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Natalie-Christina Lintula

## Master's Thesis

MINNO® Innovation Project - the wider societal effects

Metropolia University of Applied Sciences

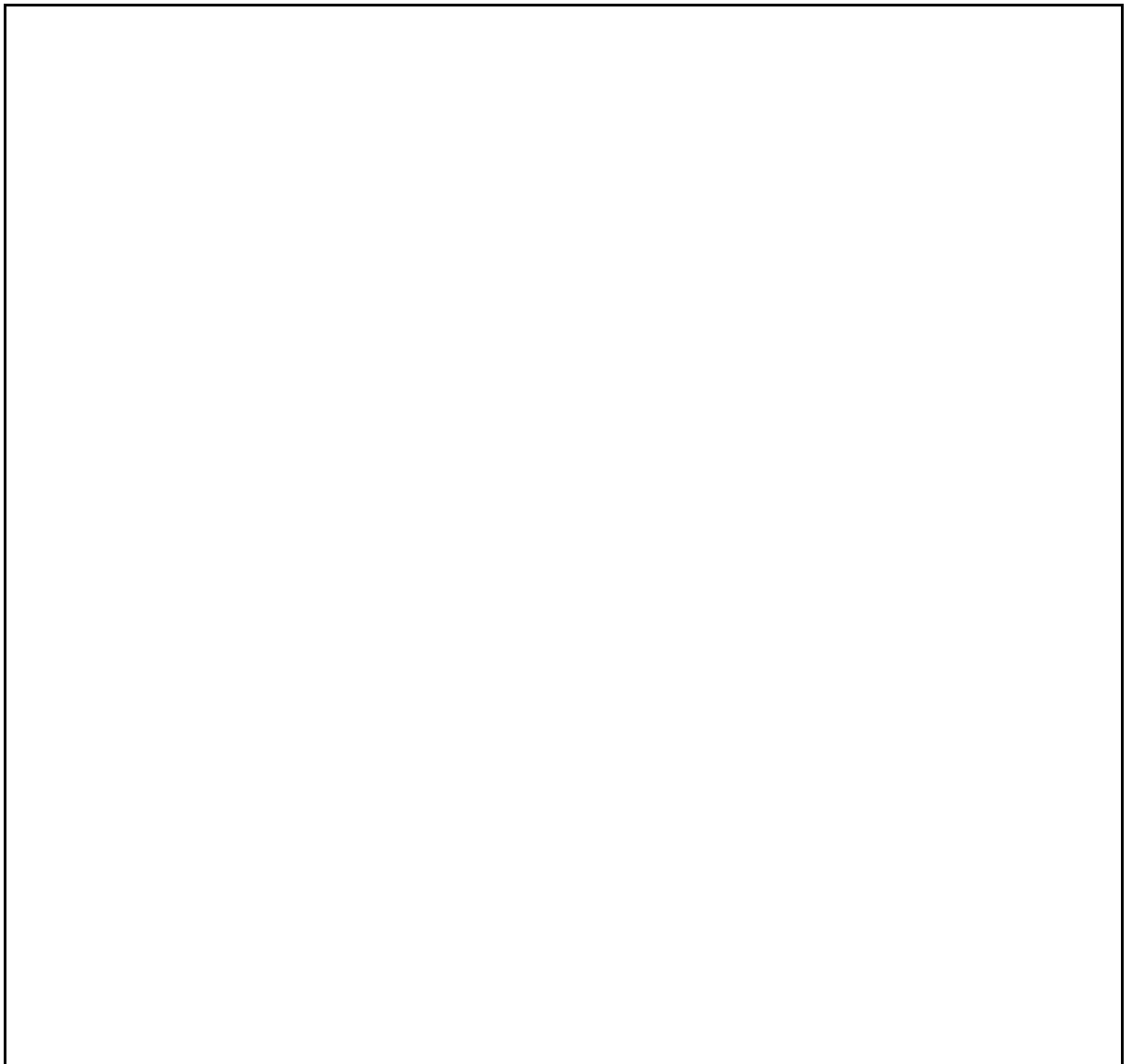
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<p><b>Purpose:</b> The purpose of my study was to explore the wider societal effects of Minno-innovation projects on different partner organizations. The aim of this report was to uncover the benefits of Minno-innovation projects to the organizations which collaborate with Metropolia UAS through Minno projects. The objectives were to identify the organization partners of Minno-innovation projects, to design an interview guide to measure the effects of Minno projects on the partner organizations, to explore the wider societal effects of Minno-innovation projects in different organizations, and to measure the satisfaction level of organizations regarding their cooperation with Minno-innovation projects.</p> <p><b>Methods:</b> Qualitative methods were used to collect and analyse the data. Prior to this, two workshops for teachers and managers were arranged to co-design the interview guide. To collect the data, one-to-one interviews were conducted in nineteen organizations. To analyse the data, inductive content analysis was used.</p> <p><b>Results:</b> Results showed that Minno-innovation projects have social effects on organizations of different fields. The nature of the projects determined the volume of the effects. Multidisciplinary in student groups was an important element. University-industry cooperation needs open communication and clear instructions.</p> <p><b>Conclusions:</b> Minno-innovation projects benefit the organizations which collaborate with Minno. The satisfaction level of organizations was visible. Innovation needs diversity which enhances creativity and knowledge transformation. Diversity in student groups brought new viewpoints to organizations. There is still room for improvement regarding better collaboration between organizations and Minno-innovation projects.</p>	



Keywords

Innovation, innovation competence, Minno-innovation projects, effects, university-industry cooperation

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## 1 Introduction

This thesis is an empirical study which examines the effects of Minno-innovation projects regarding wider societal effects. Minno innovation-projects is a course of Bachelor's degree level in Metropolia University of Applied Sciences in collaboration with organizations of different fields. This paper will study the effects of innovative projects which have been created by students of Metropolia UAS for different organizations in Finland. The organizations which participated in this research were from the field of social and health services, health technology industry, cultural industry and architecture.

This study describes the concept of Minno-innovation projects as an educational tool. Minno-innovation project is a course which aims to provide the students with knowledge and skills which concern innovation competence, creativity, multidisciplinary, collaboration and teamwork between students and organizations in the business world.

This paper gives an explanation about the meaning of innovation and how it relates to culture change in our society. To achieve innovations, one should acquire innovation competence. Innovation competence is presented according to the description of Laura-Maija Hero (Hero, Lindfors & Taatila 2017). Previous studies are used to explore the innovation effectiveness in the business world and their relevance with creativity and management skills. Productive efficiency is a result of effective innovations made by creative people. The efficiency of innovation should be measured in order to ascertain its impact. This paper presents research with different approaches about the measurement of innovation efficiency.

The concept of Minno-innovation projects takes place within two partners which are industry and university. Cooperation of industry and university is described on a separate part with purpose to explain how those partners interact with each other and how this cooperation affects both.

In this paper, the author identifies how industry got benefited by Minno-innovation projects. It is essential to figure out how the collaboration of organizations with student groups of Minno influenced the function of organizations in different topics. Diversity in student groups promises exchange of knowledge and ideation. Reading this study, the reader can get an understanding of how this happens when industry and university cooperates for a common aim.

## 2 Theoretical background

### 2.1 Innovation and innovation competence

In this study, innovation is determined in the educational context according to Hero (2019: 26): "innovation is a novelty that is made concrete, useful, and implemented to convey value". Hero (2019: 26-27), points out that on higher educational level, innovation is the realization of creative projects-results of student works to services or products which may be used outside the educational organization. Innovation can be applied in many different aspects in life. Innovation is in industry, technology, pharmacy and in all services, which serve the needs of humanity (Godin 2008: 5). The process of innovation takes place when people collaborate and come up with creative ideas which aim to improve services (Taylor 2017: 2). According to Edwards-Schachter (2008), innovation has many definitions and it is described by different types which are listed in ten categories. The innovation types are listed as follows: technological, product, process, service, business model, disruptive, radical, design-driven, social and responsible innovation.

Innovations relate to culture change (Godin 2008: 25). In order to improve already existed systems or to create new services there is a need for culture change. In other words, people have to think and do things in a different way than they were used to. For instance, to think ecologically, people have to make changes in how they decide to live their lives. Innovations are beneficial for organizations as they provide solutions to problems or they develop services which meet the needs of users (Hero 2019: 4). Innovation should serve society by providing solutions to problems which aim to improve and make easier people's everyday life. Moreover, innovation should contribute efficiently to the wellbeing of businesses. (Hero, Lindfors & Taatila 2017: 103.)

People who participate in innovation projects need to possess innovation competence. This competence refers to different characteristics that a person should acquire for the shape of innovation competence (Jussila 2017: 28). The main personal characteristics to develop this competence are flexibility, self-esteem, motivation, future orientation, social and managing skills as well the knowledge of how to work in teams (Hero et al 2017: 113.) Hero (2019: 33), mentions that innovation competence takes different shape and meanings in different fields. Innovative competence is related to individual level-innovativeness which means that one has capabilities for the diffusion of new products or technology (Hero 2019:33). Nowadays, innovative competence is a necessary competence

in work life (Bozic, Yams 2017: 140). In order to acquire the appropriate innovative attitude with specific characteristics and skills, people need to be aware of the demanded knowledge they should possess in order to build innovative competence (Bozic, Yams 2017: 149). In addition, Trifilova, Bessant, and Alexander (2016; 45-49) show through their research eight teaching methods for innovation which can assist individuals on learning how to transfer their innovative ideas to a valuable shape for labour markets. Hence, skills of individual innovation competence can be learned through education and practice.

Innovation and one's innovation competence could relate to creativity which can also be learned. As Bruton (2010: 327) finds out in his case, creativity can be learned through education and practise. Even if creativity is a personal element which differ from person to person, it is still a competence which can be improved though teamwork and teaching. The richness of awareness and knowledge about creativity improves one's competence to gain a creative way of thinking innovatively. (Bruton 2010: 330-331.)

