

Academia, Industry and Consulting firms in Collaboration

An value-based analysis of different institutions

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Abstract

This paper tries to shed some light on why the collaboration between academia and industry can be difficult. By acknowledging that each institution has different objectives and live in different competitive environments we find different sets of values and priorities that sometimes leads to conflicting behavior. In spite of existing difficulties, many border crossing collaboration initiatives take place today. We argue that a better understanding of the collaborating institution's differences in values and priorities can help avoiding or crossing these tacit borders and increase the success rate of these efforts.

Keywords: university/industry co-operation, organizational cultures

1. Introduction

The objective for this paper is to build a first conceptual foundation based on the authors own experiences of collaboration efforts between academia, industry and consulting firms. The purpose of this conceptual foundation is a first step of developing guidelines for researchers and practioneers entering collaborative efforts in IT related change processes. We would like to contribute to the ongoing discussion on describing one perspective on how borders between the three institutions; industry, consulting firms and universities can be revealed and maybe managed.

Since the authors are or have been active in industry, consulting and academia we see both the problems and benefits from collaboration between these institutions. Experiences are drawn from mature industries, newer consulting firms and from academic institutions like Informatics at the University of Göteborg and from collaboration efforts like Viktoria Institute in Göteborg. Informatics (Dahlbom 1997) is by nature an academic subject that, to a large extent, is heavily dependant on [different forms of] cross-institutional collaboration.

In order to shed some light on the phenomena of the last 30 years collaboration between academia and industry the background of science parks is here briefly described. In the 1960's the phenomena of so-called science parks first occurred in the US. In the universities researchers saw possibilities to use their ideas outside the campus. Well-known

examples are Stanford University and early start ups as Hewlett Packard as well as SUN – Stanford University Net in California. This extreme lucrative long-term development happened in Silicon Valley and has been explained as the lack of regularities, traditions and a total amount of freedom combined with venture capital available (Saxenian 1998).

In trying to copy the revealed secrets from the phenomena of Silicon Valley many ambitious projects have taken place all over the world. In the early 1970'ies some universities in Sweden started up science parks. In Gothenburg for instance the Innovation Center at the Chalmers University of Technology is one such project.

Today there exists a network of science parks in Sweden. One of them is Ideon in Lund, where the first step of Framtidsfabriken and Netch took place. Other examples of Swedish science parks are Teknikparken at Chalmers, Mjärdevi Center in Linköping and Teknikhöjden at KTH in Stockholm. Soft Center in Ronneby is an example of the emerging phenomena of clusters. One more example of collaboration efforts is Sophia Antipolis near Nice in France. It is considered to be an important research domain with many laboratories. There was no immediate close collaboration with any academic community in the region when starting up Sophia Antipolis. Instead many research-intensive companies chose to build their labs in the vast and sunny region. The Viktoria Institute is also an example of the same wish for collaboration between academia and business.

2. Related work

Although contemporary literature has a number of descriptions of research projects few of them report experiences from the collaboration between practitioners and researchers.

However, Karin Hedström has in her paper (Hedström 1998), presented at an earlier IRIS conference, described the collaboration between researcher in information system or pedagogic and consultants in organizational development. She points out the variances in different "thought-provinces" and understanding the collaborators "language-in-use" (authors own quotations) such as a consultant saying "I want to have 'real' results." A consultant has to show quick results. The main issue is to make money and keep the customer happy. While one main goal for a researcher is to have a deep and "true" understanding of the task at hand and here is reflection an important activity.

Mathiassen (2000) describes the balance between relevance and rigor in practice research in a large Danish software process improvement project MacMillan and Hamilton III (2000) points out the differences in the motivation for publishing papers in industries such as pharmaceutical and software industries. In the research-intensive companies as pharmaceuticals and software development the framework are more similar to academia than elsewhere. (MacMillan and Hamilton III 2000).

In the latest IRIS conferences the issue of industry and research collaboration has been highlighted. Actually, the theme of the IRIS 23 conference is to highlight the need for integration between two different fields, academia and industry. Our experiences is that the scoop should be expanded an also include consulting firms, since their objectives and situations are different than those in the industry.

3. Research approach

Since the authors together have 20+ years of industrial experience, 15+ years of consulting experience and 7 years of experience in jumping between a commercial job role and an academic community as industrial Ph.D. students, we decided to use our own experience as a base for this article. By acting as crash test dummies in a number of collaboration efforts, we have naturally become more and more interested in the difficulties that sometimes wrecks activities but most often annoy people so much that they are more focusing on the differences than trying to collaborate.

We think it is important to document our own experiences and not neglect the many years of experience we have crossing the borders between these different domains. We argue that this is definitely more honest instead of trying to suppress our own knowledge, and just let it be visible in the choice of perspective. Secondly, we want to build a first conceptual foundation based on our own assumptions for our future work in the area. Hence, instead of suppressing our knowledge we regard it as a valid source of data.

