this was somewhat of an unclear point and it led to a serious breakdown in our team dynamic. However, as we developed our own process and direction the team gelled rather nicely together. All in all, I am pleased with our work and the connections we have made between each other in the group, but due the nebulous nature of the start of the project it created serious problems in the initial collaborative process."

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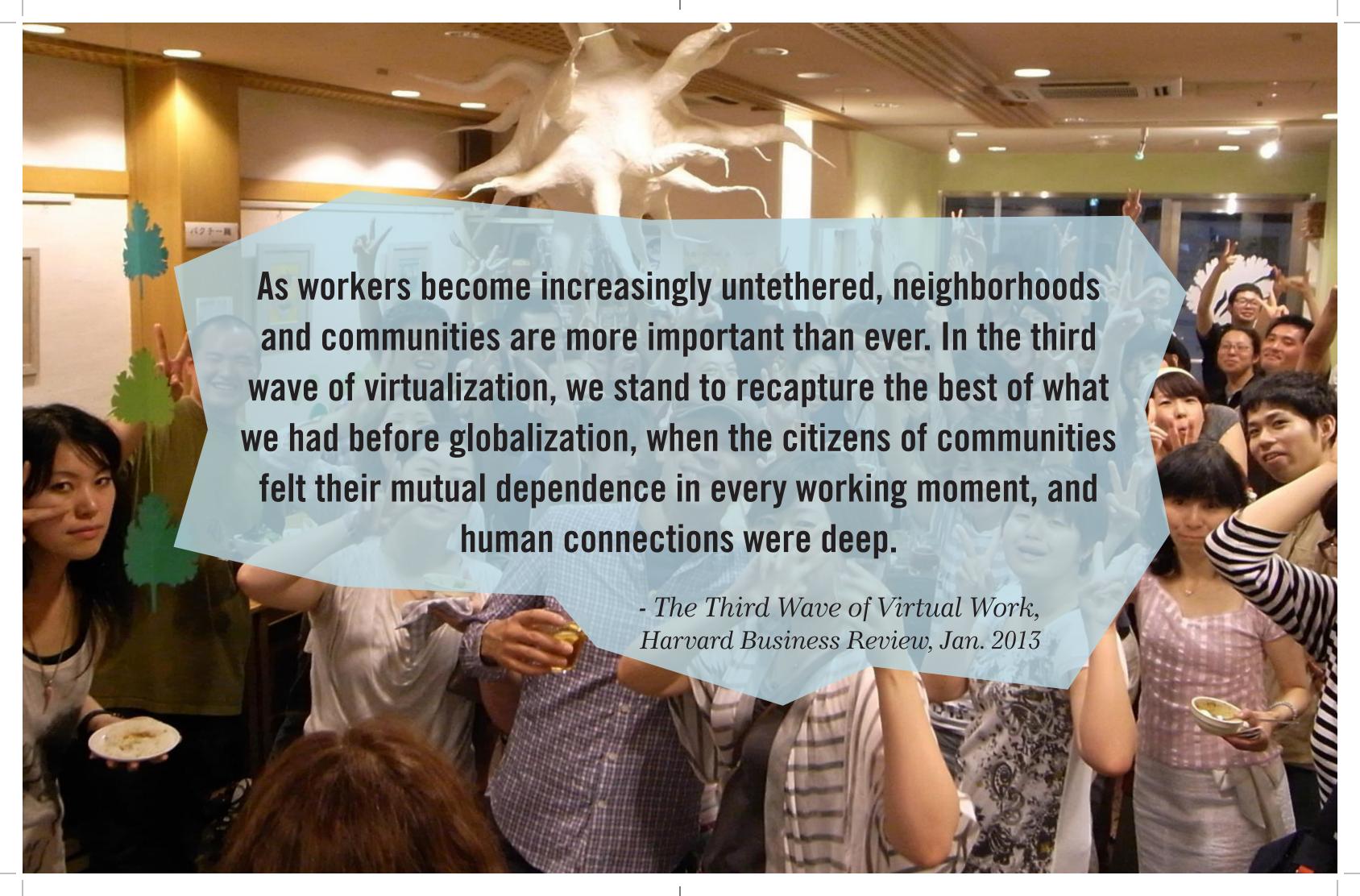
"When I first heard about the course I didn't expect to work with people from all around the world and have to communicate virtually. At first it sounded a bit crazy, but because everyone came from different cultures and backgrounds it has been a very enriching experience. A rather negative point is that I don't think there was need to meet periodically with the rest of the groups to know how they were or were not advancing. It is interesting to take ideas if the project approach is similar, but during those hours I could see many students doing regular daily tasks like reading e-mail or newspaper. Anyway the final conclusion from this course is that everyone has participated actively to create our own path through the project and it has been very interesting to work like this."

