UNIVERSITY OF HELSINKI
RESEARCH SERVICES

CO-CREATION
A GUIDE TO ENHANCING THE COLLABORATION BETWEEN UNIVERSITIES AND COMPANIES

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COVER PAGE PICTURE
Blind Men Appraising an Elephant
by Ohara Donshu
Edo Period (early 19th century)
Brooklyn Museum

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PREFACE

Universities are increasingly needed to help solve global challenges. Humanities and the social sciences have especially become significant players in predicting social changes and solving problems in accordance with traditional technological solutions. One method in problem solving is co-creation, in which problems are solved in cooperation with different societal actors and researchers. Co-creation is also given emphasis when applying for funding. Although the co-creation method is used more commonly in collaborations between companies and (academic) researchers, it is still a rather new phenomenon for researchers and therefore requires them to learn a new working logic.

The University of Helsinki, in collaboration with Aalto University, The University of Jyväskylä, Lappeenranta University of Technology and The University of Tampere, participated in a project ”The impact of research at universities as the source for economic growth and productivity in Finland - towards experimental development”, which was funded by the Ministry of Employment and the Economy. The purpose of this project was to survey the requirements of collaboration between universities and companies and to prepare pilot projects to improve the impact and commercialisation of research (*Vaikuttavaa tutkimusta*, Ministry of Employment and the Economy Publications, Innovation 2/2016). This project portrayed co-creation and developing facilitation capabilities at universities as development targets.

The University of Helsinki considers interaction with society and enhancing the impact of research as an important mission (Strategic Plan of the University of Helsinki 2017–2020). The University has strived systematically to educate the researchers in impact and business collaboration, and in enhancing commercialisation. The aim of this project, funded by Tekes (The Finnish Funding Agency for Innovation), was to create co-creation knowledge and operation models for the university. The results from the project have been summarised here, in this Guide to Co-creation

This Guide has been created to define the meaning of co-creation and its role as a cooperation method. It is aimed especially at researchers who are interested in societal interaction and want to develop their co-creation and dialogue skills. The methods in this Guide focus primarily on co-creation between humanities and social sciences, and companies. However, these methods can also be applied to other disciplines, and to cooperation between other actors of society.

I would like to warmly thank the facilitator of the project Antti Hautamäki, as well as Kirsi Pulkkinen, Emmi Holm, Solveig Roschier and Tanja Suni for this wonderful journey in the world of dialogue. A special thanks to the researchers and companies, who boldly took part in this new experiment.

In Helsinki 3rd October 2017

Maarit Haataja

Head of Business Collaboration

INTRODUCTION

Universities have an obligation, besides their basic operation of research and teaching, "to interact with society and to enhance the impact of research results and artistic actions". This so-called third mission, or societal interaction, has become more important in this quickly changing digital world, where renewal is one of the biggest challenges both for society and companies (Hautamäki et al. 2016).

Collaboration with companies plays an increasingly significant role in researchers' work and will continue to do so in the future. Collaboration is emphasised in and also influences decisions in research funding. For example, the Strategic Research Council's and Business Finland's (formerly Tekes) project funding applications must state how cooperation with companies and other stakeholder groups is to be managed and how the impact of the project is to be ensured.

Researchers were encouraged to create new ways to cooperate at the EU level in the beginning of 21st century, when interdisciplinarity and cooperation between natural scientists and social scientists came into focus. The aim to strengthen the role and impact of science in a broader sense at the societal level increased the role and use of participatory research methods and public deliberation. (Owen et al. 2012). This process towards the current Responsible Research and Innovation (RRI) approach that was launched by the European Commission in 2011, is reflected in the operating models in Finland as well. It can be stated that there is "an impact turn" concerning universities, since their operations are evaluated and developed increasingly based on their impact.

In the past, business collaboration has been perceived as a transferal of knowledge and technology to companies. This means that the collaboration was one-sided. The current emphasis on collaboration specifies mutual cooperation as opposed to a transferal of knowledge from one party to another, thus all actors are giving and receiving in a safe and open dialogue. This new approach

is called *co-creation*, which is here defined as solving shared problems in close cooperation.

This Co-creation Guide has been created as part of the Tekes funded pilot project and the results and experiences accumulated during this pilot project have been used in the Guide. Five companies and seven doctoral level researchers from the humanities and social sciences at the University of Helsinki participated in this pilot project. Although methods based on co-creation have been introduced at the University of Helsinki in recent years (for example Demola and Master Class), they mainly focus on enhancing the students' employment readiness. The COHU project, which this Guide is based on, was created specifically for established researchers. These researchers have the knowledge and skills that the RRI approach attempts to bring into use at a larger scale in society. However, traditional doctoral training does not prepare researchers for comprehensive societal interaction. Researchers require concrete means for developing methods of cooperation. The COHU project aims to fill this gap through experimental methods.

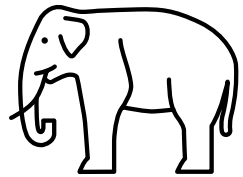
The project had a facilitator (Professor emeritus Antti Hautamäki) and the other participants were employees from Research Services of the University of Helsinki (Head of Service Maarit Haataja and specialists Kirsi Pulkkinen and Tanja Suni) and from Helsinki Innovation Services Ltd. (Director Solveig Roschier and Analyst Emmi Holm). Two researchers (Holm and Pulkkinen) observed the project through action research principles and recorded the discussions without participating in the discussion of the dialogue sessions. That material has also been used in this Guide. The pilot project consisted of six half-day workshops that were held fortnightly during March-May 2017. This project and the pilot is here abbreviated as COHU ("CO-creation model of Helsinki University"). Blog posts concerning the project workshops were published during the spring 2017. In these posts, each workshop was considered from different perspectives. The blog posts are published on the project's internet pages *http://blogs.helsinki.fi/andaction/blog/* as a part of Research Services' communication.

The purpose of this Guide is to provide guidelines for researchers on how to develop and organise co-creation. This Guide includes instructions for the participating researchers and for the facilitators. The Guide describes the main aspects of co-creation that must be considered when similar processes are organised. Co-creation is considered in this Guide as a special operating model between researchers and companies. However, we acknowledge that this societal interaction and co-creation can also be applied to cooperation between researchers and public administration or civil society. For practical reasons, this Guide concentrates on the business dimension of the co-creation process, however we encourage our readers to apply these guidelines to other circumstances and settings as well.

This Guide starts with an introduction to co-creation, surveying the basic principles in university-business interaction and co-creation. The introduction concentrates on problem solving analysis, and understanding the meaning of distinct perspectives in problem solving.

The second chapter introduces the dialogue method. The dialogue method has become an essential method and target of analysis in many research and development areas. Special attention has been paid to facilitating (leading) the dialogue, since dialogue fails without proper facilitation.

The chapter Organising Co-creation discusses how co-creation should be organised and what aspects should be considered when co-creation is implemented in universities. This chapter utilises the experiences received from the COHU pilot.



CO-CREATION WITH COMPANIES

Research and teaching are the core duties of the universities. In order to execute these basic operations, the university has to interact actively with the surrounding society. Research and teaching are influenced by characteristic forms of impact (see Academy of Finland 2016). Impact is often portrayed in a linear model. In this model the universities' scientific knowledge is transferred according to traditional expectations through publications for everyone to use. The university-educated professionals take their know-how to their work places. Long-term basic research creates a knowledge base for innovation actions, while education creates competences that are needed in the companies.

However, it has been noticed that this linear model in fact describes the current way of creating and applying knowledge in a limited and incorrect fashion. The interaction between the universities and broader society is more and more realised in the form of collaboration. (See for example. Prahalad & Ramaswamy 2004, Hautamäki & Ståhle 2012, Ramaswamy & Gouillart 2010, Trencher et al. 2014.) Co-creation is an effective form of cooperation, which is utilised especially when working with companies. In co-creation both the researchers and the companies define and try to solve problems together.

Figure 1 is a schematic portrayal of the university-company interaction model based on co-creation. The core of the figure is dialogue in co-creation platforms or premises, in which both researchers and companies participate equally. Universities' operations are based on research and teaching, and these create a foundation for co-creation. Companies need innovations and are under constant pressure for renewal. In co-creation the know-how is shared in sessions where people with different backgrounds meet. This is a learning and understanding process for everyone.

