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Participatory methods in service innovations and servitization research

High-tech result from DIMECC's Future Industrial Services (FutIS) program WP1 "Service business mindset"

Edited by Miia Martinsuo

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Abstract

During DIMECC's Future Industrial Services (FutIS) program, different methods have been used not only for research, but for boosting the service innovation and knowledge creation processes in and between technology-based firms and research teams. This high-tech result summarizes three participatory methods that were used in FutIS Work Package 1 on "Service Business Mindset". The first chapter introduces how companies have benefited from students' service concept development work, based on the new service ideas that companies have created during the research work. In this way, the partner companies have gained new input from "outsiders" to their service innovation processes, and at the same time FutIS research results have been diffused rapidly as part of university education. The second chapter proposes that user research methods are not only intended for the front end of innovation, but they can be used effectively also in the commercialization phase of innovation. It shows that different user research methods can be used for different purposes. The third chapter focuses on a tested way to improve the quality of publishing from service research. FutIS WP1 researchers engaged in ten roundtable events where they shared their work-in-progress publications with peers and received constructive feedback and, thereby, developed their research results toward international-level publications. These results demonstrate that FutIS program has been an excellent platform for experimenting with participatory methods for service innovations and servitization research, besides activating service-oriented business transformation in technology-based firms.

Content

1. Converting service ideas to innovative service concepts by collaborating with students

Sanna Nenonen, Eija Vaittinen, Miia Martinsuo, Tuomas Martinkallio and Seija Junno

Summary

Service research can reveal service ideas that need to be developed into attractive, feasible and profitable service concepts, in order to bring benefits to the technology-based firm. Students of Industrial Engineering and Management at Tampere University of Technology (TUT) developed real-life service ideas into innovative service concepts in cooperation with Konecranes, Nokian Tyres, SSAB and some other companies. Use of real-life examples as assignments yielded an external view of service development potential for the companies, and better understanding of a company's real-life context for the students. This kind of company-related education method has received a warm welcome from both the partner companies and the students, resulting in four consecutive iterations of the offering in collaboration with FutIS companies.

Motivation and aims

Students interested in industrial service business need the knowledge, skills and tools to develop new services and manage the service business in technology-based firms. Real-life examples are needed in their learning processes to illustrate the link between theory and practice. The students participating in TUT's basic-level course of Industrial Service Operations and Innovations have had a chance to learn the development of new industrial services through the service ideas proposed by some FutIS companies. The companies have identified new service ideas as part of their own strategy processes and as part of FutIS research and proposed them for concept development. The task of student teams is to develop the idea into a concept proposal for an actual service and recommend either its implementation or rejection.

The assignment is designed to provide the students with understanding of the core issues in new service development: assessing the market and competitive arena for the service idea, focusing and delimiting the service concept, recognizing the right customer segments, planning the service process and resources, and assessing the business case. Company collaboration gives the students a possibility to discuss the service concept with company employees and provides information on the real situation in companies. Presenting the developed service concepts for company representatives provides students a valuable experience in selling the service idea to company managers and receiving feedback on their work.

Results

Konecranes, Nokian Tyres, and SSAB participated in course on Industrial Service Operations and Innovations during the fall of 2014 to share their real service ideas, so the students would develop the ideas into proposals for actual service offerings. Students were seen as open-minded developers that were not yet chained by company-specific ways of thinking and could therefore provide innovative ideas that would benefit the companies. For each student group, a unique service idea was provided from one of the companies for further development. These ideas were derived mostly from the companies' work with the FutIS program and were related to the development of existing services or innovating totally new services, such as getting closer to end customers, better meeting of customer needs, and gaining competitive advantage in changing markets. The process of the student assignment is presented in Figure 1.
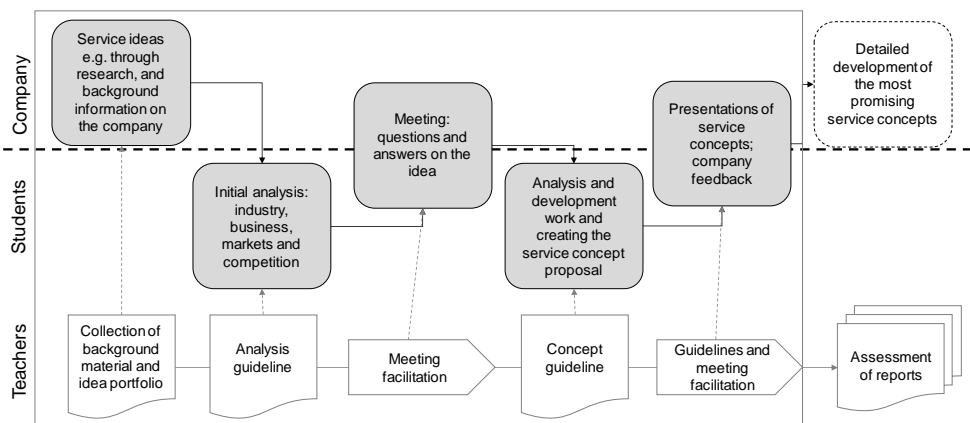

Figure 1. Process of the student assignments in the Industrial service operations and innovations course of TUT.

