

OPEN SERVICE LAB NOTES

ONLINE-OFFLINE CO-CREATION



EDITORIAL

Dear Reader,

This issue of the Open Service Lab Notes will take you on a journey between worlds. Let us be your guide through the spheres of online-offline co-creation where we aim to harness users' minds to drive next level service experiences.

It is not the brightest among us who have the best ideas; it is those who make the most out of ideas from others. It is not the most determined among us who drive change; it is those who engage best with like-minded people. And it is not wealth or prestige that brings out the best in people; it is respect and help from peers. These ideas are central for sustained success in a competitive world and help to forge services that unleash new innovation opportunities. However, there remains the question of how to reach these international people, and how to let them share their ideas with other innovative minds. This challenge can be faced by merging online and offline innovation settings, maximizing the potential for creative solutions that fulfill customer's needs.

In the course of these Open Service Lab Notes, we will dive deeper into the fascinating interplay between the ideas of thousands of innovators around the world, via the World Wide Web, and experiencing latent needs from everyday people in face-to-face encounters. We aim to provide an oversight on this topic, and invite you to join us as we visit real and virtual places of co-creation.

The Open Service Lab Notes are published regularly with updates, showcasing recent research and the latest discussions from the members of the Open Service Lab (OSL). This virtual open laboratory is hosted at the Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU) in partnership with the Service Factory of the Fraunhofer IIS in Nuremberg. The aim of this network is to bring together national and international experts in service science, pioneers in service innovation, as well as sponsors and research partners. As a platform for interaction between researchers and practitioners, the Open Service Lab seeks to establish a networking space for key players in services and service innovation. The Open Service Lab Notes will keep you up-to-date with the lively exchange of relevant subjects in the field.

Feel free to join our conversations online at OSLNotes.com or to provide us with service innovation challenges that need to be solved.



Prof. Dr.
Albert Heuberger



Prof. Dr.
Kathrin M. Moeslein

Albert Heuberger

Kathrin M. Moeslein

06

What is co-creation?

Introducing concepts and vocabulary.

14

Analytics for co-creation

Fostering co-creation through analytics.

10

Innovating with users

Demonstrating the power of co-creation.

18

eMobilisten.de – a case of online-offline co-creation

Presenting insights from a research project in the context of e-mobility.

12

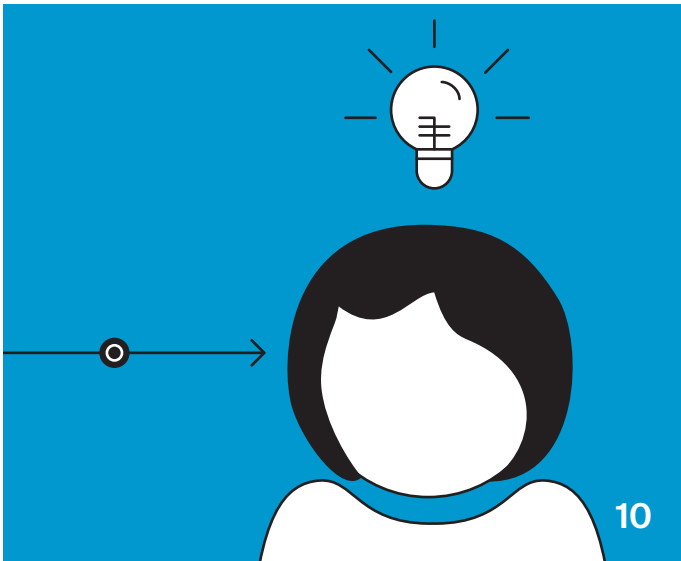
How to carry out co-creation?

Depicting online and offline tools.

24

Matching methods and research questions in an open innovation laboratory

Learning how to ask the right questions and choose the right method.



26

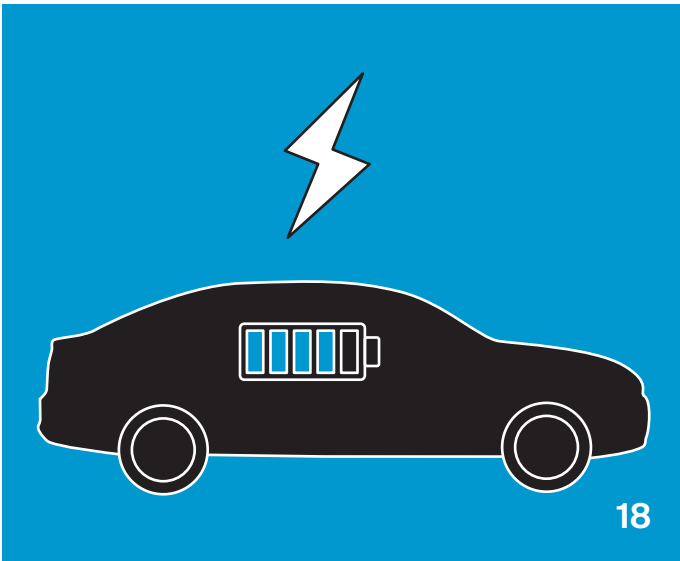
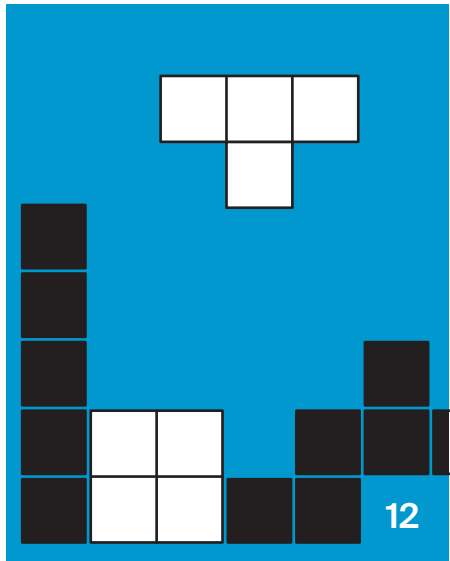
Online-offline co-creation – benefits and challenges

Highlighting some important aspects to consider.

30

Interview

Co-creation experts sharing their experiences.



WHAT IS CO-CREATION?

Imagine a world where no one has to buy standardized products and services off the shelf. Wouldn't it be great to let truly interested people participate in the early stages of service development and allow for feedback opportunities after purchase? Enter the world of co-creation, where organizations and users collaborate in developing innovative solutions that truly meet people's needs.

Today, co-creation has become a key driver of successful service innovation. More and more organizations actively and creatively collaborate with potential users throughout the development process. By harnessing their tacit and explicit knowledge, the market success of new products and services can be increased.