Learning is an essential factor in an innovation process, and therefore one of the most significant reasons to develop co-creation. It is hard to absorb knowledge

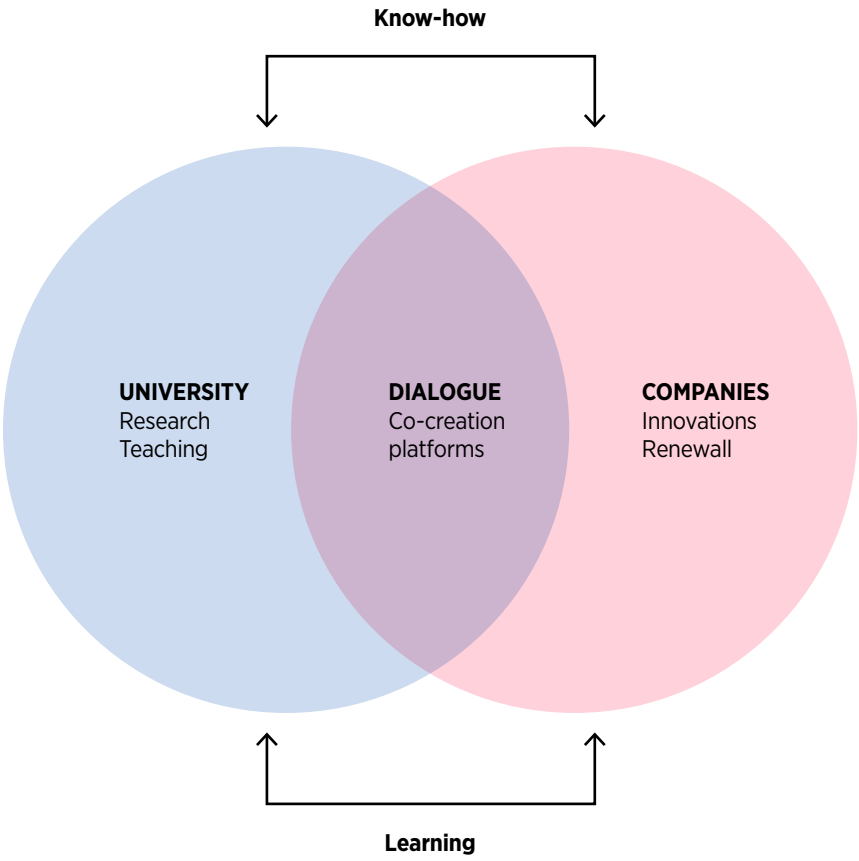


FIGURE 1. University-company interaction model

through academic publications that are aimed at researchers. The most functional way to create and transfer new knowledge is to cooperate and solve problems in collaboration between those who produce information and those who use the information.

The cognitive basis of co-creation is in combining different areas of know-how. The participants of co-creation each bring their own experiences, skills, knowledge and networks to use. New know-how is created through merging researcher knowledge and business expertise. Usually, the results from this merge cannot be predicted beforehand.

Co-creation does not represent traditional commercialisation but rather cooperation that benefits all participants. It is noticeable that one-sided commercialisation should be avoided, since there are many existing models that utilise university research instead of directly commercialising research and innovations (patents). Direct commercialisation leaves out many potential resources that the universities possess. For example, when social sciences or the humanities are left out, the impact of their research goes unmeasured and unnoticed. The societal task of universities is multidimensionally connected to different actors of society. The experiences from this COHU pilot showed that humanities and social sciences such as philosophy, social psychology and communications have a lot to offer companies.

THE CO-CREATION PROCESS

Co-creation means defining and solving problems together. In a co-creation process the researcher identifies the scientific challenges in solving the problem while the company identifies the economic potential. Both parties offer information and know-how to the problem-solving process and participate in both defining and solving the problem in collaboration with one another. Solving the problem produces new information and innovations, and therefore benefits both the university and the company.

There are many forms of co-creation. This Guide surveys mainly *bridging co-creation*, which aims at creating connections between researchers and companies. Bridging co-creation produces solution proposals for problems that have been identified in cooperation. *Experimental co-creation* goes further, aiming to find solutions to the company's problems by experimenting with options created in cooperation (co-development). *Co-research* on the other hand is research conducted by the universi-

ty and the company together, aiming at creating new knowledge. However, not all cooperation is co-creation. For example, in many commissioned research projects the company does not participate in producing solutions and the university acts as a subcontractor for the company. Many instructions in this Guide apply to all kinds of co-creation, but the focus is on bridging co-creation, which was a form of co-creation developed in the COHU project.

Although the primary aim of bridging co-creation is to build connections and networks with companies, concrete results may also be achieved. For example, the problems of companies are clarified, and new solution options arise. In some cases, a new realisation or insight is born, concluding in the company finally solving the problem. However, it is only realistic to state that it is not possible to solve any multidimensional problems with a short-term process. Multidimensional problems require developmental co-creation or co-research. It is important for the university to be able to utilise the relations created during co-creation processes and to create new long-term co-creation processes based on these relations, if necessary.

Although short-term projects offer interesting opportunities, they rarely serve the needs of scientific work for the researchers. Additionally, the benefit gained by the companies remains vague or short-term. In such situations, it is hard to find the motivation or incentives for cooperation. Therefore, the developmental work should concentrate on turning the co-creation process into an established operating method - occasional cooperation projects are not sufficient. With strategic long-term research, cooperation researchers can delve into the problems and companies can achieve sustainable results (see Pertuzé 2010).

CO-CREATION MEANS SOLVING SHARED PROBLEMS IN COOPERATION.

Figure 2 is a schematic portrayal of the co-creation process. It starts with defining the problems and proceeds to solving them. The results are analysed at the end and the solutions are tested in practice. For the company this may result in new practices, services and products, or in the improvement of the well-being at work places and customer service. For the researcher it is essential to evaluate the results from a scientific perspective. Researchers and companies engage in dialogue during each phase of the process. Later, it might be necessary to return to earlier phases, for example, to elaborate on the research question or to test the solution before launching it.

The researchers – in collaboration with the non-academic users of the research (i.e. companies) – define the research topic's contact areas to practical problems and receive first-hand information on the factors affecting the problem. During this cooperation, the relevance, applicability and necessity of the researchers' own research area emerge, even in surprising ways, and researchers acquire current knowledge on the direction where this scientifically interesting business is heading.

The companies describe the meaning of the problem in their operations and the economic, technological and commercial aspects related to the solving of the problem. Furthermore, they offer additional knowledge, information, data, equipment and infrastructure to the research process. One example of this university-company cooperation is a situation in which companies have provided the clinical researchers, who are developing production animal medicine, with some farm-specific data concerning production animal feeding, pathogens, treatments and production meters (e.g. daily growth) during the course of various projects for research in doctoral theses and licentiates. Another example of this cooperation is seaweed farming research conducted by aquatic scientists using big water tanks provided by water technology companies. Furthermore, historians and researchers of literary science have developed significant text "mining tools" with the help of digital data provided by companies.