## 2.2 Innovation effectiveness, creativity and productive efficiency

In the study of Stojcic, Hashi and Orlic (2018: 564), innovation effectiveness is directly connected with creativity. The productive efficiency of one organization develops when the employees possess creativity skills. (Stojcic, Hashi & Orlic 2018: 564.) The effectiveness of innovation depends on people's ability to create new services or products which meet specific needs. To create groups from people who have creativity skills, there is a need for managers with suitable knowledge who can recognize and choose skillful employees for their teams. Managers are responsible for the creation of an environment which motivates people to produce and develop ideas (Stojcic, Hashi & Orlic 2018: 576-577.) Management has an integral role in innovation efficiency. This is because managers are responsible for the delivery of meaningful information about the seriousness and the importance of the forthcoming innovative project. Managers should create the ground where other team members can let their creativity flourish. In other words, for effective innovations in one organization, the team members should possess creativity skills and individual innovative competence. In the world of business, the efficiency of innovation is closely related and depends on peoples' competences, abilities and creativity.

An article written by Abou-Zeid and Cheng (2011: 262) looks at the manager's point of view and emphasizes the connection between knowledge management and innovation



effectiveness of one organization. Abou-Zeid and Cheng (2011: 261), use the cognitive fit theory which has been used for problem-solving cases to explain that high management knowledge is related to innovation effectiveness. Abou-Zeid and Cheng (2011: 265), state that innovations are regarded as a creative-problem solving procedure, therefore a theory about problem solving is a suitable method to observe the relevance between the effectiveness of innovation and the knowledge management in one organization (Abou-Zeid & Cheng 2011: 265). The model of this theory represents the problem which matches the problem-solving task. After a mental representation, this process leads to a problem solution. It is essential to mention that a mismatch of the representation of the problem with the problem-solving task will not lead to a problem solution. This model has been used for the exploration of innovation effectiveness in accordance with knowledge management. (Abou-Zeid & Cheng 2011: 266-267.) Moreover, cognitive fit theory gives an essential role to the concepts of tacit and explicit knowledge which are related with the relationship between knowledge management and innovation effectiveness. (Abou-Zeid & Cheng 2011: 270).

### 2.3 Measurement of innovation efficiency

In this study, innovation is a core topic which aims to development and improvement of the quality of services. But there is a need to figure out what is the impact of innovative services which are meant for organizations or businesses. Are innovation projects efficient for the business and the end user? To answer this question, we must measure the efficiency and effectiveness of innovation. Measurement of innovation effectiveness will show if one innovative idea or product is valuable, beneficial and worthy for one business. According to Hollanders and Esser (2007; 2), innovation relates to productivity. To receive high productivity and efficiency from innovation, the number of innovation inputs should produce a bigger number of innovation outputs (Hollanders & Celikel Esser 2007; 2.) In other words, effective innovation is created by the starting ideas which demand specific resources and efforts from one organization and ends with the provision of efficient results which increase the benefits for the organization. Concepts that need to be measured are efficiency, profits, social effects, ecological aspects and effects of innovative results for different organizations and for society.

Measurement strategies of innovation depend on the type of the collected data which may be qualitative or quantitative. The method of measurement differs from innovation to innovation as the interests are different. Qualitative strategy for measurement seems

to be more representative in measuring the effects of innovation. Participants of a research stated that innovative activities are difficult to be measured with a quantitative approach. (Oslo Manual 2018; 56-57.)

According to Maier, Anastasiu, Sârbu and Eidenmüller (2015; 1156) innovation is necessary for labor markets especially when competition is increased. Nevertheless, innovation is a complicated concept, and its measurement needs metrics which are customized specifically for the concerned organization or business. (Maier et al. 2015; 1156.)

Managers of one organization should regard data collection of innovation as an important stage of one innovative project, because data will support the high quality of the product or service (Oslo Manual 2018;49). Additionally, managers should acquire flexibility skills and acknowledgment of the ambiguity level. To measure suitability and impact of innovation, managers should measure the level of ambiguity. When the level of ambiguity is high, managers lack understanding and the impact of innovation becomes complicated. When managers face this situation, they need to use flexibility to reconsider their decisions for the organization's benefits. (Brattström, Frishammar, Richtner & Pfluege 2018; 68.)

Brattström et al. (2018; 69-72), present two concepts for innovation measurement which are named directional and conversational measurement. Directional measurement could take place during the formulation of the strategy of one innovation. A manager sets specific ideas for the innovative service and assesses the performance as well the possible opportunities. When managers set specific metrics during the decision-making stage, they can focus better on proving the expected quality of one service. The conversational measurement happens through observations and conversations between the manager, people of the group and stakeholders. Conversational measurement metrics may provide a better understanding about the impact of the innovative service. (Brattström et al. 2018; 69-72.)

Maier et al. (2015; 1157) describe two research methods to measure the effects of innovation. The expert method uses the Quality Function Deployment method which measures the performance for innovation and analyses indicators which are related to different steps of the performance. The other method is the survey method which uses questionnaire on a representative sample of the specific organization. (Maier et al. 2015; 1157-1159.)

## 2.4 University-Industry cooperation

This topic will describe the collaboration between universities and industry and its impacts on students and on organizations.

According to Brazee and Lopp (2012: 157), students train problem solving to find solutions while simultaneously they learn and get prepared for the work-life. The solutions or the projects are ordered by the client, in this case the industry, which collaborates with the university. The client and the instructor who represents the university make sure that the challenge offered to students responds to the knowledge and skills that students possess at this specific stage of their studies. It is worth mentioning that the client should take this collaboration seriously, otherwise this may cause a decrease to the value of the projects that students are called to create. It is possible that during this process students may face frustration because of complexity or ambiguity. However, this is an expected part of the process which will prepare the students for the real work-life. (Brazee & Lopp 2012: 157.) Students can use their knowledge which is based on the theory they have learned and they have the opportunity to investigate and innovate in real work conditions.

University-industry interaction demands the developing of collaboration structures with the use of open innovation concept (Mäkimattila, Junell and Rantala 2014: 469). Open innovation is the exchange of knowledge within and out of organizations which aim to grow and find new innovations and solutions to problems (Chesbrough & Bogers 2014: 24). Collaboration will enable ways for the exchange of knowledge between organizations and universities, and it will launch the interaction and transmission of knowledge within students and clients (Mäkimattila et al. 2014: 452). This will benefit both parts by developing and growing own interests. Students will get experience and they can widen their knowledge while practicing their skills. Industries will probably get new viewpoints and ideas free of charge. Mäkimattila et al., (2014: 463), pointed out that collaboration, structures and relations between organizations and universities may face some challenges caused by the size of an organization. Additionally, the lack of connection and common understanding may be a challenge for the fluent collaboration between universities and organizations. (Mäkimattila et al. 2014: 463.) For a successful university-industry collaboration, organizations need to be well performed to establish a fruitful cooperation which will benefit both sides. Part of the performance is interactive skills which will foster good relationships between the members. (Perkmanna, Tartari, McKelveyb, Autioa, Broströmc, D'Ested, Fini, Geunae, Grimaldif, Hughesm, Krabelh, Kitsong,

Llerenai, Lissonij, Salter and Sobrerof 2012: 433.) Rantala and Ukko (2018: 259), conclude that the performance of organizations for university–industry collaboration face challenges. Organizations lack understanding of the context which affects the collaboration. Organizations would need more support for the appropriate performance. (Rantala & Ukko 2018: 259.) It is obvious that common understanding and shared knowledge are necessary elements to achieve successful cooperation between industry and universities. Both parts should be aware of the project to avoid misunderstandings which will cause challenging situations. Slotte and Tynjälä (2003: 460-461), conclude that both parts, need to have common benefits to achieve collaboration even if it is impossible to share the same ideas. Universities offer to industry theoretical and conceptual tools which will support organizations in problem solving and will stimulate workers' self-reflection regarding their profession. Simultaneously, students can practice their knowledge on real tasks and improve their skills. This collaboration offers opportunities and motivate professionals and students. (Slotte & Tynjälä 2003: 460-461.)

This collaboration gives opportunities to students for experiencing real work-life situations in different conditions. It is a way to prepare students with the necessary supplies to succeed in the industry life in the future. Moreover, this collaboration offers organizations different dimensions and viewpoints from outside which may be a beneficial way for development.

## 2.5 Minno-innovation projects

Minno-innovation project is a mandatory course of 10 ECTS in the curriculum of Bachelor students in Metropolia UAS. Minno projects have been used for more than ten years in Metropolia UAS. (Hero 2020: 57,63.) The projects which are created by Minno aim to innovation. Minno-innovation projects are realized as collaboration between organizations and Metropolia UAS. Students from different fields combine their knowledge and strengths to create a team which offers innovative services and products to organizations who need support for future innovative services. (Järvinen & Rantavuori 2019.) Minno projects cover concepts like collaboration, innovation, innovation competence, development, customer- and user understanding as well multidisciplinary in teams (Hero 2020: 58).

Minno-innovation projects give organizations an opportunity to stay tuned with modern technology and with the new trends of our modern life. Innovation projects offer a new

insight to already existing services or they come up with a totally new innovative products or services for the customers. (Järvinen & Rantavuori 2019.)

Minno-innovation projects support students on learning how to collaborate in a multi-disciplinary team. Students learn to share knowledge; they practice shared understanding and communication with people from different educational background. (Järvinen & Rantavuori 2019.) For instance, students from the music programme will collaborate with students of nursing and IT students. Moreover, students get meaningful experience from work life while they create network for their future.

Teachers of Metropolia UAS support students with their knowledge and experience but also, they widen their network by cooperating with different organizations. (Järvinen & Rantavuori 2019.)

### **3 Purpose, aim and objectives**

The purpose of this study was to uncover how the effects of Minno-innovation projects influenced the function of different organizations. This study explored how student groups' innovative ideas have been useful and effective in the work life. For more than ten years, Minno projects offer new insights to organizations. This study explored the collaboration of industry and university to detect how organizations get advantage of the innovative projects.

The aim of this study was to examine how Minno- innovation projects have been beneficial in organizations of different work-fields regarding wider societal concepts.

The research objectives are the following: the first objective is to identify and categorize the organization partners of Minno-innovation projects, the second objective is to design an interview guide to measure the effects of Minno projects on the partner organizations, the third object is to explore the wider societal effects of Minno-innovation projects in different organizations and the fourth objective is to measure the satisfaction level of organizations regarding their cooperation with Minno-innovation projects.

## 4 Research setting

The setting of this research is Metropolia University of Applied Sciences and organizations from private and public sector in the fields of social and health services, health technology industry, cultural industry and architecture.