As a result, the student teams provided companies a proposal of the key dimensions of the new service concept, and finally a recommendation of either implementing or rejecting the service concept. Reports included the value proposition, competitive aspects, process description, required partnerships, and assessment of the viability and business case of the service idea. The task might be, for example, to develop a maintenance service, and as a solution the students might propose doing only periodic maintenance that salespeople sell while an external partner conducts the actual maintenance. Further, they would provide ideas about the risks in this option and some calculations such as possible future revenues. After receiving the report, company representatives attended the final seminar session of the course, including the sales pitches of the student teams proposing their service concepts. Here, the company participants were able to ask further questions to probe student thinking about the service concept.

Application and impact

The benefits of including companies in teaching are twofold because this kind of cooperation gives new insights both to the companies and students. The companies were pleased with

the results of the student assignments. They benefited from the different kind of thinking the students provided, and received completely fresh ideas from students who have not yet limited their thinking by company-specific constraints and mindsets. Furthermore, companies got a glimpse of their potential future workforce and how they are educated.

From the student perspective, the assignment can be considered a success. According to student feedback, a majority considered the assignment meaningful and appreciated the real-world company service ideas. Students mentioned it was a real eye-opener to be in touch with a real company and its business context. They also reported that doing the assignment for a company's real needs motivated them to do thorough work and really put their minds to the task. Some students experienced the service sales pitch to company representatives and their direct feedback as unique and inspiring.

Company comments

Companies wanted to be part of the course mainly to get new external viewpoints on service ideas. Some ideas were chosen from the subjects in the companies' FutIS work while others were chosen more generally based on novelty and promising business potential.

> *"In our own organization some ideas move forward easily but more radical development ideas are difficult to discuss."*

Companies also described the benefits they received. One company appreciated how their chosen service ideas were examined systematically and documented. Another thanked the students both for confirming their beliefs and also for providing completely new ideas for the service business.

> *"Some ideas live on whereas others do not."*

The work is not yet done, however. New ideas have been presented for improving the assignment, such as closer cooperation between a company and students to achieve even better results. Therefore, this course is developed further and continues to be implemented in the future.

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PROGRAM:
DIMECC FutIS

CATEGORY:

x	Value creation
	Novel solutions
	Smart production

KEYWORDS:
Service development, innovation, service concepts, service ideas, industry-university collaboration

INDUSTRIES:
Manufacturing firms developing their service business

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2. Enhancing the commercialization phase of innovation through user research methods

Eeva Erkko and Tuomo Eloranta

Summary

End-user research is often conducted in the early phases of the innovation process to inspire idea generation, but tends to be forgotten during commercialization, even if it could be highly beneficial then as well. Understanding the whys and hows of conducting end-user research during the commercialization phase of innovation supports companies in their efforts to introduce their new services and products to the market successfully.

Motivation and aims

Successful development of new products and services requires a thorough understanding of customers and their context. However, gaining insight about customer needs and desires takes time as well as resources. Therefore, it is crucial that the selected approaches are well fitted to the information needs of the development efforts. The research collaboration between Aalto University and Ahlstrom focused on gaining and in-depth understanding of different methods of conducting user research during the commercialization phase of the innovation process. After careful mapping of potential alternatives for the case at hand, three very different user research methods were selected for in-depth analysis and applied to a real-life development challenge. The goal was to understand what kind of information each method produced as well as key benefits and challenges of each approach.

Results

The main results related to the benefits and challenges of each user research method are summarized in Figure 2.