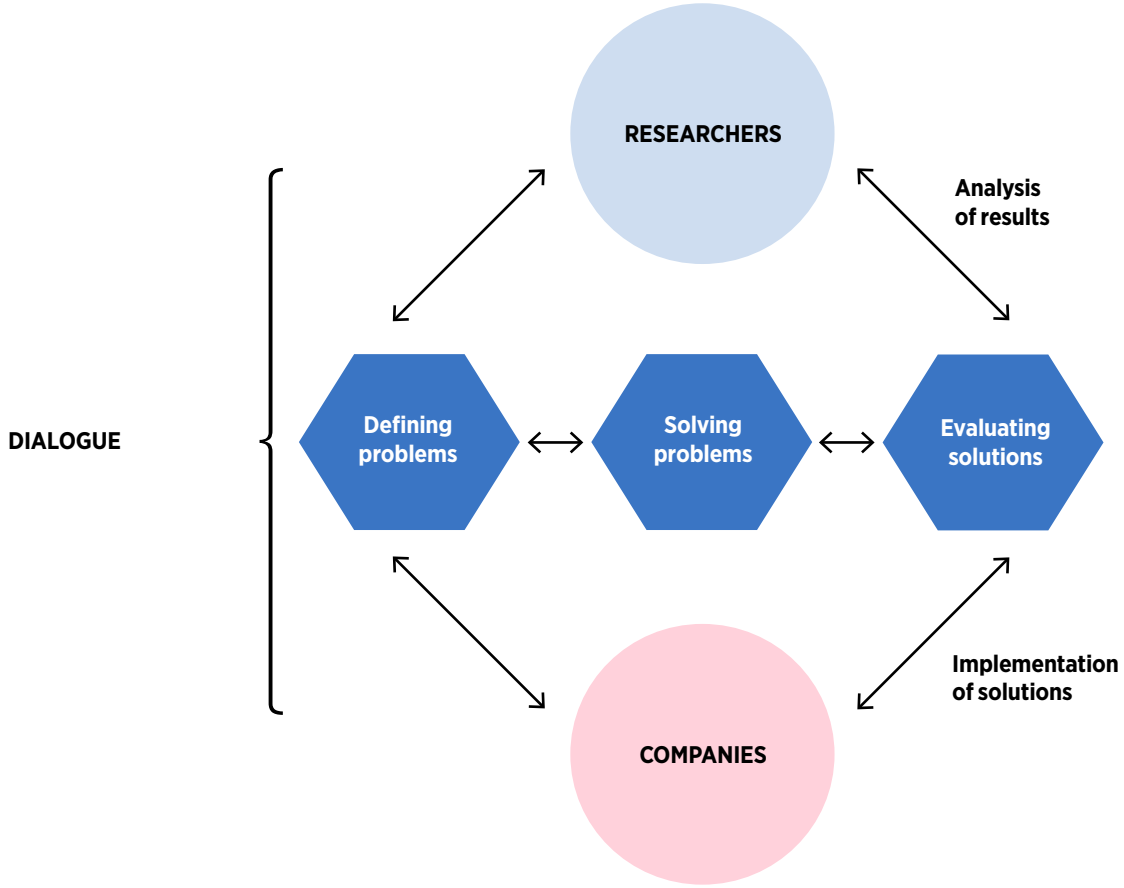


FIGURE 2. Co-creation Process

PROBLEM SOLVING IN CO-CREATION

Co-creation means *solving problems* in cooperation with people with diverse backgrounds and different competence profiles. The problem can be a simple concern that needs to be clarified or solved. It can be a phenomenon, occurrence, task, product etc. In the beginning the problem can be vague and complex, for example, unsuccessful communication or dysfunctional division of work in the company. The problem may also be a new phenomenon, such as the impact of artificial intelligence on specialists' work. Sometimes the problem is extremely challenging, for example, when defining or measuring service impact or the role of emotions in digital communication.

A PROBLEM IS A SITUATION THAT DISTURBS, CONCERNS OR INTERESTS US AND THAT WE DO NOT KNOW, PERCEIVE OR COMPREHEND.

There is no established definition for the concept 'problem'. Each discipline, for example, medicine, psychology and technology, define the concept problem differently, and the definition cannot be generalised to other sciences. Problems are generally divided into two categories: closed and open-ended problems. Closed problems are thoroughly and clearly defined, and it is possible to describe beforehand what kind of solution is needed. An example of a closed problem is an algorithmic problem. Closed problems are often easily solved, but they might be challenging as well.

With open-ended problems the problematic area must be identified, and defining questions must be asked. The solution can be searched from multiple sources. If the problem lies in unsuccessful communication, the possible perspectives are, for example, language use, prejudices, previous experiences and communication tools. The COHU project dealt with these open-ended problems related to, for example, change of generation at work places, changes in work tasks and environments of specialists, and contradictions between societal concerns and commercialisation. For example, the basic elements of specialist work, reading and writing, have become challenging in the current era of information overload – how can specialists in a particular field extract the relevant information from the thousands or even millions of documents available? One way to solve this is to try to develop better algorithms by merging,

for example, technology and human sciences. On the other hand, a solution might be found by promoting mutual understanding in a dialogue process between the specialists and their customers.

Problems may also be divergent or convergent. An example of a divergent problem are so called wicked problems that have no optimal solutions, are complex, interdependent and multidimensional. Such wicked problems are, for example, climate change, urbanisation and problems related to poverty or insecurity. Wicked problems change when observed from different perspectives. However, they are not insolvable. At least partial solutions can be achieved, although it might not satisfy all the participants. A convergent targeted problem may be solved quite easily, for example, simply by asking the right question.

The following list portraying the phases of problem solving has been proven useful (cf. Polya 1945, Gupta 1995, Ritola):

1. Describe the problem area.
2. What really is the problem?
3. Choose and define the problem to be solved (or a part of it).
4. Use experiences.
5. Find out what is already known about the problem.
6. Find new perspectives.
7. Create an initial solution (hypotheses).
8. Test it in practice .
9. Evaluate the end result.
10. If necessary, re-define the problem.

In bridging co-creation, for example in the COHU pilot, it is not possible or even desirable to go through all these phases. The co-development and co-research processes aim at tested and functional solutions. In all processes it is important to understand the characteristics and methods of problem solving.

Phases 2 and 3 create the basis for problem solving. Questions are asked, and the problem is defined. It is crucial for the success of co-creation to find productive questions. During the COHU pilot, the original questions were supplemented and even entirely changed during the process. The problem area defined in the beginning may be extensive and complex, even vague. In such a situation it is challenging to analyse the problem or to proceed with it. The solution, therefore, is to ask more precise questions. Meanwhile, the central question must be kept in mind during the entire process: What does this really mean? What are we actually solving here?

It is hard to find a problem that has never been considered or tested before. Therefore, it is useful to search for previous experiences and see what has been learnt from them. Most issues have been studied before, and therefore to avoid reinventing the wheel this existing information must be taken into consideration Bringing in multiple perspectives is especially crucial when dealing with this kind of problem. New perspectives help to clarify research questions and to create productive solution patterns.

The solution should be perceived as a hypothesis that needs to be tested. In short-term and restricted problem-solving processes this testing is difficult to carry out. If the solution must be tested in a company, a new separate testing project should be created. In a well-functioning co-creation process this kind of additional project can easily be built on top of the existing project, leading to continuing cooperation. Therefore, the observations received during the process accumulate existing knowledge and enhance learning. The practical testing may succeed or fail. In most cases things do not go as expected and the experiment may lead to new problems and questions, making it necessary to go back to the beginning of the solution process.

Companies' need for quick solutions has created a new service sector "solution business", engaged by many national and international consulting companies. The impact of the methods they offer are rarely well researched, although they may have been applied multiple times, successfully or unsuccessfully. Universities engaging in co-creation must ensure that the solutions and recommendations are based on research and scientific critical thinking (Niiniluoto 1987). The co-creation process must offer new information, research ideas and considerable resources for the researchers, to benefit all parties of the process. The fast pace of the business world entails the risk of producing inconsiderate solutions that seem to function, but end up creating new problems and a spiral of problems that are hard to solve. When the company cooperates with researchers, this risk can be reduced.

THE SOLUTIONS PROVIDED BY THE UNIVERSITY ARE BASED ON RESEARCH.

PERSPECTIVES IN CO-CREATION

Often problems are complex. They can be approached from many perspectives and in most cases, it is hard to decide which perspective is the right one. In this kind of situation, the problem is actually its multi-perspective nature. One perspective cannot address all aspects of the phenomenon. On the contrary, the best way to understand a phenomenon is to consider it from as many perspectives as possible. The elephant story on the cover page illustrates such 'multi-perspectiveness' (see the cover picture).

The elephant story shows how people approach the same issues from different perspectives, each perspective presenting only a partial picture of the whole situation. In this story, blind monks try to conceptualise what an elephant is like. One monk grabs the trunk, another the tusk and third one hugs the leg etc. Each monk tells their own story of how they perceive the elephant. The blind monk grasping the trunk thinks that the elephant is a hose and the one grasping the tail perceives it to be a rope. Tusks on the other hand create an image of a smooth and hard object. The leg resembles a pillar. All the perceptions and stories are correct, but insufficient on their own. These perceptions do not create a holistic picture.

A perspective can be defined to describe a phenomenon through its different parts or aspects. For example, the social welfare and health care reform (Sote) can be considered from economical, organisational, competitive, personnel's, service providers' or customers' perspectives. Each of these perspectives portrays a distinct viewpoint of the same phenomenon. It is hard to decide which of these viewpoints is the most important one. The chosen perspective defines which aspects of the phenomenon are problematic.

In co-creation it is important to recognise and analyse new perspectives and to perceive their value. This is the reason to include people with different backgrounds and perspectives in co-creation processes. Diverse backgrounds of the participants may cause confusion in the beginning, but in a considerate dialogue this confusion may turn into curiosity. This curiosity invites to explore what the unknown background means in practice. Sincere curiosity in a dialogue creates confidential discourse and therefore supports mutual learning. Although this situation might not actually solve the problem, it helps the participants to place the knowledge of other participants into a positive context. This creates a convenient atmosphere for a co-creation process where the participants dare to throw out ideas, grasp others' ideas and encourage others to find their full potential.

DEFINING AND ACCEPTING DIFFERENT PERSPECTIVES IS THE CORE OF CO-CREATION.

Perspectives are influenced by many factors, for example, a person's position, roles, assignments, background and level of experience For example, a researcher's perspective differs from that of an entrepreneur's, but on the other hand, the perspectives of researchers in different scientific fields may differ radically as well. Furthermore, for companies operating on different business models it may be challenging to find mutual understanding. A common language can also be difficult to find among those who use quantitative methods and the researchers who use qualitative methods, as such perspectives differ vastly. For example, the concept "commercialisation" sounds contradictory to the researcher's own values and, on the other hand, the concept "impact" sounds flimsy although these concepts are often used to describe the same thing – science's ability to spark societal change.

Everyone has their own perspectives through which they observe the world. Expertise varies as well, some argue using practical experience while others use validated (research) knowledge. Researchers mostly use information from scientific research and their own research-based expertise in their work assignments. The companies' or other participant's perspectives in defining and solving the problem may be based, for example, on subjective experiences or emotions. The facilitator has a significant role in mediating and combining these different perspectives and backgrounds together.