Metropolia UAS is the largest university of applied sciences in Finland. Metropolia educate students for the fields of Business, Culture, Health Care and Social Services, and Technology. Metropolia's campuses are in Helsinki, Espoo and Vantaa area. Metropolia has 16,700 students and more than 1,000 employees. Metropolia UAS is publicly funded and owned by Cities of Helsinki (42%), Espoo (27 %), Vantaa (26%), Kirkkonummi (4%) and Kauniainen (1%). (Metropolia 2020.)

## 5 Materials and Methods

This is a study which used qualitative research methods to collect and analyze data. The methodology of qualitative research aims to find out explanations of lived experiences, attitudes and behaviours by collecting different viewpoints from people who have first-hand experiences (Dawson 2002; 14-15). According to Dawson (2002: 27-33), the research methods which will work as tools for data collection are interviewing, focus groups and questionnaires. Interviewing has three most used types which are structured, unstructured and semi-structured. Focus groups is a method where individual gather and discuss together about a specific topic. The discussion is controlled by a facilitator who introduces the topics and the necessary questions for the discussion. Questionnaires are divided into three categories open-ended, closed-ended and to questionnaires where is the combination of both. (Dawson 2002;27-33.)

Qualitative analysis will assist this research to explore the effects of Minno projects by analysing the experiences of the organizations which collaborated with the students and teachers of Minno projects.

This empirical study used a qualitative approach to explore the effects of Minno projects in different organization partners in Espoo, Vantaa and Helsinki region. The methods which were used for data collection were workshops, focus groups and one-to-one interviews. The data analysis happened by using qualitative content analysis and thematic analysis methods.

The three phases for the process of data collection and data analysis and the methods which used for each stage are summarized in Table 1.

Table 1: Phases of data collection and data analysis process

<b>Process</b>	<b>Methods</b>
Selection of participating organizations	<ul style="list-style-type: none"> <li>➤ Classification of Minno-projects</li> <li>➤ Thematic analysis</li> <li>➤ Purposive selection of participating organizations</li> </ul>
Designing the interview-guide	<ul style="list-style-type: none"> <li>➤ Minno teacher's and coordinators workshop</li> <li>➤ Management team workshop</li> <li>➤ Inductive thematic analysis</li> </ul>
Execution of individual interviews	<ul style="list-style-type: none"> <li>➤ Collecting data from organization representatives</li> <li>➤ Individual interviews, inductive content analysis</li> </ul>

### 5.1 Selection of the participating organizations

The selection of the participating organizations materialized by screening the Minno projects which realized within the years 2017-2020. The number of Minno projects which were classified was 147 different projects for 124 organizations. Deductive content analysis method was used for this classification. The categorization of existing data showed the author the range of the partner organizations. The organizations which took part in this research were from the field of social and health services, health technology industry, cultural industry and architecture.

The classification of the Minno projects took place in a Microsoft Excel document were all Minno projects were divided according to the type of the subscriber: (A) Company, (B) City or State public org, (C) Development RDI project, (D) Association or foundation, (E) Social media community or other informally organized organization. The classification which was used for this paper was structured in the study of Hero and Lindfors (2019; 506). This classification assisted the author to set limits on the participant selection process.

Qualitative content analysis is a method which allows the creation of categories which provides a deeper understanding to researchers. In content analysis categorization at-

tempts to interpret data by giving new dimensions. This benefits researchers in understanding the available data. (Elo & Kyngäs 2008: 108.) In addition, setting data into categories, allows researchers to make comparisons and recognize differences within the data (Graneheim, Lindgren & Lundman 2017: 32). Content analysis is divided into different approaches, inductive and deductive approach (Elo & Kyngäs 2008: 108). In inductive analysis the categories which will be created for the analysis of the data are derived from the collected data. In deductive analysis, the already known theory guides the formulation of the categories which will test the theory on the collected data. (Kyngäs & Vanhanen 1998: 5-7).

## 5.2 Designing the interview guide

For the design of the interview guide two online workshops were organized by the research team. In the first workshop the participants were coordinators and teachers who supervised Minno projects and in the second workshop the participants were from the management team of Metropolia UAS.

The workshop for the teachers and coordinators was conducted in March 2021 via Zoom. For this workshop, 29 teachers and four coordinators were invited. Seven teachers and one coordinator participated to the online-workshop in Zoom-platform. The disciplines of the participants varied. Three lectures were from the health care programme. One of those lecturers had participated in eight Minno projects but he was not sure how many groups he had tutored. The second lecturer had participated in ten Minno projects and had tutored fifty groups, when the third lecturer of health care programme had participated in forty Minno-projects and had tutored one hundred and twenty teams. The other three lectures were from the rehabilitation and research programme. The first lecturer had taken part in four Minno courses and had tutored twenty-five teams, the second lecturer participated in three Minno projects and tutored fifteen teams and the third lecturer of this programme participated in one Minno-project and tutored seven teams. From the cultural management programme participated one senior lecturer who had participated in sixteen Minno-projects and had tutored eighty teams. The innovation coordinator participant had not tutored any teams neither participated in Minno projects, but he teaches the basics of innovation theory in the beginning of the Minno projects course.

In the first workshop participants were divided into pairs in Zoom breakout rooms. The pairs were asked to discuss and answer two questions. The questions focused on Minno



projects and their effects in short- and long-term. The groups of pairs used the Jamboard to answer these questions. The participants had to think together about possible questions for the final interview-guide which will be used when interviewing the industry partners.

After the first workshop, the author got the collected data in post-notes on a Jamboard where the participants shortly wrote possible questions and statements for the interviews. Inductive thematic analysis followed which divided the statements and questions for the interview guide into themes. The teachers' workshop provided twenty-eight interview questions. The questions were categorized into five different themes. The themes were the following: Theme1-Organization and University collaboration, 2-Benefit for the organization, 3-Effects and needs, 4-Satisfaction regarding the projects and 5-Project/ is it in use. Thematic analysis is a method for qualitative analysis, which allows researchers to analyse and categorize non-numerical data. In thematic analysis, data is categorised into themes or codes (Roberts, Dowell & Nie 2019:1).

In June 2021 the research team hosted the second workshop for the management team. In this workshop five participants of the management team took part. The purpose of this workshop was to clarify the structure and the form of the final interview guide for the one-to-one interviews which was the last phase of data collection. The results of both workshops affected the design of the interview guide. The interview guide was designed based on the workshops' results and on the data which was analysed by the research team. In this workshop the participants worked in groups. Focus groups interview is a method of data collection that permits participants to interact collectively on a specific set of questions about one topic (Kitzinger 1994:103). Kamberelis and Dimitriadis (2013: 6), state that in focus group interviews, participants have the chance to create their own interview environment where they can express their viewpoints and feelings more openly. This happens because researchers are not controlling the interview directly by their presence in contrast to one-to-one interviews. Moreover, interviews in focus groups give researchers the opportunity to explore one topic in different dimensions. (Kamberelis & Dimitriadis 2013: 6.) In this study, the method of workshop and interviews in pairs offered the researcher a possibility to get a wider understanding about the nature of the interview guide and what is essential to be asked from the organizations.

The final version of the interview guide was structured by the research team under the surveillance of the research director. The interview guide consisted of two topics with

open-ended questions. The first topic was “Minno’s effects on your goals and your organization”, this topic had three themes of questions. The second topic was “The wider societal implications of our cooperation”, this topic had six themes of questions.

In this paper the author will analyse and present the results of data which derived from the second topic about the wider societal effects of this cooperation.

Workshop research method offered valuable data for the creation of the interview questions. Workshop research methodology is described by the formation of one group of people in a common environment who interact about one specific topic. Researchers have the role of sensitive facilitators who ensure that the topic is interesting and beneficial for all participants of the workshop. Researchers regard participants as part of the research who provide important data. Participants figure out new dimensions of the topic, they contribute to problem-solving, and they collaborate. Literature shows that data created by workshops is meant to be valid and reliable. (Ørngreen & Levinsen 2017: 71-73,79.) A research article states that workshops participate people from the same community who may know each other. However, participants noticed that a workshop-case offers the chance to share experiences and ideas that they would not share on a normal daily basis situation. (Gameiro, de Guevara, El Refaie & Payson 2018: 16.) Therefore, data received by workshops may reveal rich information from people’s experiences. Nevertheless, Ørngreen and Levinsen (2017: 79) argue that there is not enough data to approve the utility of workshops as a research methodology, but they agree that workshops is a useful method when it is combined with other research methodologies. (Ørngreen & Levinsen 2017: 79.)

### 5.3 Individual interviews

The final stage of data collection was one-to-one interviews with people from the organizations who collaborated with Metropolia Minno projects during the years 2017-2020. According to Ryan, Coughlan and Cronin (2009: 310), one-to-one interviews offer the possibility to observe body language and facial expressions which may uncover deeper information about what is said from the interviewee. This may assist the researcher to receive a more detailed understanding of the topic and the feelings of the interviewee. (Ryan et al. 2009: 310.) Regarding this research, one-to-one interviews was the most suitable method to collect data about the effects of Minno projects. Interviewing people with open-ended questions one by one, gave to researcher the possibility to get a deeper

understanding of Minno's effects on different organizations. The data of the one-to-one interviews was analysed with inductive method analysis approach.

The size of the sampling for the one-to-one interviews with the partner organizations was 19 participants. The sampling which used for this study was purposive or judgmental sampling. Purposive sampling differs from random sampling because purposeful sampling is selected intentionally by the researcher to ensure that specific information will be derived from the collected data. Purposive sampling provides trustworthiness to the results of the research because it has close connection with the aims and objectives of the research. (Campbell, Greenwood, Prior, Shearer, Walkem, Young, Bywaters & Walker 2020.)

### 5.3.1 Data collection

One-to-one interviews was the last phase of data collection for this study. The participants for the interviews were individuals who were the contact person during the Minno project and in most cases were the supervisor for the students on behalf of the organization. Interview data collection method was supposed to be held through face-to-face interviews. Due to covid-19 pandemic, face-to-face interviews were not possible to happen. Eventually there was a need for alternative options to be used instead of traditional interviews like online platforms. Lobe, Morgan and Hoffmann (2020:1) present in their article the "socially distant" method for collecting data in qualitative research. The different options for interviews may be held online by using virtual technology. Nowadays people have become familiar with the use of online tools and virtual technology. This fact leads to the assumption that people possess digital skills which will be necessary for online interviews. (Lobe et al. 2020: 2.)