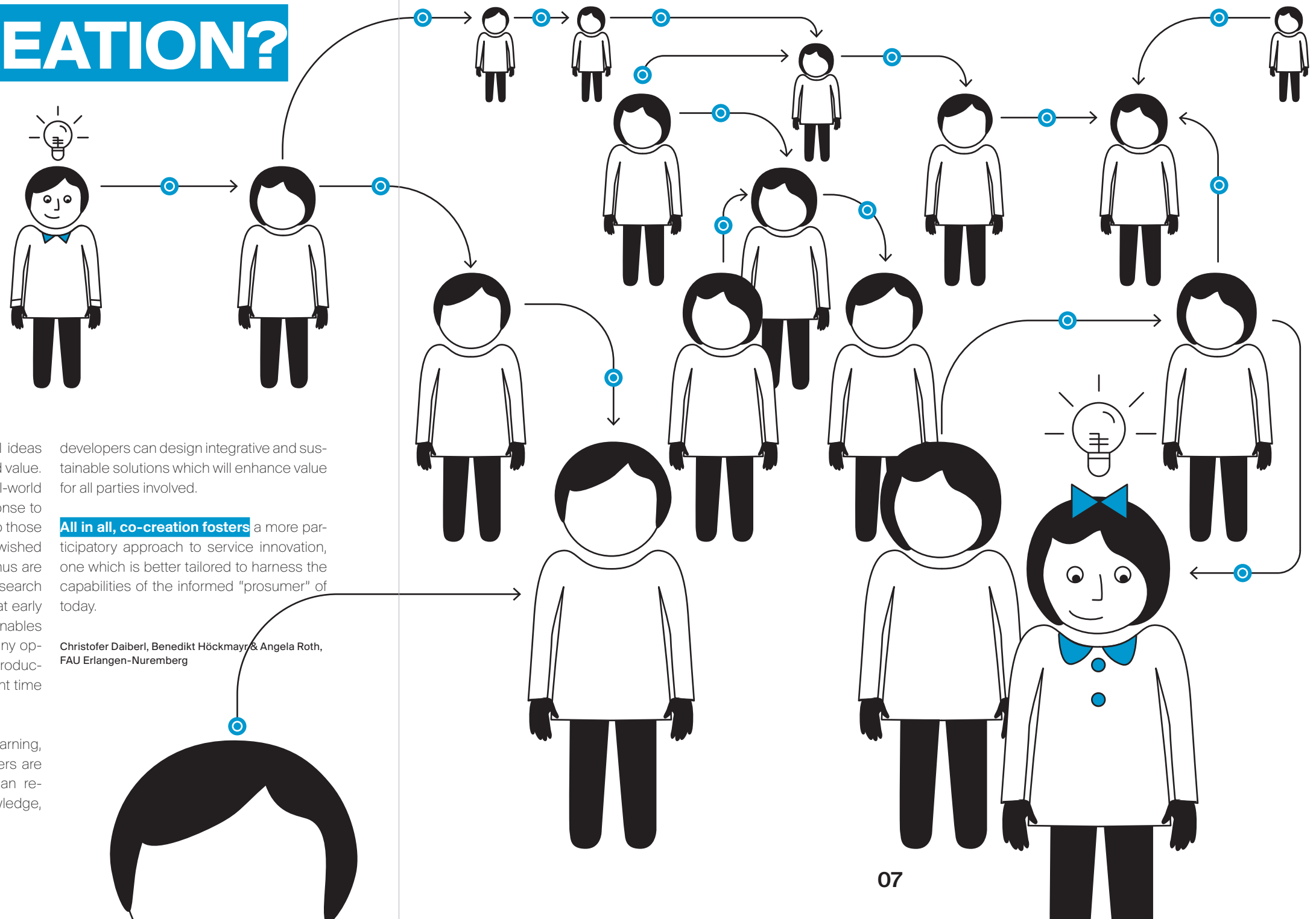
Users often generate truly original ideas which demonstrate a high perceived value. These ideas are often inspired by real-world service encounters and are a response to their latent needs. The latter refers to those service characteristics which are wished for but cannot be articulated, and thus are not revealed by traditional market research techniques. Moreover, co-creation at early stages of service development enables developers to identify and reduce any operational problems prior to market introduction. In doing so, overall development time and costs shall be reduced.

Co-creation enables in-depth learning, social exchange, and creativity. Users are valuable partners because they can reveal their true needs. With this knowledge,

developers can design integrative and sustainable solutions which will enhance value for all parties involved.

All in all, co-creation fosters a more participatory approach to service innovation, one which is better tailored to harness the capabilities of the informed "prosumer" of today.

Christofer Daiberl, Benedikt Höckmayr & Angela Roth,
FAU Erlangen-Nuremberg



INNOVATING WITH CUSTOMERS AND USERS

Innovation, especially in the context of service innovation, is at its core about the satisfaction of the customer's unmet needs. The wishes, needs, and the tacit knowledge of customers and users are seen as essential in creating innovations that are sustainable and fit for future markets. Information about customers and users, such as their preferences, habits, and behavior, is necessary for design innovations. Beyond providing information, it has been shown that customers and users can, and should be, enabled and encouraged to contribute to the development of differentiated and superior innovations, becoming co-creators of innovation. Why? Because business today is about experiences, activities and processes. It is the customers and users who define experiences and who participate in the value-creation process and know about their perceived value, quality, and benefits. As customers and users are the only experts of their own experiences, they should get a stake and a role in the creation process of innovations as well.

The benefits of customer co-creation for innovation, beyond a better market fit, are manifold: it improves the efficacy of service innovation, allows for higher technical quality, and generates a higher profit for new services as well as a higher speed to market.

For businesses, one of the main challenges is knowing when and how to integrate which type of customer and user group. Customers and users of existing products and services are often seen as a source for passive and reactive integration in the fuzzy front end of the innovation process. To find out about usage routines and to identify customer needs or potentials for incremental innovation from observations, interviews and diaries will provide in-depth understanding and pathways for the next steps in innovation.

Lead users are "a window into the future", as they are people who are enthusiastic about a specific topic, who have in-depth knowledge in a special area and whose needs are atypical. Lead users do not only know about their needs earlier than other specialists, but they also have solution information; the ability to solve their individual needs independently. Some experiments have found that it is fruitful to tap the knowledge and creative power of solution seeking users for the ideation and conceptualization of radically new ideas. Consequently, lead users are often invited for co-creation in workshops or via online innovation platforms.

"It's only by knowing what customers need that companies can engage in meaningful new service creation".
Lance A. Bettencourt, 2010

The evaluation of ideas and concepts from lead users should be implemented alongside the feedback from other customers and users, as more representative groups can give better feedback about market fit in the near future. Idea generation with more representative users and customers may foster less radical innovations but can bring about interesting ideas as well. Representative users will also provide more background about 'sticky information', which is information that is hard to articulate but may be embedded in the developed ideas. In the context of idea evaluation and generation via innovation surveys and interviews, it is recommended to include non-users as a special user group. Non-users are able to give information regarding their reasons for choosing other solutions. Developers can then use this information to generate solutions which will be better suited to fit diverse needs, baring potential for innovative insights. During the development phase, testing, evaluation and iterative adaption of an innovation design may be required. Here, customers can contribute with adaptations of the service concept substantially and profitably.