However, perspectives are not fixed, and rather, can be changed when new information is acquired. We can also learn to understand the perspectives of others. The more familiar we are with the other person's empirical knowledge or approach, the better we can understand the person's perspective. This is important in a dialogue, where the restrictions of one's own perspectives are made concrete, and benefits are clarified in practice.

In co-creation participants from diverse backgrounds solve problems together. Often the participants of the problem-solving process come from the same organisation or are somehow already familiar with one another. Thus, they share a common empirical background and language. This kind of setting may suggest that problem solving simply implies gathering these people together to discuss a given prob-

lem. Such an approach and setting may indeed produce great solutions, but applying these solutions may prove to be more challenging. This is due to the fact that a shared empiric background and language in fact restrict cooperation, since the organisational knowledge is regarded as self-evident and the solutions are sought for within that context.

Finding genuine new solutions in cooperation with like-minded people is demanding. If there are participants coming from outside the organisation, issues appearing as 'self-evident' must be unravelled and clarified. This often highlights deficiencies in existing operating methods and in alleged 'truths'. This realisation may lead to a re-evaluation of the problem or finding new solutions. For example, it may come forth that the presumed resistance to change among personnel is unfounded, while the problem in fact lies in inconsistent communication. Moreover, the misunderstood internal communication among the personnel may raise questions of differences in values, well-being at work or lack of trust. The possibility to find a functional solution multiplies when the problem is considered from new perspectives, and the organisation and methods are exposed to constructive criticism.

Deep cultural differences are present when university researchers participate in co-creation with companies. Researchers are driven by curiosity and desire to understand the comprehensive nature of things and causal connections. Researchers want evidence, and follow science's ethical principles. Their professional identity requires exposing their own work and thoughts to criticism. Researchers are not primarily concerned with a project's timeframe. Companies, on the other hand, operate in a fast-paced world, where the problems must be solved as quickly as possible. There often is no time nor resources to find the best possible solution, but rather solutions are sought that appear financially profitable, technologically possible and functional in that moment. Whether such a solution is sustainable might be irrelevant if a competitor is about to overtake. One way of maximising the attainment of more sustainable solutions is for companies to consult researchers. Their scientific independence and critical approach in problem-solving ought to be understood and sought after outside academic circles. It is crucial for successful co-creation that researchers and those using the information understand each other. The best way to realise this is through dialogue.

FINDING TRULY NEW SOLUTIONS IS HARD IF ALL PARTICIPANTS ARE LIKE-MINDED.

DIALOGUE METHOD AS A BASIS OF CO-CREATION

The dialogue method is an old concept with a long history, and Plato in particular made this method well-known with his writings. In many of Plato's dialogues, Socrates (427–347 BC) discusses with the scholars of his era. In these dialogues, the limitations of the discussion partner's knowledge are exposed by asking skilful questions. According to Socrates it is more important to ask the right questions than to reveal ultimate truths. (Kakkuri-Knuutila 2014.) Subsequently this dialogue method has been used and developed by numerous philosophers (e.g. Hans-Georg Gadamer) and professionals in other fields in different subject areas, for example, in management, education and learning, communication, creativity, problem solving, psychology and science studies. Concerning the dialogue method as regards this Guide, the most interesting analyses and handbooks are the ones from Alhanen (2016), Bohm (1996), Puro & Matikainen (2012), Senge (1990) and Strober (2011).

The concept dialogue stems from the Greek words dia (through, across) and logos (speech, reason, knowledge, wisdom). In a dialogue, meanings flow to others through conversation, while issues are clarified through speech. A dialogue means a conversational exchange between two or more people whereas a monologue is a speech presented by one person.

THE NATURE AND PRINCIPLES OF DIALOGUE

The type of dialogue needed in co-creation refers to open, equal and confidential discussions. The meaning of such dialogue can be summarised in two points.

1. **Common ground:** Since everyone has their own personal perspectives, mutual understanding is needed. That can be found by means of a dialogue.

2. **The richness of diversity:** Since the backgrounds and competences differ, the combination of participants creates a bigger and richer whole. Diversity creates multidimensionality that is brought together in the dialogue.

Kai Alhanen, who has written about dialogue in a democracy, aptly describes the dual need for dialogue:

> *"People share a common world, which appears to an individual both similar and different. Things that appear the same for everyone create a strong basis for life: a shared reality and values that guide our lives. However, the individual experiences of the same situations differ. These different experiences are both scourges and assets. They divide people and lead to confrontations when dealing with common affairs. On the other hand, to experience differences allows people to learn from each other and to expand their understanding of the common world."* (Alhanen 2016, 28.)

Common ground precedes combining differences. To achieve common ground, we have to understand each other's perspectives and experiences. This creates common meanings. The diversity of people is not only a problem, but also a source of enrichment. In order to achieve a common ground, each participant must have the desire and courage to expose their own perspectives in critical discussions. In a confidential atmosphere nobody experiences a need to defend oneself or to attack others' perspectives.

A different and possibly contradictory perspective is not merely tolerated, but it is received with an open mind by reflecting why the person perceives the issue in a certain way. It is better to ask clarifications about an incomprehensive perspective than to react to it with an aggressive or condemning attitude. A different or irritating perspective can be heard by distancing oneself, to avoid taking issues personally

or being offended by them. In this way, the perspectives are not perceived as reflections of the individual person's own humanity or intelligence.

Perspectives and meanings are strongly based on subjective experiences. Emotions are always involved in experiences, although their interpretations are based on intellectual approaches. A requirement for a successful dialogue is to understand how perspectives and opinions are anchored in experiences and their emotional ties. It is not easy to talk openly about experiences. There must be a confidential and safe atmosphere, where everyone feels free to share and experience aha moments. The creation of this kind of moments is one of the main tasks of the facilitator. Co-creation at its best can offer fireworks of inspiring personal and collective learning that propels the process forward.

DIALOGUE MEANS OPEN, EQUAL AND CONFIDENTIAL DISCUSSION.

Dialogue is an excellent means to strive for mutual understanding. Yet it also has a deeper, humanistic dimension. A dialogue is an equal and confidential encounter of people. This is not possible if the dialogue participants do not respect each other. Setting oneself above others does not belong in a dialogue. Respect is shown by listening and being open to others' opinions. From this view point, dialogue is an intensely ethical way of confronting other people. As Kai Alhanen says "there is connection between the dialogue participants that is based on mutual respect" (Alhanen 2016, 37).

Another basic principle in dialogue is openness. Here, openness means that a dialogue cannot have a pre-determined end result. Usually there is no final truth or right answer to the problem. Therefore, it is crucial to take each perspective into consideration. It requires self-control to not shoot down perceptions that from one own's perspective seem irrelevant or misleading. Dialogue fails if one regards one's own perception as the best one or the only truth. The openness of dialogue results into something new and unpredictable. Everyone learns.

A dialogue should not be regarded as a podium for expressing own opinions or persuading others to adopt one's own solution. One can learn only by listening to others. Participants should not rush to find solutions. An obvious solution found in the beginning of the co-creation may turn out to be a solution to the wrong problem. Then again, that suitable idea or solution found at the beginning can be used as a measuring stick for creating clarifying questions in order to define the problem or create new solution proposals. There are no bad questions or ideas. It is crucial to have the courage to bring up even incomplete ideas to be able to use them in the dialogue process. Dialogue proceeds in phases from getting to know each other and defining the problem to brainstorming and producing solutions.

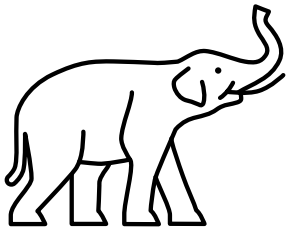
The basic principles of a dialogue are:

- A dialogue situation is equal
- Dialogue proceeds freely
- People listen and try to understand each other
- No single perspective is inherently better or worse than another perspective.
- Hierarchical settings, arrogance or seeking pre-determined results are not part of a dialogue
- Dialogue is a mutual learning process

Dialogue is always conducted through language. Language is a system that conveys meanings, with meaningful words playing the central role. Language users often give different meanings to the same expressions based on personal experience. Reciprocally, different expressions may carry the same meaning. In both these cases, the dialogue participants speak past each other, often without noticing. Participants should be instructed to consider the jargon of their specific field and ways of expressing themselves, and to clarify these in the dialogue. Hence, one of the most important prerequisites in successful dialoguing is the creation of a common language. This happens in a dialogue in which everyone aims at expressing their opinions as truthfully and clearly as possible. However, this is not enough.