Business customer interviews are semi-structured discussions about consumer needs with a company's customers that are closer to the consumer in the value stream and should thus better indicate their desires. As the main idea of the method is to leverage existing relationships, conducting business customer interviews is relatively straightforward. Well-established and trusting relationships are a key issue to emphasize during informant selection since not all customers are willing to share their end-user insights. From a results perspective, we found that business customer interviews can bring new information about the things that happen downstream in the value chain and also provide a means for benchmarking different ways to conduct consumer studies.
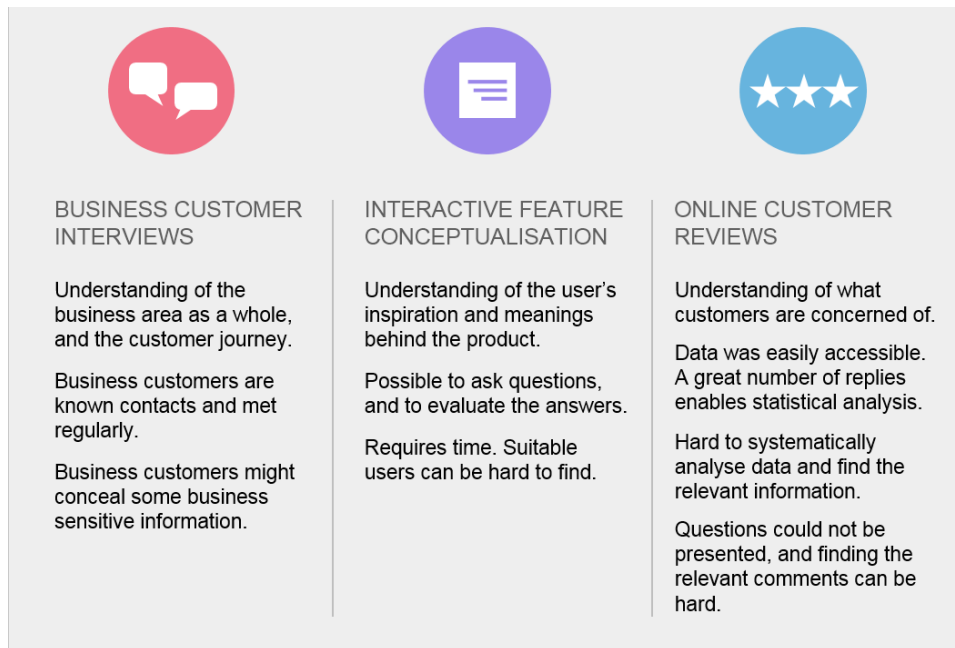
BUSINESS CUSTOMER INTERVIEWS

Understanding of the business area as a whole, and the customer journey.

Business customers are known contacts and met regularly.

Business customers might conceal some business sensitive information.

INTERACTIVE FEATURE CONCEPTUALISATION

Understanding of the user's inspiration and meanings behind the product.

Possible to ask questions, and to evaluate the answers.

Requires time. Suitable users can be hard to find.

ONLINE CUSTOMER REVIEWS

Understanding of what customers are concerned of.

Data was easily accessible. A great number of replies enables statistical analysis.

Hard to systematically analyse data and find the relevant information.

Questions could not be presented, and finding the relevant comments can be hard.

Figure 2. Benefits and challenges of three different user research methods.

Interactive feature conceptualization (IFC) interviews are an extended version of regular customer interviews in which the interviewer and interviewee discuss, evaluate, and group important features of the offering using post-it notes. Conducting IFC interviews is typically more challenging than regular business customer interviews because the lack of direct consumer contact can make finding suitable interviewees difficult. Having good relationships with distributors, retailers, etc. is of utmost importance as they might be willing to help a valued business partner with the process. Taking the time to find interviewees is well worth the effort it takes. We found that IFCs help in gaining an in-depth understanding of meanings behind the use of a certain product or service and how it connects to consumers' everyday lives.

Finally, **online customer review analysis** is a modification of the netnographic research method in which discussions on one or more online review sites are studied in order to understand which kind of praises and complaints consumers have regarding a company's offering. Online consumer review analysis is especially intriguing because the number of online reviews publicly available for anyone to process is huge (for example tripadvisor.com contains over 250 million reviews related to tourism and leisure services) and thus the cost of data collection is very small. Also, it enables companies to monitor not only what consumers think about their current offerings, but also their competitors' offerings. However, the huge mass of data can make analysis cumbersome. Also, especially compared to IFC interviews, lack of interactivity between the researcher and informants limits the depth of information that can be gained.

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Application and impact

From the perspective of improving innovation capabilities, the impact of increased customer understanding is threefold. First, better information about end-users helps in understanding their problems better than other companies, creating the possibility of offering something completely new. Further, it also helps in validating assumptions about customer segments and marketing strategies when introducing new products and services to the market. Finally, better grasp of the end-user's mind helps in presenting the benefits of new products to business customers and partners, facilitating innovation diffusion.