In the context of confidential innovation topics, co-creation with trusted customers is advised. This special customer group shows a high readiness to collaborate and furthermore, the trusted relationship can foster better understanding and more fine-tuned information. Another challenge, apart from identifying which mode of co-creation to use at which time, may be that some customers or users are not willing or are not able to articulate their needs. This is especially found in the B2B context. Customers and users need to be able to clearly see a benefit in the innovation activities for themselves. This may be the development of a better future, a more suitable product, getting to know new people, having fun, or examining new innovation methods and tools.

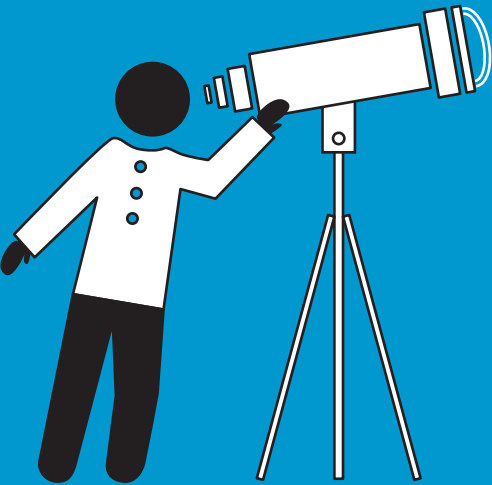
Overall, customer and user co-creation leads to best results when customers are integrated and treated as equal partners for innovation. Direct exchange and interaction can improve the results of customer co-creation. For instance, spending more time communicating with the customer creates access to context specific 'sticky information'.

User knowledge can be tapped in different modes of co-creation, ranging from passive integration to proactive initiative.

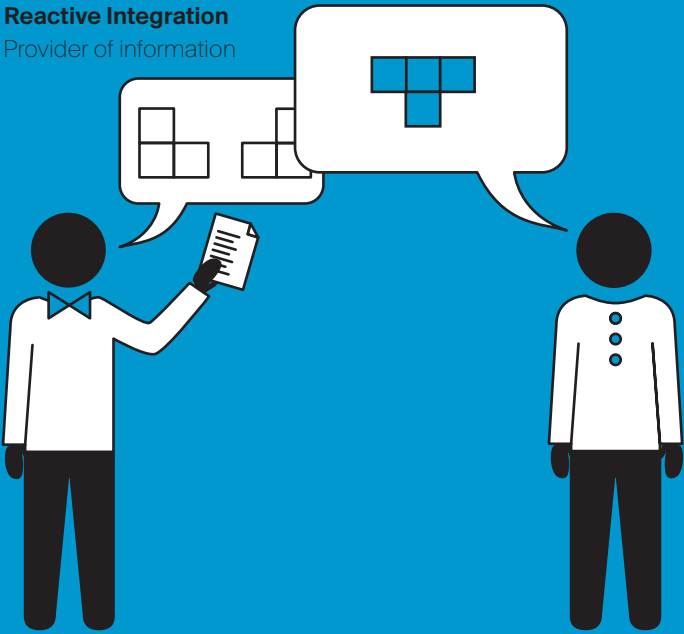
01. **Passive integration** refers to the integration of customers and users as subject of interest. They are integrated without their knowledge. In this mode, customers and users might be observed with market analysis, ethnographic studies, or test purchases.

02. **Reactive integration** is when customers and users are incorporated as providers of information. The implementation of this mode involves customers or users reacting to an invitation from the innovating organization, usually in the form of a request for feedback. This 'reactive integration' could include interviews or surveys.

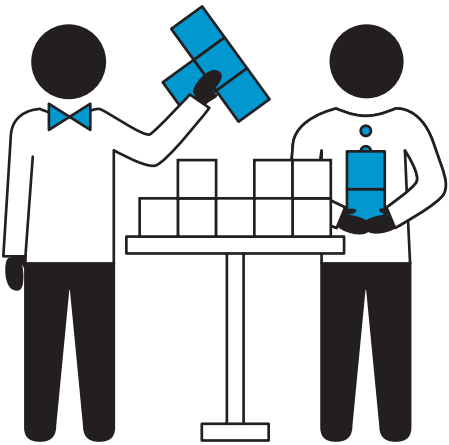
01
Passive Integration
Subject of interest



02
Reactive Integration
Provider of information



03
Mutual Integration
Co-developer

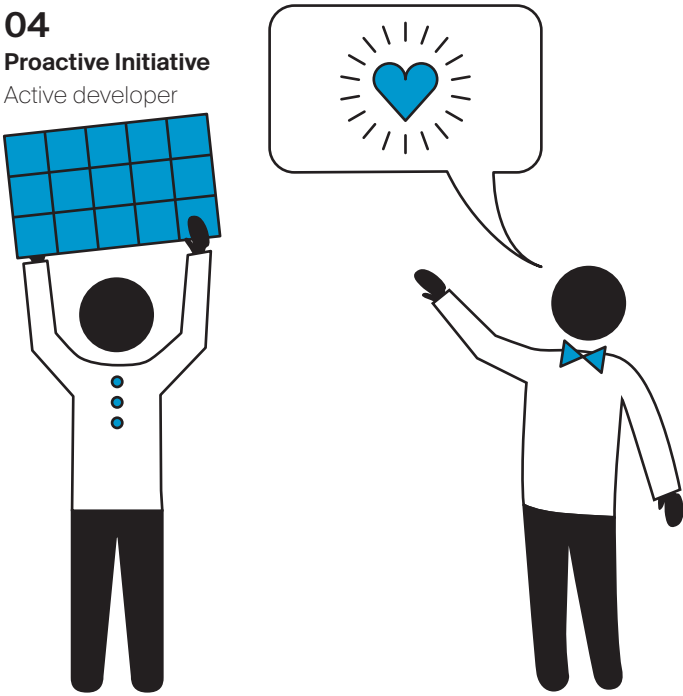


03. **Mutual integration** is when a customer or user takes an active role in innovation, co-creating as a 'co-developer'. In this mode, customers and users are co-creating as equal partners in discussions in order to solve a problem. A typical example of mutual co-creation would be a workshop for discussing and solving problems, or an online discussion board.

04. **Proactive initiative** describes the mode of co-creation where customers and users proactively approach an organization with their desires. In this mode, customers and users are 'active developers': they are developing service innovations more or less autonomously and will proactively approach the organization with their idea or request. In this mode, the innovating organization is providing a channel for the reception and potential absorption of the user's solution.

Julia M. Jonas, FAU Erlangen-Nuremberg

04
Proactive Initiative
Active developer



HOW TO CARRY OUT CO-CREATION?