Dialogue always follows a certain logic in which a particular speech chain unfolds. Subsequent speeches are so-called conjugate pairs, that should in an ideal dialogue relate to one another. A question is followed by an answer. The statement that follows should be related to the same issue. Denial should be followed by defence. However, this does not mean that the speakers that follow should agree with the speaker that came before them. This logic in conversations is easier to understand when discourses are interpreted as speech acts (classical text of Austin 1962, see also Koskensilta 2017) which do not only argue, but also ask, request, predict, promise, encourage etc. The facilitator's task is to make sure that the speech chain proceeds smoothly without restricting the freedom of conversation.

A speech act always creates meanings and reality. A speech act is not just saying, but includes expressions, gestures, tones and other nonverbal communication that the speakers themselves are not always aware of. People interpret these nonverbal communication signs constantly and evaluate them in accordance with the words being spoken. For example, a defining follow-up question can be presented with a friendly open body language or with an aggressive fierce facial expression. The conveyed message in these situations is rather different. The better the dialogue participants understand this kind of contexts, the more productive the conversation is. Therefore, settling in a dialogue is a learning process where the participants learn to express their thoughts and interpret the speech acts of others. This learning process should be emphasised right from the very beginning.



THE RULES OF DIALOGUE

How does a good dialogue work? There is no need to re-invent the rules of dialogue. There are many good dialogue guide books and presentations available, such as the book Dialogi Demokratiassa, 2016, (Dialogue in a Democracy) by Kai Alhanen and the guide book Dialogi – yhdessä ajattelemisen taito, 2012, (Dialogue – The Ability to Think Together) by Ulla Puro and Janne Matikainen. We have perceived that the following rules are understandable and functional, and apply to all participants:

1. Do not talk to yourself, dialogue is a conversational exchange not a monologue.
2. Do not assume that only your own opinion is important and worth expressing.
3. Tell what kind of thoughts and emotions arise from the experiences of others.
4. Do not hesitate to tell your opinion and do not be afraid of confrontation.
5. Ask if you do not understand what the other person is saying, do not presume.
6. Speak only for yourself, do not refer to a collective ("we know / it is known")
7. Let everyone speak in peace, do not interrupt or talk out of turn
8. Listen to what others say and want to say
9. Encourage others to express themselves
10. Continue the ideas of others and develop the idea further
11. When criticising, be constructive: "Could one think about this in such a way ..."
12. Use language that others understand and avoid using jargon

However, it is not that easy to follow these rules. Many are eager to put forth their own opinions, while others are shy to express theirs. Some do not listen, and some tend to know too well what others are thinking. Settling in a dialogue requires a certain attitude and certain skills such as an ability to listen, an ability to tolerate uncertainty, as well as skills in being sincere and courageous. Dialogical skills and virtues can be learnt with practice (see Kakkuri-Knuuttila 2014, Kylliäinen 2012).

DIALOGUE AS A GAME

When the dialogue method is developed in an academic context, it deals with tendencies and approaches characteristic for universities. Criticism and posing counter-arguments are part of the essence of science and virtues of researchers. It is said that a researcher is constantly playing "a doubting game", in which the researcher tries to overrule each argument or find weaknesses in it (Strober 2012). This operating model is based on the self-amending principle of science. Although the doubting game develops the science further, it is a problematic basis for a dialogue.

Dialogue makes use of a different kind of "a believing game", in which participants consider what the new idea, perspective or idea means, how it could be developed further and what good could come from it. Therefore, the conversation motivates its participants to present innovative ideas and to discuss them freely. Even criticism is tolerated better when it is presented in a respectful and cooperative manner. Ideas are not shot down, but are encouraged to be developed further. Weaknesses are sought to be removed collectively or to improve upon. Actions are governed by a spirit of togetherness, thus there is no need to find out who originally came up with the ideas and who found the missing piece to creating a functional solution.

The doubting game and the believing game need not be considered as opposites. New thoughts and ideas are rarely born without critical questions. A good dialogue includes productive tensions that increase the intensity of the dialogue. Asking perceptive questions is part of the researchers' expertise and exploiting this expertise in the dialogue holds a significant advantage. It is important not to get stuck in criticism but always to proceed into the believing game. At best, the doubting game and the believing game are evenly intertwined, as one researcher participating in the COHU pilot pointed out.

A DIALOGUE CANNOT HAVE A PREDEFINED CONCLUSION.

The dialogue method is central to Philosopher Hans-Georg Gadamer's philosophical hermeneutics (Gadamer 2004). Gadamer compares the participation in a dialogue to playing a game. This implies a situation in which the participants are carried away by the game: the game cannot be played from outside, only from within. The individual is no longer the subject of the game, but the game itself becomes the subject that steers itself. The game creates its own "truth". This game metaphor reveals the nature of the dialogue method: throwing oneself into it creates an intensive process whose results cannot be predicted or simply calculated, as totalling the combined knowledge of the participants might. This intensity creates flow. Dialogue always creates something new and inspiring.

HOW TO FACILITATE A DIALOGUE?

Although 'free flow' is one of the principles of dialoguing, a dialogue can and must be guided. Facilitation is not only about summoning the meeting or arranging the setting for the dialogue, but guiding the dialogue meeting with manners that support the dialogue. A facilitator[1] (guide), who understands group dynamics, is neutral and makes the process flow. The role of a facilitator is not merely ceremonial, the facilitator utilises their own expertise and experiences in facilitation.

THE FACILITATOR CREATES TRUST AND ENSURES FLUENCY OF THE DISCUSSION.

[1] The concept facilitation originates from the Latin word facil, "easy". Facilitation means planning and organizing a group process. A facilitator supports and encourages, "eases" the independently operating group process.

Roles and Tasks of the Facilitator

The dialogue facilitator's only interest in the process is to support a solution-focused discussion. The facilitator must keep their own opinions out of the process, since expressing their own views disturbs free conversation and compromises neutrality. These same rules apply to the possible assisting co-facilitator.

The facilitator's mandate must be clear from the beginning, since the facilitator has a central role in creating flowing discussions and suitable atmosphere. The dialogue facilitator is not a conversational leader in the traditional spokesperson meaning. Guiding a dialogue not only means to ensure the flow of the discussion, but mainly to inspire the group to participate in it. Puro and Matikainen refer to the facilitator as 'an inspirer' in their Dialogue guide book. A good leader creates a good and open atmosphere that encourages people to participate and share thoughts. At best, dialogue turns into co-thinking that includes everyone: "we think, not I think". The facilitator inspires the participants to create a genuine dialogue by asking new questions, encouraging the silent ones to get involved, returning the conversation to an interesting theme that has not yet been touched upon, or by other similar means.

Work Experience of the Facilitator

The facilitator should have a long, comprehensive and versatile work experience. The facilitator's background creates the basis for guiding the dialogue. In addition to official qualifications and knowledge, the facilitator should also possess tacit knowledge that is based on versatile experience. Acquiring this kind of experience takes at least a decade and show in the facilitator's ability to make rational syntheses from rambling discussions. In addition to securing the flow of the discussion, a good facilitator can reflect concepts, their relations and their meanings in a manner that is understandable to the participants. Therefore, facilitating a dialogue is a specialised work that, in addition to the (aforementioned) know-how, requires requires interpersonal skills, ability to manage complex entities and an endless curiosity in creating new knowledge.

Many researchers are extensively qualified to facilitate a dialogue and there is often no need for special training. The researcher's comprehensive experience and extensive educational experience create a solid basis for facilitating. When the researcher prepares to facilitate a process, the facilitator's following tasks should be kept in mind:

- Creating trust
- Communicating the objectives of the discussion clearly and repeatedly
- Paying attention to group dynamics
- Creating productive conflicts
- Helping participants to go beyond their own cultural 'comfort zones'
- Synthesising ideas and information presented
- Inspiring courageous dialogue
- Evaluating the process constantly and redirecting the conversation if needed

Creating Trust

The first challenge in facilitating is creating trust. This starts right from the beginning: arrival, introduction, humour, etc. The facilitator must be a humane and approachable person whom the participants dare to approach with incomplete ideas. The facilitator is the first one to be vulnerable in front of others. Others follow the facilitator's example in this new situation. People who meet each other for the first time tend to be reserved and ponder whether they have the courage to say anything. There are stereotypical prejudices and expectations associated with participants of different groups, but these are often resolved in a suitable atmosphere and over time. Many cultivate their own stereotypes and even hide behind them. Trust is fundamental, since in dialogue one must step out of one's comfort zone. This trust is built during the course of the entire dialogue and in many cases deeper trust is achieved only after several dialogue sessions. Trusting the facilitator is essential to achieving this trust within the group. Therefore, choosing the facilitator is a critical factor towards success in a dialogue.