Company comment

"We have learned that extending our offering also towards services (for example converting, logistics) would increase our profitability and most probably bring new customers for us. At the same time we have found that our systems and the current way of working do not make it easy for us to do things differently. Once we do the needed mental change we can for sure increase our sales and improve profitability." Antti Haavisto, Ahlstrom

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PROGRAM:
DIMECC FutIS

CATEGORY: Choose the most relevant category based on FIMECC SRA (Strategic Research Agenda)

x	Value creation
	Novel solutions
	Smart production

KEYWORDS:
User Research, Customer Integration, Innovation Management, Commercialization

INDUSTRIES:
Manufacturing, Industrial Services, Construction, Steel

3. Promoting collaboration and publication quality among researchers through researcher roundtables

Miia Martinsuo, Seppo Luoto, Sanna Nenonen, Outi Vanharanta, Tuomo Eloranta, Mathias Hasselblatt, Tuomas Huikkola, Marko Kohtamäki, Jaana Näsänen, Rami Sariola, Eija Vaittinen

Summary

WP1 established a roundtable routine in the spring 2013, and it continued through 2015. The roundtables focused on discussing work-in-progress scientific articles, to enhance their progress and quality. The participants have come from three FutIS research projects in WP1 (RINE - Requirements for Innovative Environments in Service Business; SBC - Service Business Capabilities in Technology-based Firms; OIS - Organizing of Industrial Service Business) and, thereby, three universities (Aalto University, Tampere University of Technology, University of Vaasa). The roundtable met 10 times, and altogether 30 different articles have been discussed. Typically, 8-11 persons have participated in the meetings. This chapter introduces the experienced rationale and benefits of the roundtable routine.

Motivation and aims

The work had three main motivations:
1. Support high quality publishing through
   - Learning to apply new kinds of practices in scientific writing
   - Offering peer support in the highly competitive world of publishing
   - Getting feedback on work in progress
   - Offering a rhythm and structure for making progress in writing papers - intermediary deadlines and good foundation to take the next steps

2. Support knowledge transfer and learning through
   - Identifying common themes for WP1 researchers
   - Sharing knowledge with respect to different fields in which servitization is relevant
   - Promoting the development of joint research outputs (2015)

3. Support group cohesion through
   - Learning to know each other's work practices
   - Visiting each other's universities
   - Building a platform for future collaboration

Results

The papers handled in the roundtable represent about 40-50 % of WP1's all publications during 2013-2015. Almost all (>80%) papers have been presented at international conferences, some of them have been submitted to journals, and over 20% have been published or are to be published in international journals or books. Over 30% of the papers are still being modified for journals, based on conference and roundtable feedback and they will likely appear later on.

The procedure for the roundtables is simple. Each team has submitted one paper for review about one week before the meeting. Then, all participants have read the papers beforehand, to be ready for commenting. In the roundtable meetings, there were no presentations, but the authors have started the discussion with introducing the intended publication channel and expectations for comments. Each paper has been discussed for approximately 45 minutes, and authors have taken notes and concluded the discussion. After the three paper discussions, the next session has been agreed upon.

In the roundtable meetings, the atmosphere has been encouraging, positive and constructive, participants have experienced benefits to their own writing work, and the discussion has enabled the feeling of doing joint work in the program. Each of the three project teams clearly have their unique identity and profile which has been visible in the discussions. Despite teams taking somewhat different perspectives, the shared underlying idea of servitization and service business has integrated the teams and created common ground. The roundtable has enabled receiving review feedback even before submitting the paper to a real review process. Letting others read your paper in advance has been considered as greatly helpful in avoiding the biggest pitfalls that may appear during the official review process. Also good ideas for alternatives for publication channels have been given, and experiences from others' publication experiences have been shared, which has helped in determining new directions for forthcoming publication ideas. New ideas on good literature have been shared, new ideas for forthcoming papers have emerged in some of the sessions, and sometimes the paper content has been suggested to be split to two different papers.

Roundtable meetings have been experienced as a good platform for learning and skills development that is necessary in the academic world. For example, the roundtables have trained participants in giving feedback in a constructive way, receiving feedback and using it in developing one's own papers, and learning about the unique features of different publication channels. Learning to know each other and working together has made it easier to produce also joint results during the final year of the program.

Application and impact

WP1 participants can warmly encourage the use of roundtables as a mechanism to enhance researchers' cross-team cooperation, research quality, and publication output. Even if not all articles have been submitted or published, yet, the roundtable work has given a good foundation and motivation to finalize the papers. In some occasions, the discussion has led to a decision to discontinue the paper and focus writing efforts to other topics with more potential.

For forthcoming projects, the participants considered some ways to enhance the roundtable work. For example, the researchers could more frequently invite international visitors and experts from different domains and also company visitors to bring new input to the roundtable. Indeed, also company visitors curious about publication traditions could well participate in the roundtable and activate relevant discussion on the managerial implications of publishing work. However, we believe that it is advisable to keep the structure of a roundtable practice simple (as described) to maintain the practical organizing as effortless as possible.

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DIMECC FutIS

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x	Value creation
	Novel solutions
	Smart production

KEYWORDS:
publishing, collaboration

INDUSTRIES:
Manufacturing industries

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We digitalize your business

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