Online

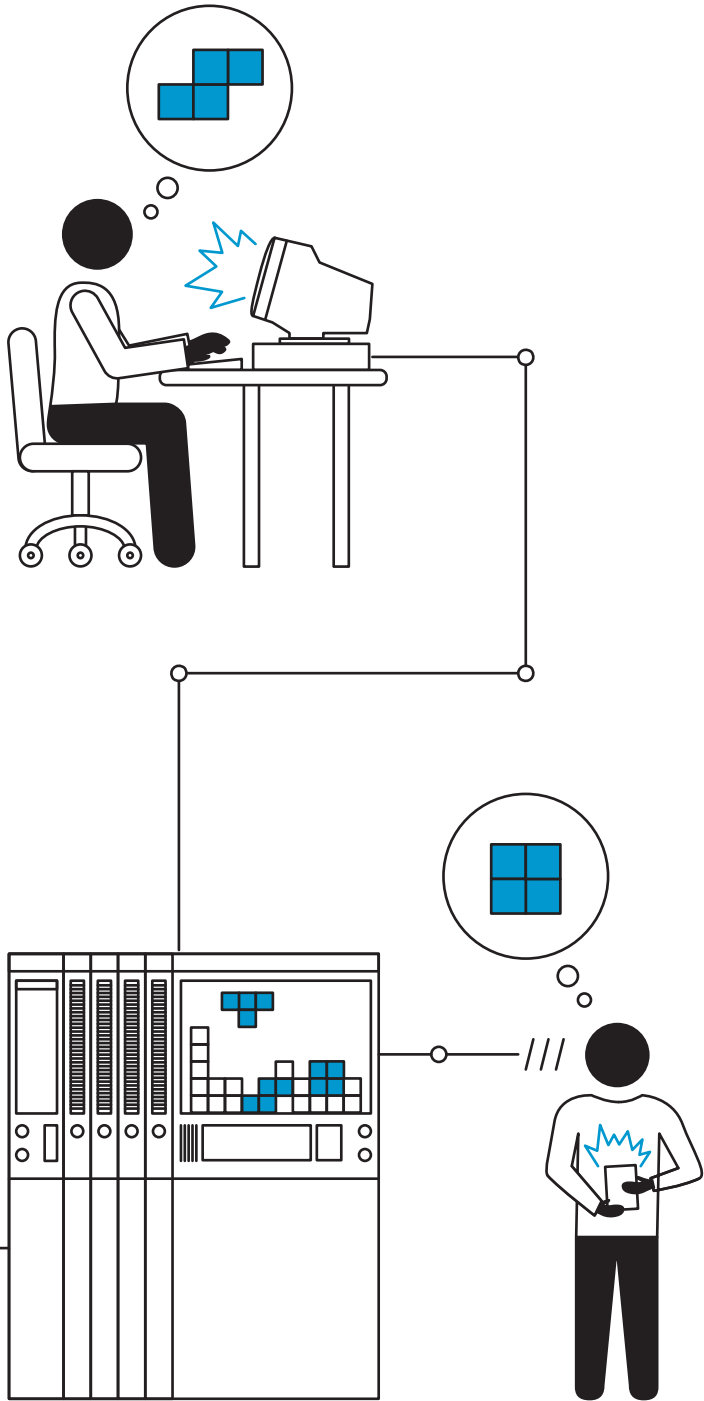
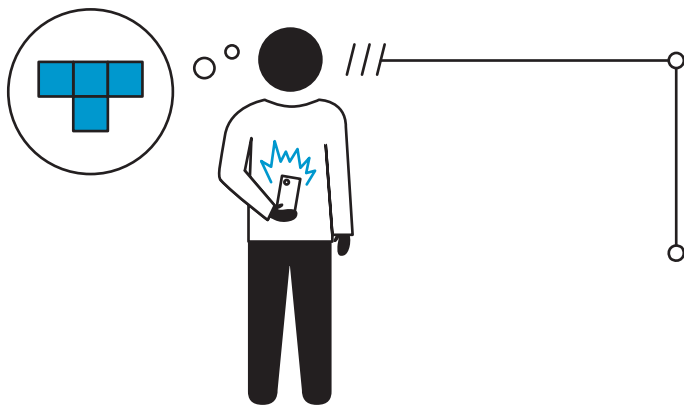
There exist various online and offline tools to foster co-creation. One possibility is to harness the world wide web to efficiently integrate large numbers of users into service innovation independently of any temporal or spatial restrictions. Online co-creation enables an organizer to engage in a continuous and distributed exchange of innovation related information with external actors. Virtual knowledge transfer can be realized and recorded using a range of web-based applications such as online innovation communities, innovation contests, or e-learning environments. These means help to structure, enrich, and record interactions which can be analyzed later in order to gain further insights.

An online innovation community enables its members to share and discuss ideas concerning a specific topic. These discussions can be examined in order to discover promising contributions to the development task at hand. Additionally, particularly knowledgeable users can be identified and contacted for future collaboration. Thus, an online innovation community should not only be harnessed to gain ideas, but to build personal linkages with particular user groups. Moreover, it can be used for human resource management by scouting talents based on their contributions.

Web-based innovation contests enable an organizer to broadcast an innovation challenge to a global audience. Experience shows that someone, somewhere has already found a solution, or has an inspiring idea, for almost any problem. Exchanging this knowledge for a previously defined compensation can be a very efficient and effective means for driving service innovation.

Both, innovation communities and innovation contests can be supported by dedicated e-learning environments. Offering learning material is critical for ensuring that co-creators understand the innovation task at hand and are able to provide meaningful contributions. Moreover, e-learning content itself can be co-created to collect a repository of experiences and perspectives. These can then stimulate innovation activities and knowledge transfer.

A challenge of online co-creation is that it merely addresses user groups with an affinity to online engagements. Hence, other important stakeholders may be left out, such as the elderly. Moreover, digital messages are less rich in information and are less suitable for spontaneous ad-hoc discussions. It is challenging to visualize and experience complex and intangible service processes in an online environment. So far, it is practically impossible to simulate aspects like haptics, odor of service related goods, or technology which might have an important influence on the actual service experience.



Offline

Offline co-creation refers to innovation related user interactions that occur in the physical world. In contrast to online co-creation, it is characterized by a reduced reach and less efficient interactions. However, it fosters the exchange of complex information and implicit knowledge. In doing so, misunderstandings can be better prevented as it is possible to directly assess if user feedback is perceived correctly. Moreover, non-verbal communication can be observed and used for development activities. In this context, workshops using specific service design tools such as role-plays or rapid prototyping are particularly suitable as they allow in-depth insights regarding latent user demands and expectations.