Goal-orientation of a Dialogue

A dialogue must have a clear goal. Right at the start of the dialogue the facilitator defines what the goal is, and , and why it requires this particular setting of cooperation. The goal should be repeated frequently in order for the participants to be able to orientate themselves towards achieving the goal and to avoid getting sidetracked, which as such might be equally as interesting. A goal does not mean confirming predefined results or hypothesis, but concentrating on the chosen theme and understanding or solving problems that were defined together. Concrete goals can also be set during the dialogue. The overall goal of the dialogue is to get people together and create mutual understanding among the participants. Regardless of the set goals, it is important that everyone understands what is being talked about.

Progression of Dialogue

There are several phases in a dialogue. The confusion and excitement in the beginning might be followed by frustration and conflict. It might feel like nothing is moving forward, stated opinions become predictable, some speak while others are silent etc. There is no chemistry between participants or opinions clash. Conflicts arise, and people withdraw from the dialogue. Comprehensive knowledge of group dynamics and discretion is required from the facilitator at this point to further the process. The facilitator should not shy away from conflicts; the facilitator's task is to mediate them and ask additional questions.

Cultural Bonds

It is usually hard to identify one's own cultural bonds, which have been internalised and adopted without one even noticing. Cultural bonds here refer to the bonds that affect our everyday lives, rather than to one's national characteristics. Researchers from various scientific fields all have their own norms and assumptions of what is real and 'good research', how to conduct it, how to write about it, which methods to use, which are the basic theories etc. Entrepreneurs and their specialists have their own cultural basis, which include, for example, economical thinking, pragmatism, competition and sense of urgency. Professional identities (for example, engineer, lawyer, doctor, sociologist) are also strong and possess their own perspectives. The dialogue facilitator encourages the participants to go beyond their own cultures, or

at least helps them to become aware of their own and compare it to other cultures. However, the facilitator must make sure that this does not lead to a value judgement.

Productive Conflicts

A dialogue should not simply be some kind of 'collective mumbling. The dynamics of dialogue demand productive conflicts and tensions. It must be accepted that some questions divide opinions. Examples of dividing questions are immigration, equality, economic policy, social security and inequality. If these conflicts are relevant, they should not be avoided. Conflict situations are excellent opportunities for collective learning, if the conflicts are manageable and they are dealt with in a constructive and respectful manner. Issues are addressed and considered from different perspectives.

The goal of a dialogue is not to choose sides, to rally against others or to win a debate, but rather to learn, to understand the complexity of phenomena and of different perspectives. Conflicts become productive if the participants do not concentrate on who is right or wrong and do not take other's perspectives (and opinions) to be reflections their personality. reflecting person's personality. Therefore, the focus of interest lies on how people explain their opinions and how they try to build bridges between different views.

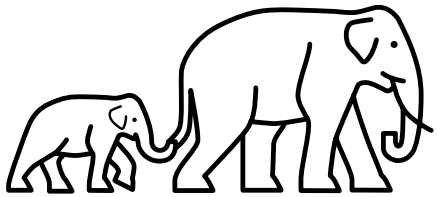
Ensuring Participation

One of the main tasks of the dialogue facilitator is to ensure that all participants engage equally. The facilitator and possible co-facilitator remain neutral and do not participate in discussions. From this position, the facilitator can notice if the discussion is not flowing or is revolving around the internal questions of one professional group. Discussions may, for example, concentrate solely on science policy or research methods or alternatively on internal questions of a certain business sector. Such a discussion excludes many dialogue participants, which may cause withdrawing from the process. The group's common cause, which the participants came to together to discuss, is overlooked while focus on the shared problem is lost. The facilitator must observe where the discussion got side-tracked and get the participants to concentrate on the discussed problem in order to guide the discussion back to the issue. To succeed in this the facilitator must put forth their own value neutrality while simultaneously creating new outlines based on earlier discussions.

The Need to Summarise

The free nature of dialogue often leads to a situation where the same aspects are evaluated and analysed differently. This is one of the goals of the dialogue, but if things are left "hanging in the air" the productivity of the dialogue declines. The facilitator must summarise the main themes and perspectives of the discussion during and after the dialogue session. The dialogue needs synthesis that summarises the different issues discussed and outlines a new overview. The facilitator should therefore not only ensure the flow of the dialogue, but also remember and understand the most important themes. Thus, the facilitator must have a comprehensive overview of the issues discussed.

The summaries of the dialogue facilitator are crucial in analysing the diversified discussions. Participants communicate both verbally and nonverbally. The facilitator must concentrate on following and understanding both communication methods. To be able to interpret these direct and subtle messages the facilitator should have comprehensive knowledge in different fields of interaction. In short: the facilitator should be able to concentrate on free brainstorming to clarify the message conveyed and to create conclusions in a manner that takes the process forward. In order for this to happen in practice the facilitator must be freed from taking notes. This task belongs to the co-facilitator.



ORGANIZING CO-CREATION AT THE UNIVERSITY

Co-creation in the university context has its own characteristics that must be considered when planning co-creation sessions. How many companies ought to participate? On which criteria should the researchers and companies be chosen for the project?What will motivate the researchers and companies to participate? At what price should participation be set?How should intellectual property rights (IPR) be dealt with?

All co-creation processes create new value through cooperation. This means creating new meanings, not only of economical value. Issues are seen in new contexts and perspectives. Creating new information and understanding is also value creation. This is a significant point for the research universities that strive for multidimensional societal impact. This chapter considers organising bridging co-creation by emphasising the value creation related to co-creation.

Bridging co-creation refers to a process aiming at building bridges between researchers and companies. The aim is to introduce researchers and companies to each another, to build networks between them and to search for questions that interest all participants. Concretely, this means perceiving and solving problems that have been defined in cooperation. One example of this bridging co-creation is the COHU pilot which was realized at the University of Helsinki during the spring 2017. Five companies and seven researchers from the fields of humanities and social sciences participated in the COHU pilot, with the goal being to find companies that want to engage in long-term cooperation.

BRIDGING CO-CREATION DEFINES RESEARCH QUESTIONS OF COMMON INTEREST IN COOPERATION WITH COMPANIES.

ORGANISING DIALOGUE AND WORKSHOPS

The dialogue process starts with an introduction to the subject matter and the dialogue's goals. These introductions should be kept brief and concise, although the subject matter is multidimensional and has multiple connections. Some actions to keep the participants active should be taken in between the facilitator's lecturing speech so that the participants with different working methods and professional backgrounds can better follow the process and apply their own know-how to the issues concerned. This concretisation of complex issues offers the participants a possibility to get to know each other through practical work. Methodological and theoretical discourse should be summarised and targeted in a context understandable to participants. Clarifying examples can be used to concretise speeches. Professional jargon should be kept to a minimum, since one type of jargon that unifies one group inherently excludes another. Generally, the use of jargon divides the participants, when what ought to be created is rather a common language and communal atmosphere.

Co-creation starts with an introduction of the initial problem hypothesis and its context, although the process itself is based on defining the problem as a group. The initial hypothesis may come from the company, as in the COHU project, but it may also come from other participants. The hypothesis is brought to the discussion as an opening outline that the participants together start to define, clarify and analyse. In order to ensure participatory processing, the context of the problem should be introduced before the problem hypothesis. Then, the other participants can form their own opinions of the situation and settings which the problem pertains to. If, however, the introduction starts with the problem hypothesis, the participants are lead to assess the context through the problem. This weakens their ability to evaluate the problem from multiple perspectives, by using their comprehensive, merged know-how.

A safe atmosphere is the foundation of free discussion. Creating a safe atmosphere must start right from the beginning. The dialogue facilitator has a central role in creating a safe environment, since all the attention is focused on the facilitator in the beginning. Suitable icebreakers can be used to relieve the tension at the beginning. Such icebreakers can be, for example, the funny elephant story or portraying different human types with different coloured hats. Since such types of humour is not targeted at a single participant or group of participants, it helps to elevate team spirit. This encourages everyone to deal with oneself and others with warm and sincere curiosity.

The way in which workshops are arranged is crucial for co-creation.. It is important to pay attention to both the participants and the defined goals of the process. The setting should be arranged to serve these aspects in order for the workshops to run smoothly and without distractions. Here are some general guidelines for the setting, to help get the dialogue off to a good start:

1 **Workshops should preferably be arranged in the morning.** Co-creation is demanding intellectual work that requires abandoning traditional customary operating models. Workshop discussions are intensive, and the participants should be able to concentrate on the discussed topic for a long time. People are usually the most observant and in their best working mode during the mornings.

2 **The starting and ending of the workshops should be arranged in a manner that breaks the ice and boosts team spirit.** An effective way to bring people together and to prepare the transition to the co-creation workshop is to eat together. Eating in the beginning, for example a breakfast, prepares the participants for the workshop and therefore the used time is gained back once the group is able to transition into more effective discussions. If only one meal can be included during the workshop, that should be a lunch at the end of the workshop, while only coffee can be served at the beginning. A shared lunch strengthens the team spirit that is crucial to co-creation and offers an opportunity to continue workshop discussions in relaxed and unofficial circumstances. Cooperation processes are boosted in lunch discussions.