The contact to the responsible person of Minno projects from the selected organisations happened by e-mail and phone-call. During the first contact participants were asked for the possibility of their participation to this research and they were informed about relevant information for this empirical research. After the arrangement of the date for the interview, the participants got the interview guide by e-mail. The interview guide was sent in advance, so participants had the chance to familiarize themselves to the interview questions. The number of invitations which were sent to different organizations for the interviews was 71. Finally, 19 participants took part to the research. Most one-to-one interviews were held via Zoom and Teams online platforms. One interview was held tradition-

ally face-to-face. The interviews took place during June-December 2021. In the beginning of the interviews two pilot interviews took place which ensured that the interview-guide was appropriate for the research. The interviews were recorded and the duration of each was 30-45 minutes. Privacy of participants and confidentiality of data were ensured by following ethical guidelines. The interviews were conducted by two authors.

### 5.3.2 Data analysis

In this paper the second part of the results of the interview is addressed. This second part included the wider societal effects of Minno-innovation projects on partner organizations (Appendix 3). This part included six different categories of questions and summary which are the following:

- Effects of people's daily lives
- Effects on digitalization
- Ecologic effects
- Economic effects
- Social effects
- Wellbeing and Health effects
- Summary: how multi-professionalism in student teams add value? How Minno could be developed to become more beneficial to you? Regards to Minno's student and teachers.

Inductive data analysis includes open coding, creation of categories and abstraction. Data analysis begins by reading the raw collected data. The reading of the data follows open coding which will help the researcher to create categories. Open coding aims to collect similarities and notes which arise while the researcher reads the text. (Elo & Kyngäs 2008 :109.) The creation of categories will give a description for the results which arise from the data. By defining categories, researchers can give meanings to phenomenon. (Cavanagh 1997: 9.)

All interviews were recorded and the transcription happened manually on Microsoft Word documents. The collected data was analysed with content thematic analysis method and the open coding designed while reading the data of the interviews one by one and many times. The thematic inductive analysis was structured in eight categories according to the themes of the interview-guide. Coding scheme used words and short phrases which were coded by colour. The coding scheme was tested and then discussed with the other author who provided the other half of the data for this research. After this test, there was no need for changes in the coding scheme. Coding assisted the writer to collect all the important information which made every category to give a meaning for the results which will be reported on the next chapter.

The eight categories and coding scheme are presented in detail in the next table 2:

Table 2: Categories and Open coding for inductive data analysis

<b>CATEGORIES</b>	<b>OPEN CODING</b>
Effects on people's daily lives	<ul style="list-style-type: none"> <li>• Culture/artistic value</li> <li>• Experiential everyday life</li> <li>• Attractiveness of the area</li> <li>• Local participation</li> </ul>
Effects on digitalization	<ul style="list-style-type: none"> <li>• New solutions or ideas</li> <li>• Technical improvements</li> </ul>
Ecological effects	<ul style="list-style-type: none"> <li>• Ecological action</li> </ul>
Economic effects	<ul style="list-style-type: none"> <li>• Purchases</li> <li>• Employment</li> <li>• Economic growth/save</li> <li>• Other form of value</li> </ul>
Social effects	<ul style="list-style-type: none"> <li>• Wellbeing</li> <li>• Participation</li> <li>• Equality</li> <li>• Elderly</li> <li>• Thoughts and possibilities</li> </ul>
Wellbeing and health effects	<ul style="list-style-type: none"> <li>• Wellbeing</li> <li>• Health</li> </ul>
Multidisciplinarity in student groups	<ul style="list-style-type: none"> <li>• Value</li> <li>• Multidisciplinary</li> </ul>
Partnership development	<ul style="list-style-type: none"> <li>• Suggestions for better collaboration</li> <li>• Prepare students towards work-life</li> <li>• Experience</li> <li>• Previous or future collaboration</li> </ul>

## 6 Results

This part will include the results which are driven from the collected data which was analysed by qualitative thematic inductive analysis. The results are separated in different sections according to the themes which guided the data analysis. Some of the topics are also illustrated on chart pies.

## 6.1 Effects on people's daily lives

Regarding the first category, effects on people's daily lives, more than half participants answered that the projects had effects on people's functional and everyday lives. Participants recognized effects on people's functional and experiential everyday life regarding their customers and the staff who work in the organization. One participant answered hypothetically that the project could have influenced peoples' everyday lives if these innovations had been implemented.

Some participants mentioned that there was increase in the attractiveness of the region. One project increased the attractiveness of the local area, other project was an activity that was free of charge, so it attracted the audience and the participant pointed out that this kind of innovations increased the interest.

Almost one forth part of the participants answered that there was local involvement during the Minno project. Expressions like active participation and that people participated willingly in the process were stated by the interviewees.

Even during Covid-19 local involvement was enhanced by Minno-projects in one organization:

*"Joo että monethan näistä innovaatioista perustuu siihen et tehdään yhdessä jonkun paikallisen ryhmittymän kanssa no sehän ei ole helppoa ja sitä tuli korona puoli vuotta kurssin jälkeen ja ketään ei saa nähdä eikä voi vielääkään mutta siitä huolimatta niin on osallistunut siis paikallisyhdistys."* "Yes many of these innovations are based on doing something together with a local group, well that ain't easy and then half year after the course came corona and everyone was isolated, but nevertheless the local association has participated." (Interviewee 3)

Less than half interviewees said that their projects had cultural and artistic value, or the projects added more cultural and artistic value. Some projects were directly connected with cultural and artistic elements because the organization has strong connection with culture and music. Other projects added cultural and artistic value to the organization partnership.

*“Kulttuurinen ja taiteellinen arvo oli ytimessä just teidän kautta etittiin niitä keinoja ja ehkä sit vaan lisää arvoa sille ja jotenkin millä se valitetaan yleisölle.”* Cultural and artistic value were at heart for this project.”/” Through Minno we were looking for ways to add more value and something to forward this to our audience.” (Interviewee 2)

*“Projektilla on ollut kulttuurista ja taiteellista arvoa. Opiskelijat käyttivät luovuuttaan hyödyksi, suunnittelivat mitä kaikkea siellä tiloissa. He todellakin käyttivät visuaalista ja tunneperäistä luovuuttaan.”* /”This project had cultural and artistic value. Students used their creativity to design our spaces. They really used their visual and emotional creativity.” (Interviewee 18)

Two participants did not answer to the questions of the first theme. The nature of these projects on this specific phase were not linked with effects on people’s everyday lives.

Chart pie in Figure 1 illustrates how many participants answered that they recognized effects regarding people’s everyday lives and how many Minno-projects had culture or artistic value. The chart shows also the number of projects which had no effects on this topic.

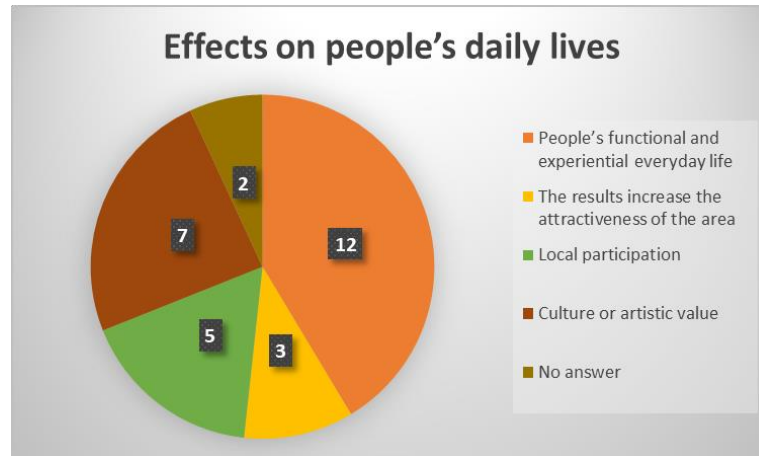


Figure 1: Effects of Minno-innovation projects in people’s daily lives

## 6.2 Digitalization effects

Half of the participants were able to recognize positive effects of digitalization for their organizations through their collaboration with Minno projects. Interviewees reported of digital solutions and new ideas which were beneficial for their organizations. A smaller



part of participants described the digital solutions which were for instance new Instagram platforms, VR-glasses, audio guide, tablets for elderly, digital mode, wellbeing technology solutions, new digital tools and digital solutions regarding music. For one participant the process of Minno project uncovered points that the organization should take into consideration regarding the digital part of the project. One of those seven projects remained on the ideation level.

Some organization partners of Minno projects, reported of effects on digital improvements. One fourth of the participants answered that there was clear connection with digital improvements. The different digital solutions improved services and concepts. These improvements affected positively on the end users and on the function of the organizations.

Half of the participants answered that the nature of their project did not have any connection with digitalization.

### 6.3 Ecological effects

Half of the participants answered that projects had ecological effects. One fourth of the interviewees said that the nature of the projects was directly connected with ecological thinking which promoted the use of technology in a user-friendly and environmental-friendly way. Another fourth of participants said that the projects promoted ecological effects on environmental and climate themes indirectly. One participant commented that:

*“...kaikki ohjeet on esim. verkossa niin meillä ei ole mitään tämmöistä niin kuin paperin kulutusta.”...all guides are online, so we do not have any paper waste.”* (Interviewee 6)

The process for the realization of the projects had ecological effects even if the projects was not meant for the promotion of environmental effects.

Half of the projects were not connected with environmental concepts which would have promoted ecological effects.

### 6.4 Economic effects

A few participants commented that the projects did not have huge economic growth effects, but they made savings. Student-groups gave organizations ideas, viewpoints

and concepts which were free of charge. The process of brainstorming would have cost money to organizations if they had to pay an external service provider for the design of the project. After the Minno projects some participants were able to order the already designed product from external service provider without paying the design process.