Infrastructures like the Fraunhofer JOSEPHS® can be applied to showcase developments and prototypes to broad audiences, and gain unbiased feedback. JOSEPHS® (www.josephs-innovation.com) is an open innovation lab for service prototyping and testing in the city center of Nuremberg, Germany. Supported by the staff on site, organizational clients can conduct interactive feedback cycles for a three month period. During this time, these clients receive feedback on their innovation prototypes from voluntary and self-selected contributors such as potential users or end customers visiting JOSEPHS®. One of the key advantages is that such places allow the simulation of new service processes and prototypes in a physical setting. In doing so, user-interactions and casual discussions can be captured and analyzed, leading to in-depth qualitative insights.

Christofer Daiberl, Benedikt Höckmayr & Angela Roth, FAU Erlangen-Nuremberg

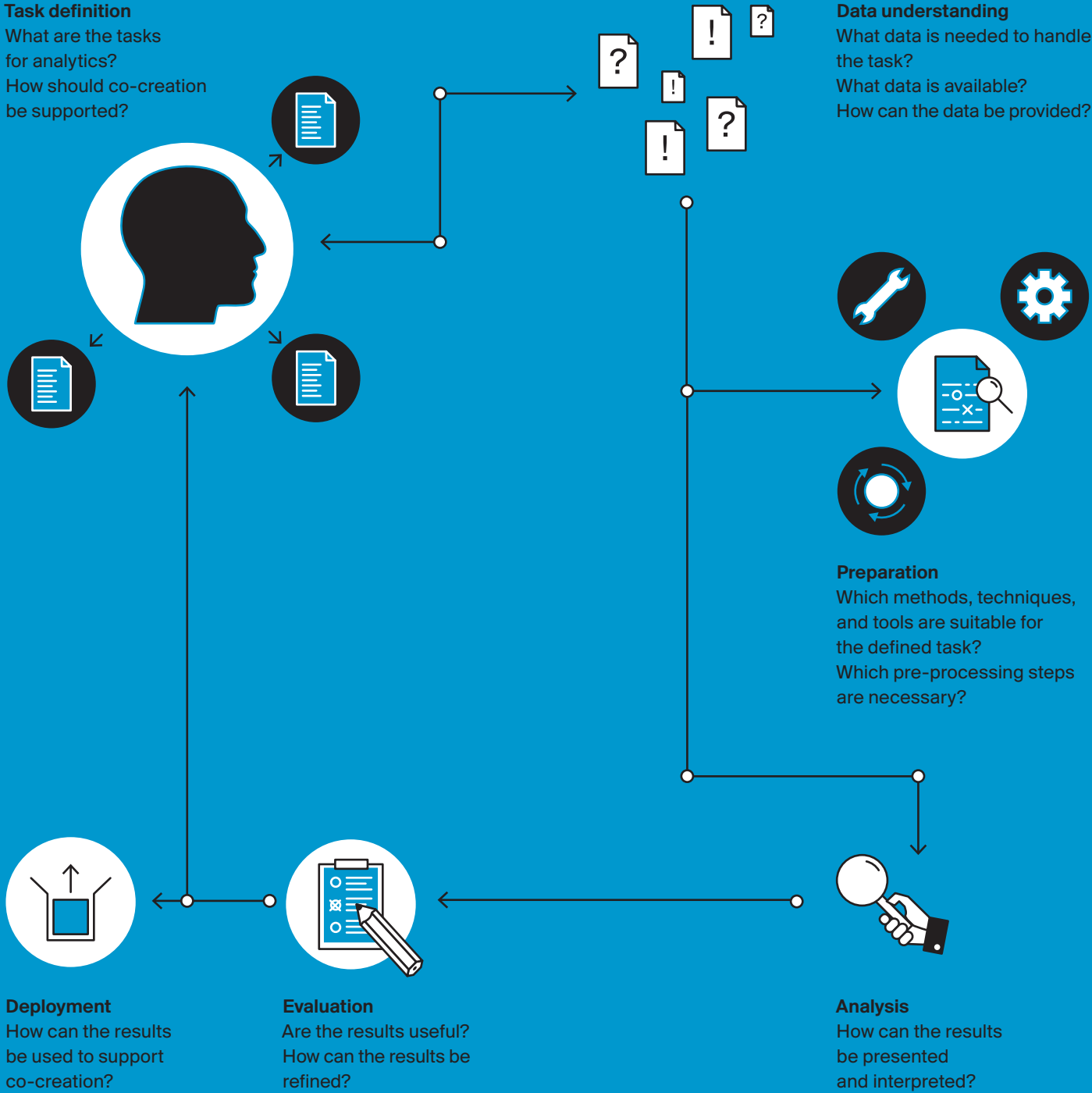
ANALYTICS FOR CO-CREATION

The trend towards digitization and the ubiquitous availability of data provides unexpected opportunities for computerized analysis and investigations in almost all areas of our lives. In the last decade, big data and analytics have become increasingly important to the economy, exhibiting great potential for value creation and innovation.

Analytics can take on diverse roles for co-creation. On the one hand, it can help to reach a better understanding of how value is created and how actors are engaged in processes. In this context, analytics aims to measure efficiency of co-creation and controls the process by using key performance indicators and dashboards. In a co-creation context, key performance indicators provide information about innovation related resources such as people, money, and infrastructure. Moreover, the co-creation activities and the collaboration between actors can be investigated, as well as the output in terms of quantity and quality of generated ideas or developed services. In this case, the main objective of analytics is to monitor the co-creation process and to derive insights for decision support.

On the other hand, integrating and analyzing data from various sources within co-creation processes can result in valuable insights which enrich activities such as ideation and prototyping. For example, analyzing social media content, such as tweets or blogs, can provide insights about the needs of users, which can support the co-creation of tailored and customer-oriented services. Both perspectives gain increasing relevance in a digital and data driven society by considering analytics as a key factor for digital innovation.

Analytics should be applied in a systematic way. The figure to the right depicts a process-model which guides the use of analytics for co-creation tasks and shows key issues in the respective phases. In the following, text analytics and network analytics are introduced as methods which are particularly suitable to support co-creation.