3 **The arrangement of the setting reflects the nature of the work.** The participants' equality is essential in co-creation, thus it must be reinforced in all possible ways. A functional way to communicate equality is to position the participants in an open circle. The facilitator and the possible co-facilitator sit among the participants. Participants can see each other at any given time while sitting in a circle. Tables and other physical obstructions ought to be removed out of the circle. Thus, the participants have no 'walls' to hide behind. Laptops, tablet computers and other electronical devices are left out of the circle, allowing the participants to concentrate on the discussion. The use of computers and mobile devices should be addressed right in the beginning. The facilitator could say, for example, that experience has shown that when using a computer, or a mobile device, participants tend to not be truly present in the situation. It is recommended that devices are not used during discussions, and that urgent matters can be taken care of, for example, during the breaks.

4 **A bright and airy space supports coping.** The workshops are intensive sessions that last for 2-3 hours, thus it is important to host them in a comfortable space. A relaxed, functional, warm and bright space is more appealing than a cold, chilly and dark space resembling a conference room. In a physically and aesthetically pleasant space it is easier to concentrate on essential issues.

5 **Whenever possible, clarity is essential.** Co-creation is based on throwing oneself into the process and finding the unpredictable. Explicit processes and time span are needed to counterbalance this. It is important to describe in the beginning how the entire process is meant to proceed. At the end of the process the facilitator should define what has been achieved and how the process continues. The participants can then follow the process to its end and are able to understand the achievements reached in the current phase.. This helps them to predict the future actions.

6 **The facilitator and the participants each have a responsibility in co-creation.** The main responsibility of the participants is to engage actively in discussions and to utilise their own know-how in cooperation with others. If some additional contributions are required from the participants, for example, introducing the company or research data, responsibilities and timing should be expressed clearly and with due notice. The participants can then be prepared by presenting their special know-how in such a manner that serves the entirety of co-creation and not just themselves. The same clarity is required from the facilitator. The facilitator starts and ends the workshops, ensures the flow of discussion and helps the participants to keep to the subject. Furthermore, the facilitator's task is to maintain respect for the dialogue. Therefore, the principles of dialogue should be repeated shortly in the beginning of each workshop. If plans are changed, the facilitator explains this in time. The participants "own" the co-creation processes. Therefore, the facilitator must make sure that the participants understand that the structure of the process serves their co-creation process. The facilitator does not lead, but guides the process in such a way that the participants are able to bring their versatile know-how forth and work together in co-creation.

CHOOSING PARTICIPANTS

An essential factor in choosing the participants is their individual motivation. Participants come to co-creation from different starting points. Whereas one might aim to solve a practical problem, another might be driven by a certain method or desire to experiment. Some need new cooperation models or contexts to develop ideas and some are searching for versatile career opportunities. Participants' motivation and their origins should be regarded openly and acceptingly. It is essential to consider what this means to the individual. Versatile motivations are a richness, as is the difference in know-how.

The compatibility of the group is another essential aspect, in addition to the individuals' motivation. The success of the co-creation is strongly based on finding a suitable combination of researchers who have competences and knowledge relevant to the problems presented by the companies and who can provide innovative approaches and perspectives. It is easier to solve this "matching problem" if there is enough information available of the problems presented by the companies in advance. This should be considered when choosing the companies. In the COHU pilot, the researchers who participated were specialised in consumer research, organisational research, social psychology and communication, and this combination turned out to correlate well with the companies' problems that were related to, for example, expertise, digitalisation, management and communication. If the researchers had come from other fields, the results would likely have been different.

When planning the co-creation process it must be kept in mind that getting excellent individuals to participate is not enough. The combination of these individuals should be suitable for the dialogue. In practice, this means that the participants' backgrounds should be different enough to bring new connections when combined with others. If the participants have similar backgrounds they might be able to create a common language quickly, but the variety of perspectives remains scarce. The success of a dialogue necessitates exposing the different perspectives to circulation amongst the participants, thus the participants' backgrounds should differ. On the other hand, it must be ensured that the perspectives do not contradict one another on an ideological basis. Although the discussions would likely be interesting, creating a trusting and safe atmosphere between such extreme views is hard.

AS THE PARTICIPANTS' WITH DIFFERENT BACKGROUNDS MEET, NEW KINDS OF CONNECTIONS CAN EMERGE.

ONE OR SEVERAL COMPANIES?

Companies differ vastly, and they have different problems to be solved. Companies can also be rivals if they operate in the same field or use the same methods. In co-creation it is preferable to have more than one participating company, but the companies should not be rivals. Furthermore, the aim should be to recruit companies whose problems have synergy. Many companies from different fields have similar problems related to management, personnel, communication, growth or new technology. Then the companies can mirror each other without feeling that the success of one company weakens the other's position. On the contrary, new collaboration between companies may arise as a by-product from a good co-creation process. The basic options and their respective benefits and disadvantages are outlined here:

CO-CREATION MUST BENEFIT ALL PARTIES.

ONE COMPANY PARTICIPATING:

- + lack of competition, which increases trust;
- + focus on the company's own problem and sufficient time to consider it;
- + possibility to gather researchers who are optimal for the problem;
- – restricted basis for generating ideas, no possibility to reflect with other business based operators;
- – weak possibility to expose their own perspectives to constructive criticism;
- – a risk that the researchers experience the process as a one-sided service and not as an equal cooperation process.

SEVERAL COMPANIES PARTICIPATING:

- + companies benefit from considering other's problems;
- + networks are created between companies;
- + problems are viewed from multiple perspectives if there are companies from different fields;
- + a better balance between researchers and companies strengthens the atmosphere favourable to co-creation;
- – less time for considering questions that are important to the company;
- – companies may be more reserved in presenting their own problems.

RECRUITING COMPANIES

A company's participation depends on profitable it estimates the process to be. Companies do not participate out of curiosity or desire to help the university. References and successful cases create the best recruiting support. The University of Helsinki's pilot project, held in spring 2017, was the first of its kind, thus there was no reference to present. Recruiting was done by approaching existing contacts or based on new recommendations. However, it was essential that the university representatives visited each company and held discussions about the process with them. In these discussions, the university representatives introduced the process and asked what kind of problems interest the company, keeping in mind that the participating researchers represented humanities and social sciences. It was promised to the companies that researchers who have something to contribute in solving problems defined by the company would be included in the process. This motivated the companies. The feedback from the companies concerning the COHU pilot was positive beyond expectations and also led to expanding cooperation.

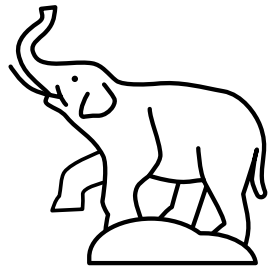
THE BENEFITS OF PARTICIPATION FOR THE COMPANY ARE:

- The company gets solutions or solution proposals concerning their problem.
- The company learns to view their operations from different perspectives.
- The company learns to approach researchers and to work with the university.
- The company finds new partners for long-term cooperation from the university.

When the co-creation processes are "sold" to the companies it is important to emphasise the benefits gained from the participation. It must be kept in mind that the University of Helsinki is an international high-level research university that is one of the best in many fields. The university can offer the type of knowledge and perspectives that cannot be received from, for example, consulting agencies. The companies themselves have expressed that they precisely want to hear critical researchers' views concerning their problems. Companies can get standard solutions from consulting agencies. Recommendations and suggestions from the university researchers are based on the latest research and verified results, which is exactly what the companies appreciate.

PARTICIPATION OF THE RESEARCHERS

The researchers in the process should be willing to participate and get some benefit from their participation. Career development in the scientific field is based on publications, teaching experience and the ability get further funding, thus the researchers' willingness to participate in co-creation is dependent on other benefits. Co-creation processes are rarely a part of the researchers' basic work, but it can create new dimensions in their work and working methods, while networking is essential for their careers. Furthermore, it is important to realise that co-creation processes offer researchers possibilities to develop their know-how in ways that are growingly important in a changing and dynamic work life. The researchers learn to apply their knowledge in new contexts and forms. In addition to receiving new information, co-creation can enhancetheir career opportunities in different arenas and at best can strengthen understanding and respect for their research data among cooperation partners. Co-creation may lead to testing scientific know-how, and it may also create new research ideas, lead to researching new data or introduce new testing circumstances. It is important for many researchers that their own scientifically important research has an impact outside the academic field as well.