Some participants stated that they got the chance to employ staff for the realization of the new projects which were designed by the Minno student-groups. One participant mentioned that the organization made purchases which supported the projects. Five participants answered that there was other type of value which is not directly connected with economic effects. One participant referred to time saving. The brainstorm and ideation of the student-group offered ready designed ideas which saved the time of the employees who were on a rush these days. Below there are comments of a few participants who identify other form of value which has not immediate economic effects.

*“...niin kaatumiset on täs yhteiskunnassa terveystaloudessa aivan hurja kulu mitä niistä aiheutuu vuosittain eli silläläilla ajatellen kaikki keinot mitä kaatumisen ehkäisyä eteen tehdään niin on taloudellisesti vaikuttavia.”/ “...so people’s falls are a huge expense in society’s health services, which is what they cause every year, considering all the measures taken to prevent falls, it is economically effective.” (12)*

*“...se opiskelijoiden projekti tuki sitä, että niitä todella käytetään ja kaikil on mahdollisuus siihen tabletti-tietokoneen käyttämiseen, että ne ei loju nurkissa käyttämättömänä, että ehkä sit sitä kautta taloudellinen vaikutus.”/ “...students’ project supported that everybody had a chance to use the tablets, so tablets do not lie unused in a corner, maybe this way economic effect.” (Interviewee 11)*

Less than half part of the participants answered that the projects had no economic effects for their organizations.

Figure 2 illustrates how many participants reported that Minno-projects did not have any economic effects and how many participants identified economic effects in their organizations.

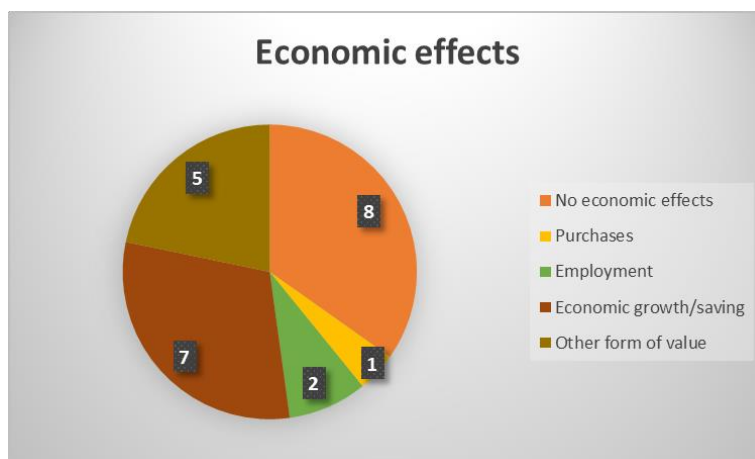


Figure 2: Effects of Minno-innovation projects on economy

## 6.5 Social effects

Regarding the social effects of Minno projects on different organizations, almost half of the participants recognized relations to wellbeing through different viewpoints. Many projects promoted wellbeing by creating general understanding or by designing more accessible services to their audience. The services designed by the students added and enhanced wellbeing.

Inclusion was also a concept which was promoted by Minno projects. A bit less than half of the participants mentioned in their answers that the inclusion of their customers was enhanced by Minno projects. Some projects participate their end users and others aimed to the promotion of participation for different audiences like elderly, young people, foreigners, or people who live far away from the capital city.

*"...Sosiaalisesti merkittäviä osallisuutta lisääviä palveluita..."* / *Socially significant services which add inclusion...* (Interviewee 3)

Equality was mentioned some participants. Interviewees talked about the promotion of equality regarding foreigners, elderly and about services which do not look at religions and beliefs. Projects had positive effects on the promotion of equality. Few projects had special positive impact on elderly.

*"Kyllä tässä sosiaaliset teemat on tärkeitä. Jos alotetaan ihan siitä, että virtuaalitodellisuus on kauhean tasa-arvoinen paikka. Ei katsota sukupuolta, tai ulkonäköä, tai oletko*

*rikas vai köyhä. Edistää tasa-arvon teemoja...”/ Yes here social topics are important. If we begin with virtual reality which is absolutely a place of equality. It does not look on gender, appearance or are you rich or poor. It promotes themes of equality.” (Interviewee 18)*

Almost one fourth part of the participants did not answer to the question of this topic. It was difficult to identify social effects which could be related with Minno projects.

Figure 3 illustrates in a pie chart how many participants related Minno projects with effects on different social topics and how many found difficulties to relate social effects with the projects.

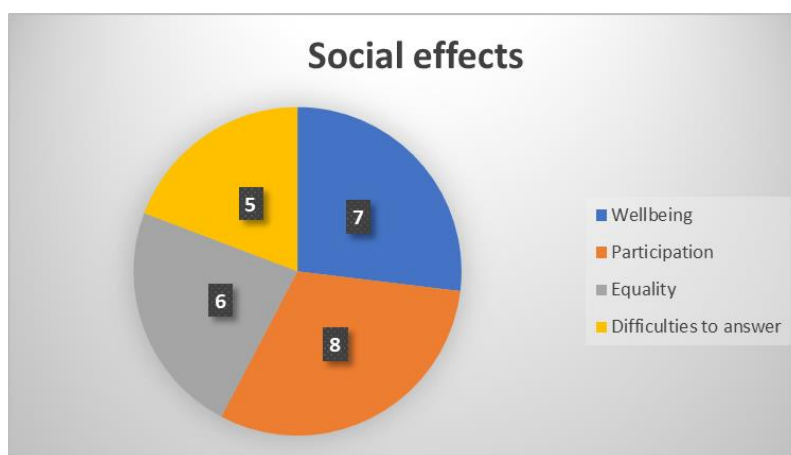


Figure 3: Social effects of Minno-innovation projects

## 6.6 Wellbeing and health effects

Almost all interviewees answered that Minno projects were related with wellbeing and its enhancement. Participants mentioned that the value of wellbeing was added towards their clients, between the staff and in the work environment generally.

An interviewee talked about a Minno project which promoted the wellbeing of the organization's clients:

*“...kun tulee kuulluksi katsoisin että on semmoista hyvivointia, tietenkin kun sulta kerätään palautetta ja annetaan aikaa ja olla kiinnostuneita mitä sinä tarvitset ja haluat*

*ja toivot...” when somebody get his voice heard, I could see that this is wellbeing, when they collect feedback from you and they give you time and they are interested about what you need, want and hope...” (Interviewee 5)*

Another interviewee described how Minno project added wellbeing for the staff of the organization:

*“...no siis siinä mielessä se on niinku lisää tai turvaa ja suojaa hanke työntekijöiden hyvinvointia kun pystyttiin ulkoistamaan tällöinen ideointi prosessi eli silloin se on myöskin niin kuin tietyllä tavalla niin kuin henkisiä stressiä ja paineita pois meidän työryhmältä. On sillä tavalla hyvinvointia lisäävä ollut.” / “well in the sense that this is a project which increases or secures and protects the wellbeing of the employees when it is possible to outsource this kind of ideation process, it is also like a certain way like mental stress and pressure away from our team. It increased wellbeing in that way.” (Interviewee 6)*

Some Minno projects had wellbeing effects on both parts, to the customers and to the staff of the organization. One participant stated that:

*“Hankkeella oli ainakin välillisiä vaikutuksia työntekijöiden työhyvinvointiin sekä suoria vaikutuksia asiakkaiden hyvinvointiin, kun työnjaolla varmistetaan asiakkaiden tarpeita vastaavan osaamisen käyttö.”” The project had at least indirect effects on the wellbeing of employees at work, as well as direct effects on the wellbeing of customers, when the division of labor ensures the use of expertise that meets the needs of customers.” (Interviewee 11)*

The promotion of participation was a concept which enhanced through Minno projects. Participation showed to have a strong relation with wellbeing for some partner organizations. Accessibility was also mentioned as a concept which promoted wellbeing and health. Some Minno projects made services more accessible for the end users. This had positive effects to wellbeing and health.

*“...hyvinvointia ja terveyttä. Kyllä tää edistää saatavuutta. Ehkä niin, että sä olisit ollut sairas niin silti voi osallistua jonkin verran koska tää on niin saavutettavissa.”” wellbeing and health. Yes, this promotes accessibility. Maybe, if you were sick then you can still participate because this is so achievable.” (Interviewee 18)*

One fourth part of the answers were related with health effects and Minno projects. The nature of the Minno projects and the fields where the organization belong where the reason why health effects showed on a small amount. Another fourth part of the answers showed that Minno projects had no relevance with wellbeing and health effects. The reason was that the purpose of the projects was related to something else than wellbeing or health promotion, or some interviewees could not relate this topic with the project.

## 6.7 Multidisciplinarity in student groups

In most Minno projects, student groups consisted of students from different fields. Participants were asked how multidisciplinarity in student groups brought more value to the projects and to organizations. More than half part of the answers showed that there was significant value of multidisciplinarity. Participants stated that multi-professionalism in student groups brought new viewpoints and ideas. The value of multidisciplinarity increased during Minno-innovation projects by making innovation possible through sharing opinions and ideas within people with different backgrounds.

*“Moniammatillisista taustoista olevan tiimin jäsenet pystyvät tuomaan semmoisia täysin niin kuin out of the box omanlaisiaan niinku näkemyksiä ja näkökulmia asioihin minkä niinku ehkä itse ei oltaisi tuotu. Erilaisuus on rikkaus.” / “Members of a team with a multi-professional background are able to bring out of the box thoughts, like viewpoints and perspectives on things that we might not have been brought. Diversity is wealth”. (Interviewee 6)*

*“...toi tälle yhteiselle pöydälle erilaisia näkökulmia ja erilaista osaamista ja sen takia mun mielestä se on hyödyllistä että se tehdään tällaisissa moniammatillisissa tiimeissä tää innovaatio.” / “it brought different perspectives and different skills to this common table, and that is why I think it is useful for this innovation to be done in such multidisciplinary teams.” (Interviewee 8)*

*“...jokainen tuli vähän omasta suunnastaan niin sieltä tuli hyviä oivalluksia siitä, että miten joku miettii ihan eri tavalla ja sit niitä hierotaan yhteen. Toi on mun mielestä se ihan paras homma siinä, et ne ei ollut kaikki terveystieteen opiskelijoita vaan siellä oli kaikenlaisia.” / “...everyone came from their own point of view so good insights were brought into how someone thinks in a completely different way and then we put it all together. In my opinion, that was the best thing about it, that there were not only students from the health field but there were all kinds of students.” (Interviewee 13)*

A few participants stated that multidisciplinary was not visible and some of the interviewees did not answer to the question. In some projects all students were from the same field, so there was no multi-professionalism.