Tips for the Course (for Peter & instructors)

The coach and instructors should be monitoring the team dynamics and intervene. Right now the analysis happens post-course and students have to be active in alerting their instructors to problems. Such problems might be temporary, situational or imagined. Misinterpretations may grow into problems! A question that comes naturally after this experience is "What was the point of the psychometric survey we took before team selection?" and as a follow-up "Was there a strategy for selecting team members aside from the two preferences for joining a team based on the skills required for the project that students were permitted to express based on their knowledge base & background?"

In our view following could be considered while planning the course next year:

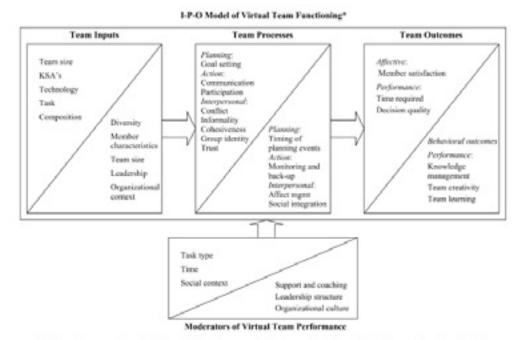
- Better explanation of coolhunting and the diverse approaches (show other students work that isn't traditionally stats/numbers based)
- Is Condor necessary?
- What about presentations way to make them better?





8. Appendix

Alternative Frameworks for Evaluating Virtual Teams "Input-Process-Output Models" Martins' et al (2004)



*Within each category of variables, those that have been examined in research on VTs are listed above, and those in need of future research are listed below, the diagonal.

Figure 1. 1-P-O model of virtual team functioning. Figure: Martins' et al (2004)

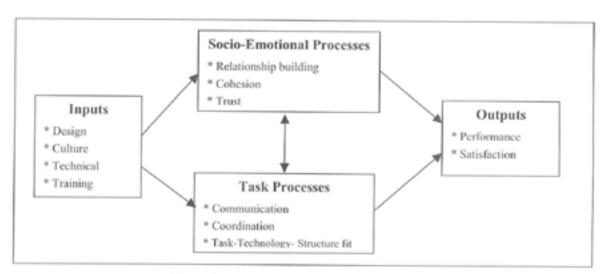


Figure 1. Focus of early virtual team research

Figure: Powell's et al (2004)

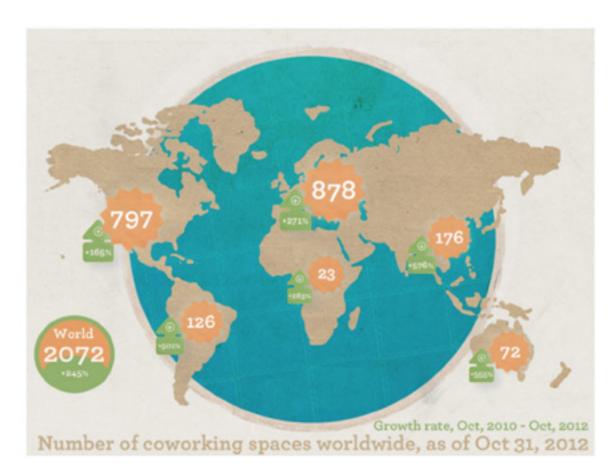


Figure: Coworking Stats 1

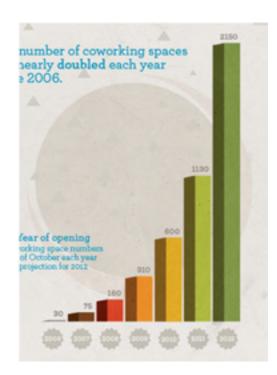
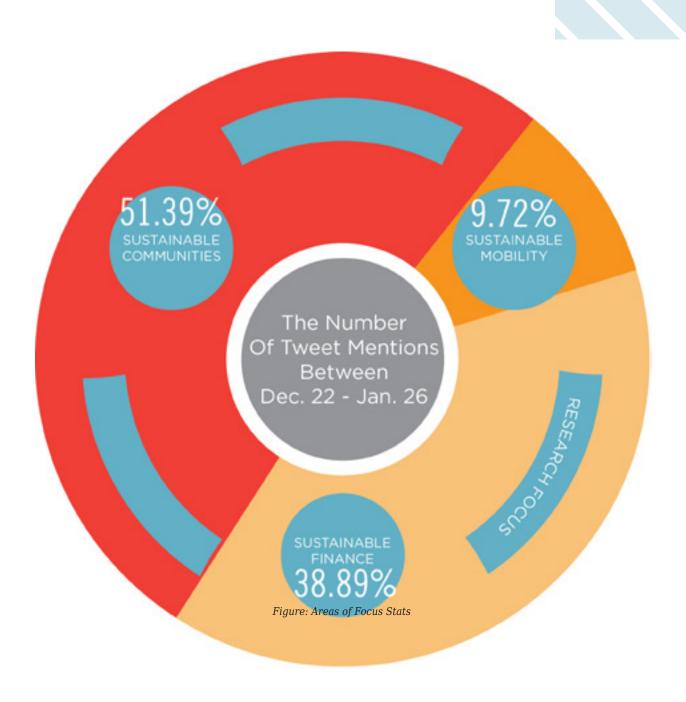