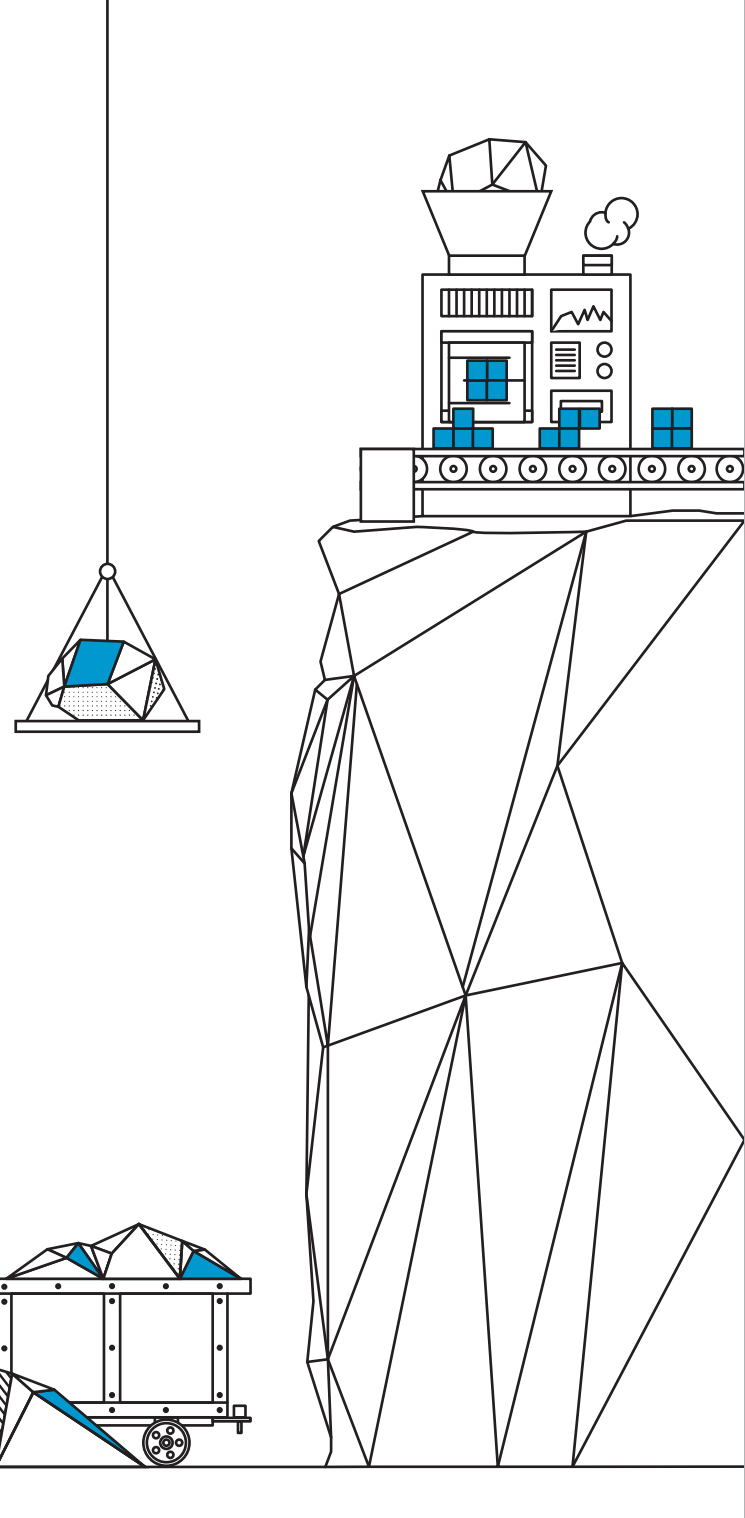


Text analytics refers to investigating enormous amounts of **unstructured text data**, such as in e-mails, documents, or on websites. Focusing on online co-creation methods, the internet-based communication between different actors leads to large amounts of user generated content in various forms, such as blog posts, chat logs, or discussion threads. In contrast to conventional analytics for structured data, text analytics uses algorithms for identifying hidden patterns, and information in text. Specific use cases and objectives vary and depend on the application context.

Text analytics with a focus on attitudes or opinions of actors

can be summarized under the term 'opinion mining'. A common method is the so called sentiment analysis which examines text to identify positive or negative sentiment expressions. For example, sentiment analysis is applied to decide whether a post in an online community exhibits a positive or negative author attitude regarding a specific topic or co-creation task.

Another use case for text analytics is the extraction of topics or concepts from documents which aims at filtering structured content information from unstructured text. The algorithms search for similar words or words of similar meaning and aggregate them to thematic word clusters representing dominant topics or concepts. Applying such techniques provides a quick overview of relevant topics discussed in an online community or in a social network and their relations. In addition to the methods described above, various other techniques analyze text, for example by means of classification or clustering of text data.



The application areas of network analytics are manifold. It is used in almost every research field including biology, economics, and social science. Since social media and online communities have become very popular, the importance of social network analysis is increasing. Networks consist of graphs which are composed of nodes and edges. Nodes represent various entities such as people, organizations or objects while edges depict the connections between the nodes. Social network analysis interprets these connections as social relationships which may represent communication, family relations, or links in social networks.

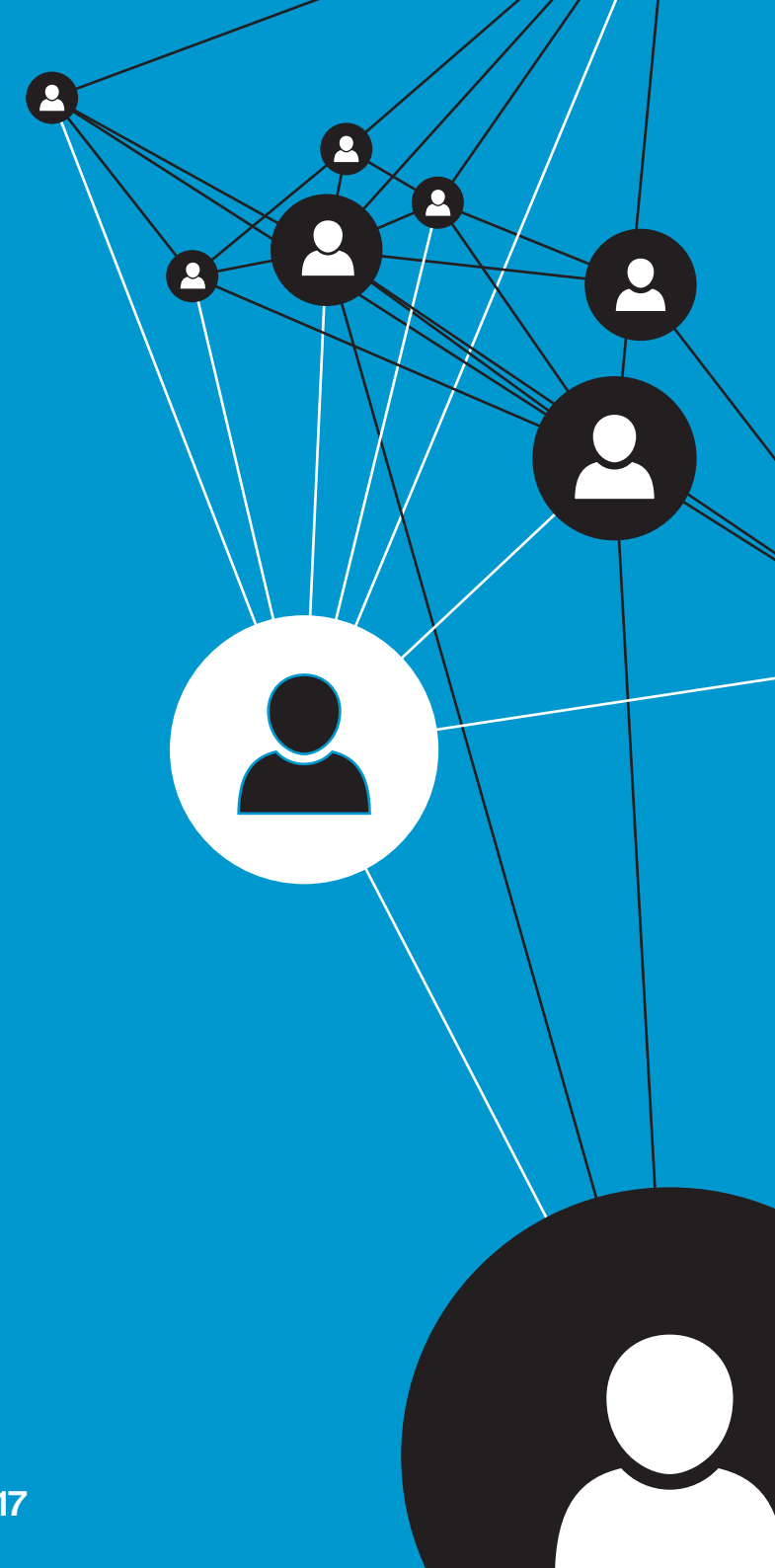
With respect to online-co-creation, network analytics can examine the collaboration and communication between the different actors. This results in a better understanding of how value is created and who is involved in this process. The characteristics of a network and the position of an actor within the network is represented by different metrics:

Density describes the level of activity in the entire network. It is defined as the ratio of the existing relations to the maximum possible number of relations.

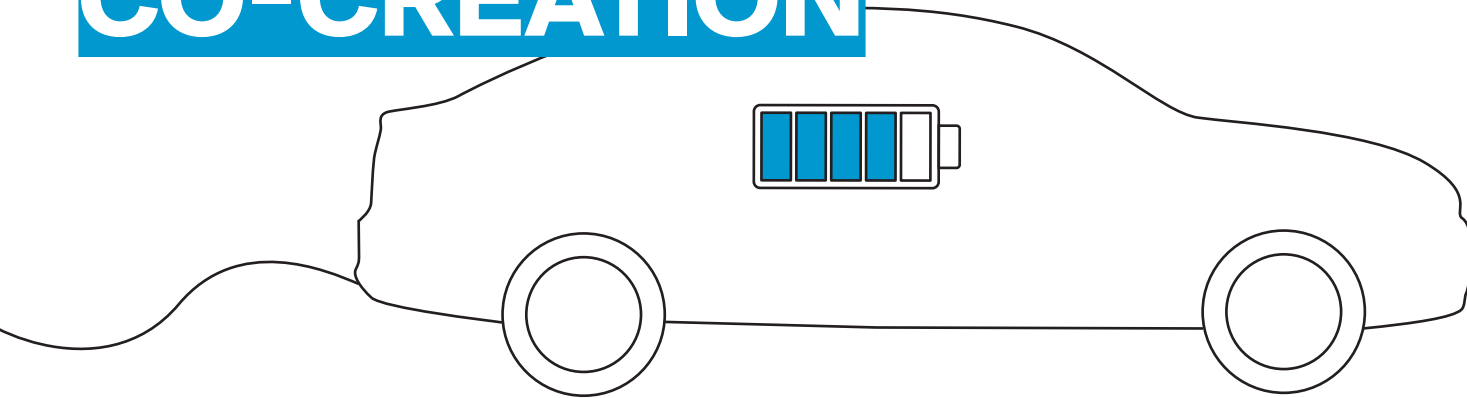
Centrality refers to individual actors in the network. It aims at identifying important users in terms of most active or most prominent actors and describes their position in a network.

Clique analysis disassembles networks in sub networks by clustering closely interconnected actors into so-called cliques. By means of these metrics, well connected actors in the network can be identified. These so called opinion leaders have more influence on co-creation than other actors. They can be addressed in order to participate in future co-creation activities, e.g. in workshops.

Social network analysis is also suitable to monitor dynamic changes in network structures over time. Thus, it provides the opportunity to take actions against unwanted developments in an early stage, for example with regard to the network activity level. In summary, network analytics, like analytics in general, can contribute to co-creation in various ways when applied properly.



EMOBILISTEN – A CASE OF ONLINE-OFFLINE CO-CREATION



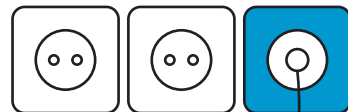
In general, innovations do not reach all people in society immediately. There are people who are always interested in staying at the forefront of technological developments. For them, owning or using an innovative solution helps them stand out among their peers. However, most people are more rationally oriented, especially when it comes to innovations that are not capable of illustrating benefits at first glance. This also holds true for developments that effect society in general, such as in the field of mobility. Within this context, the German government set the goal of bringing one million electric vehicles on to German roads by the end of 2020. Given current statistics, this goal seems difficult to accomplish as there were merely 34,000 electric cars registered in Germany at the beginning of 2016.

Since 2015, the interdisciplinary project CODIFeY (www.codifey.de) aims to foster long-term market acceptance of e-mobility by inducing behavioral changes in individuals. In order to do that, potential users are integrated into the development of new services and solutions in the context of e-mobility. The goal behind this is to convince them to become advocates for this approach.

In CODIFeY, co-creation is realized by combining the online platform eMobilisten.de (www.emobilisten.de) and offline environments such as JOSEPHS®. Platform users become part of a community of self-selected co-creators who share experiences and knowledge about how e-mobility can better meet people's needs. Together with interdisciplinary experts,

members develop these ideas into smart solutions which are prototyped and tested in a physical environment.

Until June 2016, the community on eMobilisten.de generated ideas concerning various topics such as how to optimize existing charging infrastructure, and how to ensure that e-mobility truly becomes a sustainable alternative to fossil fueled vehicles.