*“Tässä oli moniammatillisuus mutta ei ollut toivotun mukainen mä olisin toivonut että ei olisi pelkästään muusikoita tässä toiminnassa mukana.” / “There was multi-professionalism but it was not what I wanted, I would have liked if there were not only musicians involved in this activity.” (Interviewee 9)*

## 6.8 Suggestions for partnership development

This part of the interview focused on suggestions for better collaboration between Minno and industry. Some interviewee suggested that Minno projects should be more advertised by Metropolia UAS to become more popular for the industry. Other suggestions referred to open communication and information from Metropolia UAS about the amount of work which is demanded from the supervisor of the organization. A small part of the participants was surprised about the amount of work that Minno project demanded for its completion. Other participants suggested that student groups could be more organized and get familiar with each other in advance. Another suggestion referred to a better orientation for the students about what they are asked to do. Another development idea was that student groups should be more diverse, while another suggestion was that student groups should include students who study the specific field where the project is taking place. One suggestion concerned teachers who lead Minno projects that they should be more informed regarding the specific projects.

Some interviewees mentioned that students get benefit through Minno projects by gaining practical work-experience during their studies which will support them in the future. They mentioned that this is a brilliant opportunity for learning.

Almost all the participants were thankful to the student groups who participated in the Minno-innovation projects. Student groups offered innovative ideas and new viewpoints for the organizations. Many participants stated that they had much fun during the process. Most of the interviewees are looking forward for the next collaboration with Minno-innovation project and Metropolia UAS.

## 7 Discussion

The goal of this paper was to explore the wider societal effects of Minno-innovation projects through the cooperation between different organizations and Metropolia UAS. The discussion part highlights important results of this study. It is essential to make a comparison between these results with other studies, so the reader can get a wider understanding regarding university-industry corporation and innovation. The last two parts of this topic talks about the trustworthiness and the ethical concerns for the quality of this research.

### 7.1 Results

The results showed that Minno-innovation projects increased attractiveness of the area and local participation. There were effects on people's everyday lives which affected positively the organizations and the end users. Cultural and artistic value appeared in some of the projects depending on the nature of the projects.

The effects on digitalization were recognizable on the half part of the participants. There were positive effects which promoted improvements on digitalization and gave new solutions to organizations. Ecological effects had the same correspondence as the effects on digitalization. Only the half of the projects were related with concepts connected to environmental issues and ecological thinking.

Minno-innovation projects had economic effects on the partnership organizations by giving chances for hiring staff and making savings to the budget of the organizations. Brainstorming, knowledge and ideation derived by the student groups brought significant and uncountable value to the organization.

Minno projects effects were present on wellbeing and health by increasing the concepts of participation and equality on different categories of people. Wellbeing concerned the staff and the clients of some organizations.

Multidisciplinary in student groups seemed to be a vitally important element on the realization of the projects. Nevertheless, there were some projects where the student groups were not diverse enough.



Results showed that there is a need for open communication and more detailed information about the process of Minno-innovation projects to make the cooperation smoother. Participants showed interest for future collaboration while they wished more open communication and clear instructions from Minno-innovation project directors. A general satisfaction was clearly expressed by the partner organizations who collaborated with students of Metropolia UAS.

## 7.2 Reflection of the results

Results of this study show that collaboration between university and industry was beneficial for both parts. Students had the chance to train their skills in a real work environment in a diverse group, while industry benefits by making savings and receiving a bunch of creative and innovative ideas from the students. These ideas came off as products or services which had societal effects depending on the nature of the project and some projects remained on the ideation level. Even if some projects did not get to an end in the marketing, still some organizations seemed to benefit through the experience of this cooperation. Value of sharing knowledge which can benefit both parts is appreciated and recognized also in the research of Bailey, Aftab and Smith (2015; 10), who concluded their research by underlining the importance of such cooperation and its benefits. The exchange of knowledge between different work fields enriched different viewpoints of people. A study from Mäkimattila et al, (2014:452) came to the same conclusion as this paper, which ensures that industry-university collaboration enhances knowledge of both parts and provides possibilities for learning and experiencing new dimensions. A small part of the results showed that they did not experience the diversity of the student groups. This information will work as an indicator for improvement for the future Minno-innovation project collaborations.

Mäkimattila et al., (2014: 463), stressed in their study that a successful cooperation between industry and university needs open communication and common understanding. This paper showed that clear instructions and open communication between the two partners seemed to be missing in some Minno-innovation projects. This affected collaboration and its fluent function. This would be another concept for improvement to succeed better collaborations in the future.

Multidisciplinary in student groups was the key for innovation. Students from different fields gathered to innovate, reflect and to create collectively new services and products

for organizations. The results showed that multidisciplinary was just what the organizations wanted from Minno projects. New ideas and updated points of views were the heart of the whole concept. This result is also verified in the research of Fay, Borrill, Amir, Haward and West (2006; 563-564), where multidisciplinary was the reason for a well-functioning teamwork which provided good outcomes through exchange of information and reflection.

The societal effects of Minno-innovation projects referred to economy, digitalization, ecology, wellbeing and health. The results showed that the impact of the effects was depended on the nature of the projects. For instance, when a project aimed to increase inclusion, this was often succeeded by the student groups. Simultaneously the same project may have positive effects on digitalization, ecological thinking, or economy of the organization.

Effects on wellbeing of the end users and employees of organizations seemed to benefit from the innovation projects. The process of Minno-innovation projects lightened the stress of employees and offered new ways and creative ideas to design services. This can increase satisfaction in a workplace. A journal of Human Resource Management of International Digest (2021) shows that creativity and innovation support wellbeing in a workplace environment. Motivation, empowerment and satisfaction are concepts which become stronger when people are let free to innovate and create.

### 7.3 Trustworthiness

The reliability of quality of this empirical research ensured by the rigorous application of specific criteria of trustworthiness. According to Guba and Lincoln (1994: 114), a study with quality must provide internal validity, external validity, reliability, and objectivity. The findings of the research must be described ontologically based on real results only and not on personal assumptions (Guba & Lincoln 1994: 114.) The trustworthiness criteria of credibility ensured that the research was held on a real data basis which was collected and analysed objectively without any biases. According to Leung (2015), validity in qualitative research is a concept which measures how the qualitative methods and tools ensure the trustworthiness of the data results of the specific sample which must answer the research question. The appropriate research methods give validation to the results.

For the data analysis of this study, the author designed a coding scheme which was checked by the other author who collected half of the data for this research. This supported the trustworthiness of data analysis which provided the results for this research.

The limitations of this research were the small amount of the participants who provided the data and difficulties which appeared in answering the questions of the interview-guide. Many contact persons of Minno projects were not employed in the partnership organization anymore and many organizations did not answer to the research invitation at all. This resulted to the small number of participants. Some interviewee found it difficult to relate some topics of the interview guide to their project, hence some questions remained unanswered. Another limitation was that the Finnish intext citation of the answers that the interviewees provided were translated in English by the author.

#### 7.4 Ethical concerns

This research was conducted according to the Responsible Conduct of Research guidelines declared by the Finnish National Board on Research Integrity, TENK. This study respected the ethical principles with honesty which ensured integrity and reliability of this inquiry to prevent research misconduct and deceit. (Tenk 2019.)

This study provided credible research which followed the ethical guidelines of Arene. Arene (2019) provides ethical guidelines which must be respected by students who execute a master thesis in universities of applied sciences in Finland. According to Arene (2019: 16-25), a student in a master's programme in Metropolia University of Applied Sciences is committed to follow the ethical guidelines of research. A student must familiarize himself with the topic of the research and make sure that there is not any conflict of interest regarding the research. A student is responsible to secure the personal data of participants and to take care of necessary research permits and agreements. Plagiarism is forbidden. For this study plagiarism was examined by an internet-based plagiarism detection service. Moreover, a student must be aware that a master thesis is a public document and the used material for the formation of this research must be referenced. (Arene 2019: 16-25.)

This research respected all participants with honesty and their personal data was secured according to the General Data Protection Regulation. The personal data infor-

mation of the participants in this research, was saved in a Moodle workspace of Metropolia UAS which was secured behind two passwords. The other option of saving personal data was Metropolia's Z-network drive.

The interviewees were asked to sign two forms which were participant information (Appendix 1) and participant consent (Appendix 2). The research permit was applied to the whole process by the director of Minno-effects research team. In the beginning of each interview, interviewees were asked for permission for voice record during the interview. All recordings and transcriptions were saved in Metropolia's Z-drive. All interviewees were aware that they had the right to object to the processing of their data, to check information relevant to them and that they can interrupt their participation in the interview if they decide to. The collected data was proceeded only by the author with respect to the anonymity of the participants. Participants were aware that all collected data will be destroyed when this masters' thesis is completed.

## 8 Conclusion

The aim of this study was to explore how partner organizations of different fields benefited from Minno-innovation projects and to find out the wider societal effects of Minno-innovation projects in partner organizations. Nineteen organizations took part in this research which promoted valuable data which answered the questions of this study.

The results showed that there were societal effects regarding people's everyday lives which affected the functionality of the organizations. Other topics like ecology, economy and digitalization seemed to have effects on organizations, but this was strongly depended on the purpose of each project. Concepts like wellbeing and health were enhanced and positive effects were recognisable by the organizations. All societal effects were not visible in all Minno-innovation projects. As mentioned above, the nature of the project had a crucial role on the connection with the effects of Minno.

Organizations were satisfied with the cooperation with Minno-projects and they appreciated the students' effort who provided innovation and creative ideas to utilize the projects. Although, results showed that cooperation and the exchange of information was not always clear. This may be a topic for improvement for a better collaboration in the future.

Multidisciplinarity seemed to have a crucial role in innovation during the process of Minno-innovation projects. The diversity of knowledge within the student groups offered the opportunity for innovation, creation and knowledge transformation. Multidisciplinarity in teams produce and benefit the concepts of innovation and creation (Fay et al. 2006; 554-555). Ideation process of student groups were valuable for the design of innovation projects.