In the management area there exists since a couple of decades the area of *organizational culture* where we have found several ideas on how to analyze organization as cultural entities. Almost no literature is focusing on collaboration conflicts between different types of organizational cultures. (Schein 1990)

Clifford Geertz argues, "Man is an animal suspended in webs of significance he himself has spun. I take culture to be those webs, and the analysis of it to be therefore not an experimental science in search of law, but an interpretative one in search of meaning". (Geertz 1973). We have selected a cultural stance and regard the individuals in the three institutions as parts of different clusters of organizational cultures that are manifested by e.g. different sets of value and having different basic underlying assumptions. (Schein 1990)

Our project thus become one of analyzing a number of narratives showing cross-institutional collaboration difficulties and try to explain these in terms of the different values and assumptions that underlies and causes the clashing behavior. The values and assumptions are never made explicit but are here extrapolated by looking at the overall goals and characteristic of each of the different institutions. By not interviewing a significant number of researchers and practitioners we lose some detail and rigor. Instead we gain overview and relevance while analyzing our own experiences using self-experienced narratives, which we think is important in a first paper with this approach.

4. Narratives revealing collaboration difficulties

When working in collaboration projects between academia, industry and consultants, there are a number of occurrences that the authors find puzzling and believe require some level of research and perhaps clarification. These narratives are self-experienced and are chosen because we believe that they may contain some levels of depth that will help us understand the different value and belief systems. They are not chosen to be representative of a whole collaboration process but snapshots that build a framework for understanding.

4.1. Narrative 1

”Now it has happened again. For the third time in a row the industrial company has sent a new group of people to participate in our joint research project. This is happening almost every time, so we start as usual with trying to get everybody to terms with the project goals and what was achieved the last time. The two newcomers hardly know anybody so they mostly sit and watch and don’t participate in the meeting at all. Why are they doing this way? Are they not aware of that they are supposed to contribute in the knowledge building process?”

4.2. Narrative 2

“ When having a dual identity as being both a researcher and a consultant I sometimes find that customers are asking for truth and neutrality, and want me to act as a researcher doing the consultant’s work. The reason is that researchers are perceived as neutral and objective, while consultants are not. When I ask the customer for more precise differences between their perception of a researcher and a pure consultant, the customer says that money plays an important role. Personally I find it very strange that the customer thinks that the researchers are more neutral and objective than consultants, although they are both being paid.”

4.3. Narrative 3

”Several times when we have collaboration projects with companies, we run in to some money problem. Even if the company persons participating in the project are trying to get some extra company funding or money to buy necessary equipment for the project, they usually fail. The reasons seems to differ, but it looks like the people who the company are allowing to participate in university collaboration projects are not the same who are having control over any money.”

5. Characterizing the three institutions

In the matrix below we have tried to describe the differences in properties for each of the industry, the consulting business and the academia. We have thus structured properties in five groups: Nature of competition, Goal prioritization, Reward system, Promotion and Perspective on knowledge.

When describing the three institutions we relate to our gathered experiences. Regarding industry, our experience comes from pharmaceutical and automotive industry in Sweden and these characteristics will of course reflect our heritage. Similarly when talking about consulting, we mean IT related consultants who is involved in some kind of organizational change for the customers. And finally, our academia experience comes from Viktoria Institute and Department of Informatics at University of Göteborg.

The intention here is not to provide an extensive characteristic, but to uncover some of the major differences we think is central for the three institutions. Most of the words are taken from each of the domains and is not explained but will hopefully be understood anyway.

Properties	Institutions		
	Industry	Consulting	Academia
Nature of competition	Collective effort resulting in products or services <ul style="list-style-type: none"> • sufficient quality • time-to-market • price/performance • customer satisfaction. 	Knowledge and skill on both individual and group level <ul style="list-style-type: none"> • timeliness • scalability/agility • intellectual flexibility • impress the customer 	Individual research results (undisputable knowledge) <ul style="list-style-type: none"> • contribution to research community • being referred • reviewed and published
Goal prioritization	Product or service deadlines, quality, productivity, price and innovation	Customer relations, earned money and knowledge/skill development	Research ideas, reviewing, publishing, research funding, titles and networking
Reward system	Main focus on <i>collective</i> reward system based on achievements in terms of company profitability. Individual achievements are applicable higher in the organization and rewarded at management level.	Main focus on <i>individual</i> reward system based on individual achievements in terms of profit generation and public visibility, but collective achievements is also acknowledged	Achieved titles opens up the opportunities to apply for positions in the <i>hierarchy</i> which renders more status and income, otherwise fixed salaries and almost no extra rewards available
Promotion	Promotion in hierarchy based on personal achievements in the professional role together with general suitability for the job role	Promotion in responsibility based on social skill and customer handling achievements, together with knowledge and skill within the knowledge area	Promotion based on titles and published results only
Perspective on knowledge	Instrumental view on knowledge – right level of knowledge/skill for the right purpose in the right time – means to the goal	Sellable and competitive knowledge and skill together with prior experience and track record is the goal	True and objective knowledge is the main issue. Teaching is instrumental for nurturing new talents.