Figure: Coworking Spaces Growth



Figure: Coworking Stats 2



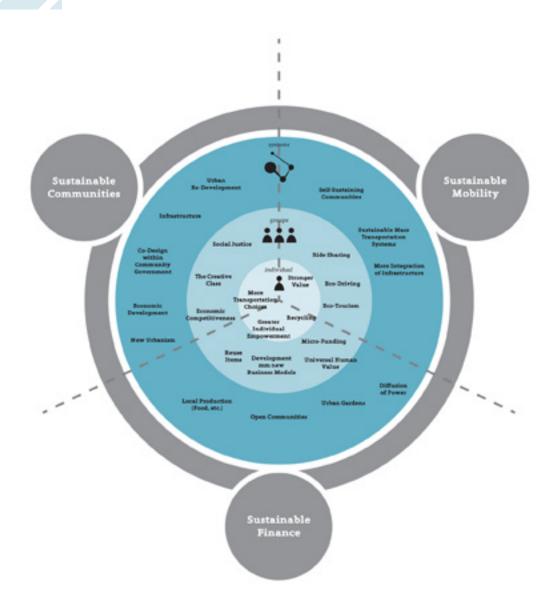


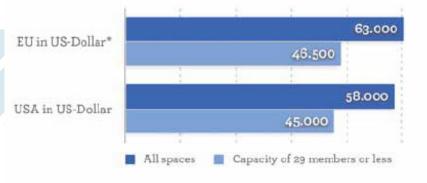
Figure: Areas of Focus Systems Thinking

Area	Word	Nodes	Weight (%)
Sustainable Communities	urban re-development	3517	11.43
	infrastructure integration	10493	34.11
	co-deisgn within community government	4390	14.27
	economic development	60	0.20
	new-urbanism	1133	3.68
	social justice	5015	16.30
	creative class	1440	4.68
	economic competitiveness	4441	14.43
	more transportation choices	277	0.90
		30766	100

Sustainable Mobility	self-sustaining communities	77	0.38457697
	sustainable mass transportation systems	10131	50.5993407
	more integration of infrastructure	307	1.53331336
	ride sharing	2715	13.5600839
	eco-driving	3517	17.5656778
	eco-tourism	3098	15.4729797
	stronger value	177	0.88402757
			0
			0
		20022	100

Sustainable Finance	local production	15712	26.36
	open communities	11267	18.90
	urban gardens	351	0.59
	diffusion of power	4135	6.94
	universal human value	11014	18.48
	development of new business models	8505	14.27
	reuse items	1726	2.90
	recycling	2158	3.62
	greater individual empowerment	4739	7.95
	service exchange (not in the map-needs to be added)		0.00
		59607	100

Figure: Areas of Focus



* EU countries with Euro only, exchange rate as of Nov 18, 2011

Figure: Coworking Spaces Finance 1

How much money was invested to open your coworking space?

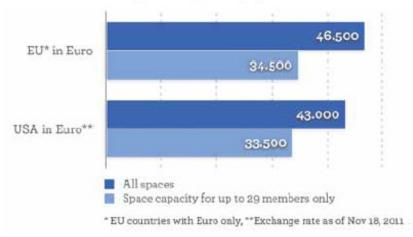


Figure: Coworking Spaces Finance 2

How did you finance the launch of your coworking space?

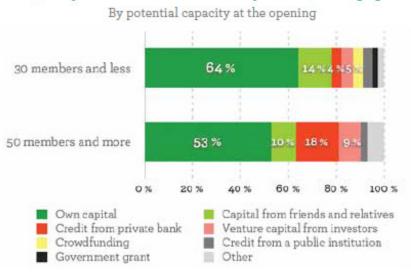
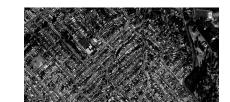


Figure: Coworking Spaces Finance 3



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