A different logic is applied in recruiting the researchers than when choosing the companies. Researchers usually have intense pressure to write academic publications, which is a time-consuming process. Furthermore, the researchers have many other obligations, for example, teaching, applying for funding, reporting etc. Special attention should be paid on motivating the researchers to participate. Only motivated researchers are able give their best in co-creation. If the cooperation is perceived as unfamiliar or even harmful to their academic careers, this reflects on the cooperation process. However, researchers are motivated to participate by means of the following factors:

- The researchers perceive the meaning and usefulness of their know-how in a broader societal context.
- The researchers receive new perspectives on their research from practical operators and other researchers, and new research ideas and topics arise.
- The researchers get new contacts to companies, which is beneficial, for example when applying for funding.
- The researchers learn co-creation and dialogue methods that are not usually taught at the university.
- The researchers meet other researchers and expand their researcher network and perspectives.

Organising co-creation in the university requires a supporting framework. The researchers must have incentives to participate. Since the researchers offer their time and various knowledge resources to co-creation that is not a part of their research work, it is only fair to compensate their participation in a way that the researchers consider reasonable in relation to their careers and resources offered. This compensation communicates to the researchers that bringing their expertise in societal use is valued and to the companies, that the university understands the value of their employees' human capital.

The university has various ways in which to motivate the researchers, for example, by offering bonuses or a secondary income, or by including participation in co-creation in their overall working hours. Flexibility is expected from the university. Our experiences from the pilot in spring 2017 were extremely positive. It is surprisingly easy to get researchers to participate. The researchers regarded the process as an interesting and beneficial learning experience.

COSTS

The companies are usually charged for their participation. The charges collected by the university are based on an Act stating the criteria for charges payable to the state, which states that the universities must collect market-based charges that at least cover all expenses. Participation in co-creation is a question of cost allocation for the companies: is the specialist's participation profitable for the company? Participation has its costs irrespective of the charges paid by the company. Charges increase the willingness to participate, especially for small companies. Charges have an engaging effect: if a company pays for its participation in the process, it will want to have value for its money. In return for these charges, the company receives new information that is relevant to their problems and which is based on the latest research of the phenomenon. If the company has the desire and resources, they can start long-term co-research in which the company's problems are studied further and deeper.

CO-CREATION IN UNIVERSITIES REQUIRES STRUCTURES THAT BACK UP.

INTANGIBLE ASSETS

It is essential for companies to know how they can utilise the ideas and solutions that emerge during the co-creation process. This is regulated in a general level by the laws concerning innovations made at universities (Laki oikeudesta korkeakouluissa tehtäviin keksintöihin). According to this law, only in commissioned research does the commissioning company get the exclusive rights to the innovations made during the co-creation process. In open core-funded research, it is primarily the researcher who can apply for the rights of the innovation. In commissioned research (for example, the research funded by Tekes) the law gives the university the right to take possession of the innovation. How this university innovation law is applied to different cases in co-creation processes requires further clarifications.

Regardless of these factors the ideas cannot be protected. The ideas presented in a dialogue discussion with companies are free to be used by everyone. However, all the written formats, charts, forms etc. are subject to copyright laws and cannot be used without permission. Before the process, the researchers should be instructed on how the innovations of the researchers or those belonging to the university need to be protected. The researchers should not reveal information or data of a third party, nor their own confidential background material without a reason.

Companies guard their ideas and innovations carefully. Therefore, it should not be expected that a company openly tells about the ideas they have developed and are currently developing. Openness of co-creation requires trust. To ensure this trust there should be a non-disclosure agreement (NDA) signed right in the beginning, defining how the received information can be used and who has the proprietary rights. The university's legal representative helps to compile this agreement.

RESEARCHER, PARTICIPATE, IT IS WORTH IT!

For a researcher to participate in co-creation with companies means stepping out of one's comfort zone. However, it is worth it. Business collaborations create new skills that are also increasingly needed in their research work. The ability to engage in dialogue is a key factor in multidisciplinary cooperation. Recognising different perspectives helps to understand the complexity of issues and helps in creating a new overall view.

In co-creation the researcher is not only giving but is also on the receiving end. Companies possess the kinds of experiences and knowledge that researchers rarely have. Companies can also provide interesting data and new technology that the university does not have at its disposal. Business collaborations are often attended by educated specialists who also have an understanding of scientific research. In the development of certain skills these specialists have advanced further than researchers. When such people meet, interesting discussions and unpredictable solutions arise. Everyone learns.

Co-creation with companies expands the researchers' networks and creates contacts that can be important when planning new research projects. In many Tekes (Business Finland), The Academy of Finland and EU funded projects, the research plan must clearly indicate how the new information is to be applied and how the impact of the research is to be ensured. Companies are sought after project partners.

Business contacts open new career opportunities for researchers. An increasing number of doctors graduate from universities and there are not enough postdoctoral researcher positions. One career alternative for an open-minded researcher is to work in product development or in management of a company. Many researchers also have prerequisites to become a dialogue facilitator, which may even lead to a new profession.

Increasing business collaboration is also a strategic goal for the university as a whole, since it can be seen to support the university's core duties of teaching and researching. Universities encourage theie researchers to participate in cooperation. The old conflict between basic research and commercialisation is vanishing. Business collaborations no longer mean a one-sided selling of research results, but rather cooperation that benefits both sides. Companies are genuinely interested in what is being researched at universities. Co-creation offers researchers and universities new opportunities to enhance their impact without reducing their basic operations.

SUPPORT FOR CO-CREATION

The University of Helsinki business collaboration team supports researchers in launching and developing business collaboration. For more information, please go to the team's internet pages: *http://blogs.helsinki.fi/andaction/about-us/*

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LITERATURE

Alhanen, K. (2016). *Dialogi Demokratiassa*. Gaudeamus.

Austin, J.L. (1962). How to Do Things With Words. Published in Finnish *Näin tehdään sanoilla*. Niin & Näin, 2016.

Bohm, D. (1996). *On dialogue*. New York: Routledge.

Gadamer, H-G. (2004). *Hermeneutiikka, Ymmärtäminen tieteissä ja filosofiassa*. Selected and translated in Finnish by Ismo Nikander. Vastapaino.

Gupta, V. K. 1995. *Teaching and learning of science and technology*. Kay Kay Printers, Delhi.

Hautamäki, A. & Ståhle, P. (2012). *Ristiriitainen tiedepolitiikkamme, Suuntana innovaatiot vai sivistys?* Helsinki: Gaudeamus.

Hautamäki, A., Ståhle, P., Oksanen, K. & Tukiainen, T. (2016). *Vaikuttavaa tutkimusta, Kokeiluehdotuksia tutkimuksen vaikuttavuuden ja kaupallistamisen edistämiseksi*. Ministry of Employment and the Economy Publications, Innovation, 2/2016.

Kakkuri-Knuuttila, M-L. (2014). Kaksi dialogimuotoa ja niiden eettinen merkitys. *Ajatus* 71, 203–259.

Koskensilta, R. (2017). *J.L. Austinin puheet, teot ja niiden seuraukset*. Niin & Näin 2/2017, 64–73.

Kylliäinen, A, (2012). *Paksunahkaisuudesta suurisieluisuuteen. Hyveet työssä ja elämässä*. Otava.

Maranhão, T. (1990). The Interpretation of Dialogue. University of Chicago Press.

Niiniluoto, I. (1987). Soveltavat tieteet tieteenfilosofian näkökulmasta. *Academia Scientiarum Fennica Vuosikirja – Year Book 1986–1987.*

Owen, R. et.al. (2012): Responsible research and innovation: from science in society to science for society, with society. *Science and Public Policy 39* (2012), 751–760

Pertuzé, J.A., Calder, E.S., Greitzer, E.M. & Lucas, W.A.(2010). Best Practices for Industry–University Collaboration. *MIT Sloan Management Review*, 52(4), 83–90.

Polya, G. (1945). *How to solve it*. Garden City, NY: Doubleday.

Prahalad, C.K. & Ramaswamy, V. (2004) *Co-Creation Experiences: The Next Practice in Value Creation*. Journal of Interactive Marketing. Volume 18, Number 3.

Puro, U. & Matikainen J. (2012). *Dialogi – yhdessä ajattelemisen taito*. Työväen sivistysliitto TSL ry.

Ramaswamy, V. & Gouillart, F. (2010). *The Power of Co-Creation: Build It with Them to Boost Growth, Productivity, and Profits*. New York: Free Press.

Ritola T. :https://mycourses.aalto.fi/pluginfile.php/136427/mod_resource/content/1/150929%20TRIZ%20Tekninen_ongelmanratkaisu.pdf.

Senge, P.M. (1990). The Fifth Discipline: *The Art & Practice of The Learning Organization*. Doubleday Currency.

Strober, M. H. (2011). *Interdisciplinary Conversations, Challenging Habits of Thought*. Stanford University Press.

Suomen Akatemia (2016). *Tieteen tila 2016*. Helsinki: Suomen Akatemia.

Trencher, G., Yarime, M., McCormick,K.B., Doll, N.H & Kraines, S.B. (2014). "Beyond the third mission: Exploring the emerging university function of co-creation for sustainability." *Science and Public Policy*, Volume 41, Issue 2, 1 April 2014, 151–179.

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