6. Values, Underlying Assumptions and Tacit Borders

The mentioned institutions are of course not as homogeneous that such a two-dimensional matrix can capture. Different functions, divisions or departments within the mentioned institutions are continuously developing a variety of values and beliefs based on their role in the different cultures. By working within a larger institution with the same existential goals and competitive climate, we believe that these differences are smaller within each institution than between them.

When coming new to an institution you have most likely already passed the first phase of the socialization process, the selection phase. By accepting people into the organization it is most likely that the most extreme differences have already been avoided. By promoting some behavior and punishing certain other behavior most individuals adjust to the organization's values, beliefs and assumptions rather quickly. The only other option is almost always to leave, even if there are exceptions. (van Maanen) This process results in most cases to a basic level of homogeneity among the employees when it comes to values, beliefs and basic assumptions.

We introduce the expression *tacit border* to describe the invisible, non-explicit walls that sometimes materializes in collaboration projects between industry, consulting firms and academia. These walls have to be revealed and acknowledged in order to perform better in future collaboration efforts. In the three narratives previously introduced we will now here try to reveal these tacit borders.

Narrative 1 shows a conflict when industry employees are participating in a collaborative research effort. Possible reasons for the industry participant behavior can be that knowledge is mainly being regarded as instrumental and that is not something that generates new knowledge. Industry companies are not seeing themselves as being participating in a knowledge creating process, but rather a knowledge consuming process. Knowledge is thus regarded as an asset comparable to other necessary assets, like machinery and buildings so the main goals for the participants in collaboration projects is thus to collect suitable knowledge from the source (university) and bring it back so the company can improve the competitiveness. Knowledge happens, unfortunately for the industry, to be encapsulated in people and not purchasable in packages from a supplier.

In narrative 2 a conflict between the perception of researcher and the perception of the consultant from the customer's view is the problem. A researcher coming from a university is being regarded as somebody who is seeking pure knowledge. Even if he or she is charging a lot of money for the services it will most likely not change the perception of the researcher as somebody telling the truth and is neutral. The consultants, on the other hand, earn money directly on knowledge and skill, and are believed to use that knowledge advantage. The knowledge is regarded as instrumental to earning money

In narrative 3 the reason is simple: The people who have power, responsibility and money in the industry are locked up in the company's core processes: production, marketing etc. Individuals who are allowed to spend time in external knowledge creating processes are not chosen from these groups, because knowledge creation is secondary to the company's goals

7. Discussion

The intention of this paper is to provide a basic framework for understanding why difficulties occur when trying to collaborate between different value sets as in traditional industry companies, consulting firms and academic departments. We suggest dividing collaboration examples into four main areas:

1. New startups with newly formed values, beliefs and assumptions
2. Science parks as IDEON or clusters as Ronneby or Sophia Antipolis.
3. Viktoria institute as the meeting place (Dahlbom...)
4. Research collaboration within organizations (Mathiassen...)

Example 1 describes what is happening in Silicon Valley and to some extent in Scandinavia where both companies and academia has lowered their borders and are allowing cooperation. This result is that university students or researchers rapidly are being sucked up or start up own projects and are pretty quickly on leave from academia.

The idea of science parks and clusters could have phenomenal effects on regions and cities, but does not always have it. People from different organizational cultures are sitting in the same building or area and hence share some culture, but often with locked doors.

When looking in our own situation at Viktoria it seems like a completely new type of

culture has emerged. A different culture, which has the main heritage in academia, but also shows company properties in time-to-market and innovation, and consulting properties when knowledge is regarded as sellable.

Lars Mathiassen, University of Aalborg, is showing another approach. When he produces reflecting practitioners, which then is being injected in industry as industrial researchers in mainly industrial context he is probably not creating a new culture, but adding some new values to the students value sets. (Mathiassen 2000)

We believe we, by tracing back to the explicit main characteristics and goals for each institution, are showing a possible way of make visible why these seemingly implicit borders turns up in cross-institutional collaboration.

8. Future research

In this paper we started the analyze by characterizing the three institutions, then we tried to see the implications in values, beliefs and basic assumptions. Thereby the conflicting situations shown in the narratives have hopefully become more understandable.

The tacit borders between different cultures can hopefully be avoided by revealing and acknowledging them in similar value-based research effort as we have tried to do. The provided paper builds a first conceptual foundation of understanding each institutions set of value. This basic framework provides a possible continuation for future research, when crossing tacit borders and increase the success rate of new collaboration efforts.

We suggest two main areas for possible future research: first; interviews with researchers and practitioners in order to get rigor and detail in the understanding and analyze of each institution. Which tacit borders are really being created and which are being avoided? A value-based analysis of these different collaboration efforts could be very interesting.

Secondly we suggest interviews revealing the actual collaboration efforts and successes in the four main areas described above. We believe that a value-based post-mortem research in the crashed collaboration projects also could be valuable. We assume that key factors for collaboration success lies in the existence of some of these extraordinary people who fluently changes culture and are thriving in more than one of these worlds. What kind of behavioral conflicts do they experience and which have they avoided by following the take path would be topics for analyze in future research.

A long-term result of this could e.g. result in a handbook of pitfalls and success criteria, which could minimize the failures, enhance the quality of collaborations and maximize the outcomes.

9. References

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