University-industry cooperation needs open communication and clarity to provide expected outcomes. This cooperation can offer great results to organizations. Universities need to ensure that the partner organization has all the appropriate information about its obligations towards the process of Minno-innovation projects.

Minno-innovation projects benefit partner organizations in many different aspects regarding wider societal topics. Student groups were able to offer satisfaction to the partners through their innovation projects. There is still room for improvements for better collaboration between Minno-projects organisers and organisations.

This changing world needs individuals who can innovate and create services or products which protect this planet, promotes wellbeing and cares for humanity. Minno-innovation projects is a course which adds value in innovation and equips students with necessary supplies of knowledge.

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## Participant consent

**Tutkimuksen nimi:** Minno Effects

**Tutkimuksen toteuttaja:** Metropolia Ammattikorkeakoulu Oy, Natalie-Christina Lintula,

Opinnäytetyön ohjaaja: Marianne Pitkäjärvi

Minua Natalie-Christina Lintula on pyydetty osallistumaan yllä mainittuun tutkimukseen, jonka tarkoituksena on tutkia Metropolia Ammattikorkeakoulun Minno-innovaatioprojektien vaikutuksia yhteistyökumppaneille.

Olen saanut tutkimustiedotteen ja ymmärtänyt sen. Tiedotteesta olen saanut riittävän selvityksen tutkimuksesta, sen tarkoituksesta ja toteutuksesta, oikeuksistani sekä tutkimuksen mahdollisesti liittyvistä hyödyistä ja riskeistä. Minulle on kerrottu tutkimuksesta myös suullisesti. Minulla on ollut mahdollisuus esittää kysymyksiä ja olen saanut riittävän vastauksen kaikkiin tutkimusta koskeviin kysymyksiini.

Olen saanut tiedot tutkimukseen mahdollisesti liittyvästä henkilötietojen keräämisestä, käsittelystä ja luovuttamisesta ja minun on ollut mahdollista tutustua tutkimuksen tietosuojaselosteeseen.

Minua ei ole painostettu eikä houkuteltu osallistumaan tutkimukseen. Minulla on ollut riittävästi aikaa harkita osallistumistani tutkimukseen.

Ymmärrän, että osallistumiseni tutkimukseen on vapaaehtoista ja että voin peruuttaa tämän suostumukseni koska tahansa syytä ilmoittamatta. Olen tietoinen siitä, että mikäli keskeytän tutkimuksen tai peruutan suostumukseni, minusta keskeyttämiseen ja suostumuksen peruuttamiseen mennessä kerättyjä tietoja ja näytteitä voidaan käyttää osana tutkimusaineistoa.

**Allekirjoituksellani vahvistan osallistumiseni tähän tutkimukseen.**

**Jos tutkimuksessa käsitellään henkilötietoja ja niiden käsittelyperusteena on suostumus, vahvistan allekirjoituksellani suostumukseni myös henkilötietojeni käsittelyyn. Minulla on oikeus peruuttaa suostumukseni henkilötietojeni käsittelyyn tietosuojaselosteessa kuvatulla tavalla.**

\_\_\_\_\_

Allekirjoitus:

\_\_\_\_\_

Nimenselvennys: \_\_\_\_\_

Alkuperäinen allekirjoitettu tutkittavan suostumus sekä kopio tutkimustiedotteesta liitteineen jäävät tutkijan arkistoon. Tutkimustiedote liitteineen ja kopio allekirjoitetusta suostumuksesta annetaan tutkittavalle.

## Participant information

### Minno innovaatioprojekti

#### Pyyntö osallistua tutkimukseen

Organisaatiotanne pyydetään mukaan tutkimukseen, jossa tutkitaan Metropolia Ammattikorkeakoulun innovaatioprojektien (Minno) vaikuttavuutta mm yhteistyökumppani-organisaatioissa. Olemme arvioineet, että sovellutte tutkimukseen, koska yrityksenne /organisaationne on osallistunut Metropolia AMK:n innovaatioprojektitoimintaan.

Tämä tiedote kuvaa tutkimusta ja organisaationne osuutta siinä. Pehdyttyänne tähän tiedotteeseen teillä on mahdollisuus esittää tutkimusjohtajalle kysymyksiä, jonka jälkeen teiltä pyydetään suostumus tutkimukseen osallistumisesta.

Pyydämme että nimeätte organisaatiostanne haastateltavaksi sellaisen henkilön, joka osaa arvioida Minno innovaatioprojektien vaikutuksia / vaikuttavuutta organisaatiossanne.

#### Vapaaehtoisuus

Tutkimukseen osallistuminen on vapaaehtoista. Kieltäytyminen ei vaikuta oikeuksiinne, kohteluunne tai tulevaan yhteistyöhön Metropolia Ammattikorkeakoulun kanssa.

Voitte myös keskeyttää tutkimukseen osallistumisen koska tahansa syytä ilmoittamatta. Mikäli keskeytätte tutkimuksen tai peruutatte suostumuksen, keskeyttämiseen ja suostumuksen peruuttamiseen mennessä kerättyjä tietoja voidaan käyttää osana tutkimusaineistoa.

#### Tutkimuksen tarkoitus

Tutkimuksen tarkoituksena on tutkia innovaatioprojektien vaikuttavuutta Metropolia AMK:n Minno innovaatioprojekteihin osallistuvissa organisaatioissa.

#### Tutkimuksen toteuttajat

Tutkimuksen toteuttaa Metropolia Ammattikorkeakoulu. Haastatteluaineiston kerää ja analysoi Master's in Health Business Management-tutkinnon opiskelija Natalie-Cristina Lintula, lehtori Marianne Pitkjärven ohjauksessa. Tutkimusjohtajana toimii lehtori Laura-Maija Hero.

#### Tutkimusmenetelmät ja toimenpiteet

Tutkimukseen osallistujia haastatellaan käyttämällä valmista haastattelurunkoa, jonka valmisteluun on osallistunut Minno innovaatioprojektien opettajia sekä Metropolia AMK:n johtoportaana edustajia. Haastattelu tehdään sovittuna päivänä etäyhteyden välityksellä. Haastattelua varten on hyvä varata noin tunti.

#### Kustannukset ja niiden korvaaminen

Tutkimukseen osallistuminen ei maksa teille mitään. Osallistumisesta ei myöskään makseta erillistä korvausta.

#### Tutkimustuloksista tiedottaminen

Tämä on opinnäytetyö, joka julkaistaan avoimesti Theseus-tietokannassa. Tutkimukseen osallistuvien organisaatioiden yhteyshenkilöille lähetetään sähköpostitse linkki valmiiseen opinnäytetyöhön, josta tutkimusraportin voi halutessaan käydä lukemassa. Linkin voi jakaa kiinnostuneille tahoille organisaatiossanne.

#### **Tutkimuksen päätyminen**

Tiedonkeruu suoritetaan aikavälillä kesäkuu 2021 - joulukuu 2021. Tutkimus päättyy, kun opinnäytetyö valmistuu toukokuuhun 2022 mennessä. Tutkimukseen osallistuville ilmoitetaan, kun opinnäyte on valmis ja lisätty Theseus-tietokantaan.

#### **Lisätiedot**

Tarvittaessa voitte esittää tutkimukseen liittyviä kysymyksiä tutkijalle/tutkimuksesta vastaavalle henkilölle.

#### **Tutkijoiden yhteystiedot**

Tutkimusjohtaja  
Nimi: Laura-Maija Hero  
Titteli: Lehtori  
Metropolia Ammattikorkeakoulu Oy / Kulttuurituotanto

Opinnäytetyön tekijä  
Nimi: Natalie-Christina Lintula

Opinnäytetyön ohjaaja  
Titteli: Lehtori  
Nimi: Marianne Pitkälä  
Metropolia Ammattikorkeakoulu Oy / Kuntoutus ja tutkiminen

## Tutkimuksen tietosuojaseloste: Henkilötietojen käsittely tutkimuksessa

Tässä tutkimuksessa käsitellään teitä koskevia henkilötietoja voimassa olevan tietosuojalainsäädännön (EU:n yleinen tietosuoja-astus, 679/2016, ja voimassa oleva kansallinen lainsäädäntö) mukaisesti. Seuraavassa kuvataan henkilötietojen käsittelyyn liittyvät asiat.

### Tutkimuksen rekisterinpitäjä

Rekisterinpitäjällä tarkoitetaan tahoja, joka yksin tai yhdessä toisten kanssa määrittelee henkilötietojen käsittelyn tarkoitukset ja keinot. Rekisterinpitäjä voi olla Metropolia Ammattikorkeakoulu, toimeksiantaja, muu yhteistyötaho, opinnäytetyöntekijä tai jotkut edellä mainituista yhdessä (esim. Metropolia Ammattikorkeakoulu ja opinnäytetyöntekijä yhdessä).

Tässä tutkimuksessa henkilötietojen rekisterinpitäjä on :

- |                               |                                     |                       |
|-------------------------------|-------------------------------------|-----------------------|
| Metropolia Ammattikorkeakoulu | <input checked="" type="checkbox"/> |                       |
| Toimeksiantaja                | <input type="checkbox"/>            | Toimeksiantajan nimi: |
| Muu yhteistyötaho             | <input type="checkbox"/>            | Yhteistyötahon nimi:  |
| Opinnäytetyöntekijä           | x<br><input type="checkbox"/>       |                       |

### Voitte kysyä lisätietoja henkilötietojenne käsittelystä rekisterinpitäjän yhteyshenkilöltä

Rekisterinpitäjän yhteyshenkilön nimi: Laura-Maija Hero  
Organisaatio: Metropolia AMK

### Tutkimuksessa teistä kerätään seuraavia henkilötietoja

Haastateltavilta kerättävät tietotyypit ovat: nimi, puhelinnumero, työpaikka, ammattinimike.

### Henkilötietojenne suojausperiaatteet

Haastatteluaineisto tallennetaan Metropolian tietosuojatuille alustoille, Z-verkkolevyasemalle ja Moodle-työtilaan. Moodle työtila on suojattu kahdella salasanalla ja Z-verkkolevyasema on suojattu henkilökohtaisella salasanalla. Myös aineiston analysointi ja tulosten raportointi tehdään näillä alustoilla. Aineiston käsittelyvaiheessa organisaationne nimi vaihdetaan vain tutkimustiimin käytössä



olevaan tunnisteeseen ja haastateltavan nimi, puhelinnumero ja ammattinimike hävitetään. Aineisto raportoidaan kokonaisuutena niin, että haastateltavaa tai hänen taustaorganisaatiotaan ei lopullisesta tekstistä voida tunnistaa. Tulosten valmistuttua (toukokuu 2022 mennessä) myös haastattelujen litteroinnit hävitetään.

#### **Henkilötietojenne käsittelyn tarkoitus**

Haastateltavien henkilötietoja (nimi, puhelinnumero) tarvitaan ainoastaan haastattelun ajankohdasta sopimiseen. Haastateltavan ammattinimikettä tarvitaan tiedonantajien taustojen kuvaukseen, jolla halutaan lisätä tutkimuksen luotettavuutta. Organisaation nimeä tarvitaan tutkimukseen osallistuvien yhteistyökumppaneiden luokittelussa elinkeinoelämän eri sektoreille.

#### **Henkilötietojenne käsittelyperuste**

Suostumus

#### **Tutkimuksen kestoaja (henkilötietojenne käsittelyaika)**

Kesäkuu 2021 - Joulukuu 2021

#### **Mitä henkilötiedoillenne tapahtuu tutkimuksen päättyttyä?**

Henkilötiedot hävitetään.

#### **Tietojen luovuttaminen tutkimusrekisteristä**

Tietoja ei luovuteta tutkimusryhmän ulkopuolelle.

#### **Rekisteröitynä teillä on oikeus**

Koska henkilötietojanne käsitellään tässä tutkimuksessa, niin olette rekisteröity tutkimuksen aikana muodostuvassa henkilörekisterissä. Rekisteröitynä teillä on oikeus:

- saada informaatiota henkilötietojen käsittelystä
- tarkastaa itseänne koskevat tiedot
- oikaista tietojanne
- poistaa tietonne (esim. jos peruutatte antamanne suostumuksen)
- peruuttaa antamanne henkilötietojen käsittelyä koskeva suostumus
- rajoittaa tietojenne käsittelyä
- rekisterinpitäjän ilmoitusvelvollisuus henkilötietojen oikaisusta, poistosta tai käsittelyn rajoittamisesta
- siirtää tietonne järjestelmästä toiseen
- sallia automaattinen päätöksenteko nimenomaisella suostumuksellanne
- tehdä valitus tietosuojavaltuutetun toimistoon, jos katsotte, että henkilötietojanne on käsitelty tietosuojalainsäädännön vastaisesti

Jos henkilötietojen käsittely tutkimuksessa ei edellytä rekisteröidyn tunnistamista ilman lisätietoja eikä rekisterinpitäjä pysty tunnistamaan rekisteröityä, niin oikeutta tietojen tarkastamiseen, oikaisuun, poistoon, käsittelyn rajoittamiseen, ilmoitusvelvollisuuteen ja siirtämiseen ei sovelleta.

Voitte käyttää oikeuksianne ottamalla yhteyttä rekisterinpitäjään.

**Tutkimuksessa kerättyjä henkilötietoja ei käytetä profilointiin tai automaattiseen päätöksentekoon**

**Henkilötietojen käsittely aineistoa analysoitaessa ja tutkimuksen tuloksia raportoitaessa**

Teistä kerättyä tietoa ja tutkimusaineistoa käsitellään luottamuksellisesti lain-säädännön edellyttämällä tavalla. Yksittäisille tutkittavalle annetaan tunnus-koodi ja häntä koskevat tiedot säilytetään koodattuina tutkimusaineistossa. Ai-neisto analysoidaan koodattuna ja tulokset raportoidaan ryhmätasolla, jolloin yksittäinen henkilö ei ole tunnistettavissa ilman koodiavainta. Koodiavainta, jonka avulla yksittäisen tutkittavan tiedot ja tulokset voidaan tunnistaa, säilyttä-vät [Metropolian Z-verkkolevyasema tai Moodle-työtila tutkimuksen ajan] eikä tietoja anneta tutkimuksen ulkopuolisille henkilöille. Lopulliset tutkimustulokset raportoidaan ryhmätasolla eikä yksittäisten tutkittavien tunnistaminen ole mah-dollista.

## Appendix 3

### Interview Guide

#### Miten Minnot vaikuttavat tilaaja-organisaatiossa ja ympäröivässä yhteiskunnassa? Puolistrukturoitu teemahaastattelu

Meillä Metropolia ammattikorkeakoulussa jokainen opiskelija suorittaa 10 op Monialaisen innovaatioprojektin eli Minnon. Innovointi perustuu työelämän antamaan avoimeen haasteeseen tai aiheeseen. Olette olleet mukana tilaajan eli avoimen haasteen antajan roolissa. Nyt on aika kysyä teiltä, kuinka Minno vaikutti teidän organisaatiossa ja välillisesti ympäröivässä yhteiskunnassa. Vastatkaa oman kokemuksenne perusteella ja pyrkikää ottamaan huomioon kokemuksenne Minno -projektin aikana ja sen jälkeen. Pyrkikää antamaan konkreettisia esimerkkejä ja näkemään Metropolian ja organisaationne yhteistyö laajemmin eli yhteiskunnassamme vaikuttavana toimintana.

#### Haastattelijan alustus:

Haastattelu koostuu kahdesta haastatteluosiosta. Kysyn ensi teiltä opiskelijoiden projektista ja heidän teille tekemistä tuotoksista sekä niiden vaiheista projektin päätyttyä. Sen jälkeen kysyn yleisempiä kysymyksiä, jotka liittyvät projektin mahdollisiin laajempiin vaikutuksiin, kuten ekologisiin, sosiaalisiin ja taloudellisiin vaikutuksiin. Nämä vaikutukset voivat olla suoria tai välillisiä, esimerkiksi teidän, asiakkaidenne ja kohderyhmänne hyötyjä tai kokemuksia.

#### Pohjustavat kysymykset

Haastattelijat: Natalie-Christina Lintula

Muistellaan yhdessä ensin. Mikä oli projektisi haaste ja mihin omaan tavoitteeseenne se liittyi? Autan täältä haastepaperista! Olitko henkilökohtaisesti mukana? Oliko teiltä muita mukana?

#### Osa 1. Minnon vaikutukset teidän ja organisaationne tavoitteisiin nähden (3 teemaa)

**Mitä seuraavista opiskelijatiimit teille tuottivat:** Ideoita, konsepteja, projektisuunnitelmia, tutkimustuloksia, prototyyppisiä, markkinointimateriaaleja, viestintäsuunnitelmia, myytävä tuote tai palvelu? Mitä näistä? Mitä muuta? Listaa!

**Minnon hyöty teille:** Mitä saitte Minnoon osallistumisesta? Listaa. Oliko projektiin osallistumisesta hyötyä teille tai organisaatiollenne? Oletteko pystyneet joillain tavoin hyödyntämään opiskelijoiden tuottamia materiaaleja ja tuotoksia? Millä tavoin? Anna konkreettisia esimerkkejä.

**Mitä jäi elämään:** Mitä ideoille ja opiskelijoiden tuotoksille tapahtui Minnon jälkeen? Käytettiinkö niitä? Toteutettiin jotain? Onko teillä tällä hetkellä tuote, palvelu, toiminto tai liiketoimintamalli, joka joillain tavoin perustuu Minnoissa syntyneisiin ideoihin? Menikö tuote myyntiin tai muuten konkreettiseen käyttöön? Paljonko se vaati omaa jatkokehitystyötänne?

Osan 1 lopuksi voisimme summata: Koettako osallistumisenne tuoneen lisäarvoa teille, minkälaista? Miten käytännössä? Opiteko jotain? Mitä?

**Osa 2: Minno -yhteistyömme laajemmat yhteiskunnalliset vaikutukset (6 teemaa)**

**Vaikutukset ihmisten arkeen:** Millä tavalla projekti edisti ihmisten toiminnallista ja kokemuksellista arkea? Sisältyikö siihen paikallisyhteisöjen aktiivista osallistumista? Millä tavalla projektin tulokset lisäävät alueen houkuttelevuutta? Oliko projektilla kulttuurista tai taiteellista arvoa? Anna konkreettisia esimerkkejä.

**Vaikutukset digitalisaatioon:** Tuottiko projekti teknisiä parannuksia tai uusia teknologisia ratkaisuja? Kuinka ja mitä?

**Ekologiset vaikutukset:** Edistikö hanke jotakin ympäristöön tai ilmastoon liittyvää teemaa, kuten ilmastopäästöjen vähentäminen tai ilmastonmuutokseen sopeutuminen, luonnon monimuotoisuuden parantaminen, kiertotalouden ratkaisujen kehittäminen, uusiutuvan energian ratkaisut? Anna konkreettisia esimerkkejä.

**Taloudelliset vaikutukset:** Edistikö projekti välittömästi tai välillisesti jotakin taloudellisen kestävyuden teemaa, kuten kestäväää taloudellista kasvua teille tai muille, työttömyyden vähentämistä, vastuullisia hankintoja, sijoittamista tms.? Miten? Anna konkreettisia esimerkkejä.

**Sosiaaliset vaikutukset:** Edistikö hanke jotakin sosiaalisen vastuullisuuden teemaa yhteiskunnassa, kuten nuorten osallisuutta tai työllistymistä, erityisryhmien oikeuksien toteutumista, väestön ikääntymistä tai sukupuolten tasa-arvoa, omien työntekijöiden hyvinvoinnin tai osaamisen edistämistä? Miten? Anna konkreettisia esimerkkejä.

**Hyvinvointi ja terveysvaikutukset:** Liittyikö projekti hyvinvointiin ja terveyteen tai osallisuuden edistämiseen? Lisäikö projekti niitä? Miten? Anna konkreettisia esimerkkejä.

**Haastattelun lopuksi voisimme summata:** Miten moniammatillisuus opiskelijatiimeissä toi lisäarvoa? Miten Minnoa voisi kehittää teitä enemmän hyödyttäväksi? Mikä auttaisi teitä saamaan enemmän hyötyä yhteistyöstä Minnossa? Haluatteko sanoa vielä jotain terveisiä Metropolialle, sen opettajille tai opiskelijoille?

Kiitos paljon haastattelusta.