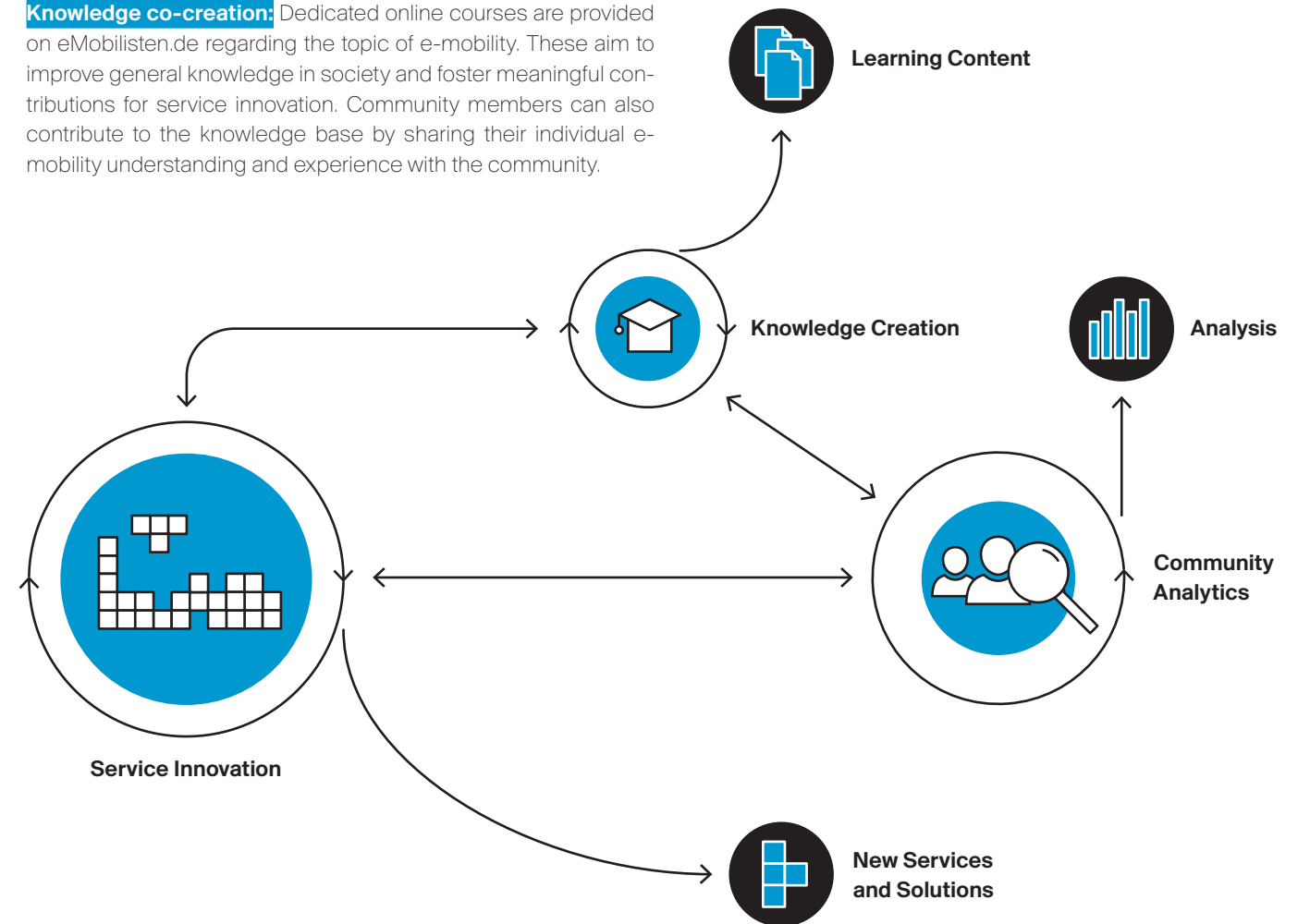


CODIFeY integrates the following three main components to foster the co-creation of new services for e-mobility:

Service innovation: Different online and offline tools are applied in order to cooperatively create new solutions and services for e-mobility that better meet potential users' needs. In order to do this, the online platform eMobilisten.de and offline environments, such as the open service prototyping and testing lab JOSEPHS®, are combined. By doing so, the goal is to develop new solutions that foster market acceptance by improving the attractiveness of e-mobility.

Analytics: This component uses different analytical tools for analyzing contributions derived throughout the co-creation process. This allows for the monitoring and evaluation of ideas, as well as generating insights concerning behavioral patterns and 'hot' topics. These insights can later be used for planning new co-creation projects and online courses.

Knowledge co-creation: Dedicated online courses are provided on eMobilisten.de regarding the topic of e-mobility. These aim to improve general knowledge in society and foster meaningful contributions for service innovation. Community members can also contribute to the knowledge base by sharing their individual e-mobility understanding and experience with the community.



The co-creation process of CODIFeY follows four phases. First, ideas are generated which are later selected and elaborated into detailed concepts. These concepts are then evaluated and serve as a blueprint for prototyping and testing.

01. Idea generation is conducted using the community section of the online platform. Here, members can publish their own ideas and give feedback on ideas from other users by commenting or liking other ideas. In order to gain insights from reluctant user types who do not typically take part in the online innovation community, this stage is complemented by offline idea generation at various public events such as public science fairs, conferences and conventions.

02. The collected ideas are screened and the most promising ones are applied in an offline innovation workshop. For that, heterogeneous stakeholders such as lead users, community members, researchers, as well as organizational experts are brought together in order to jointly develop initial concepts. In doing so, different perspectives are considered, ensuring effective and innovative solutions. In one of these workshops, the goal was to develop a 'Sustainability Label for Electric Mobility'. For that, four possible certification objects were derived in the phase of idea generation. These ideas were then verified by a vote amongst the workshop participants. Charging stations, vehicles and mobility services were selected as elements worth being assigned a label. The main task of the workshop was the subsequent concept development following these three categories.

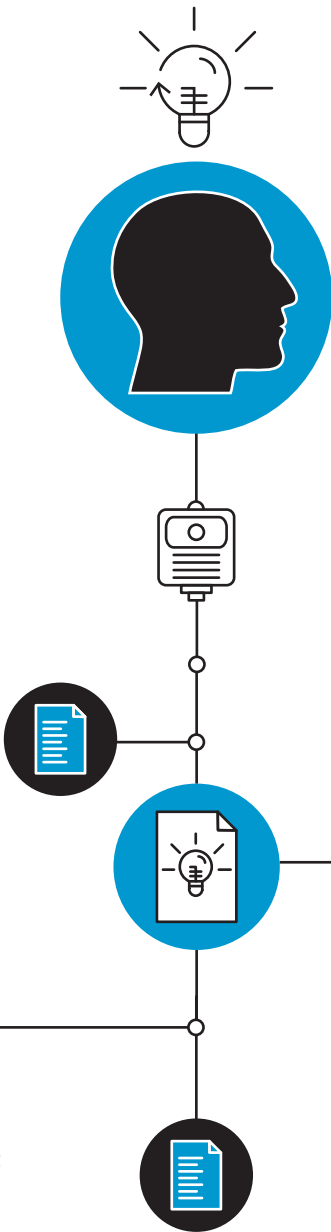
For this purpose, the participants elaborated on criteria which should be fulfilled, including design related questions as well as marketing strategies for diffusion.

03. Concepts are evaluated by the community as well as other relevant stakeholders. In the case of the label, workshop results were published again on eMobilisten.de and evaluated by community members using a structured questionnaire. The questionnaire was also shared with other e-mobility focused social media and websites. Reaching a broad audience allowed developers to gain insights concerning large scale market acceptance.

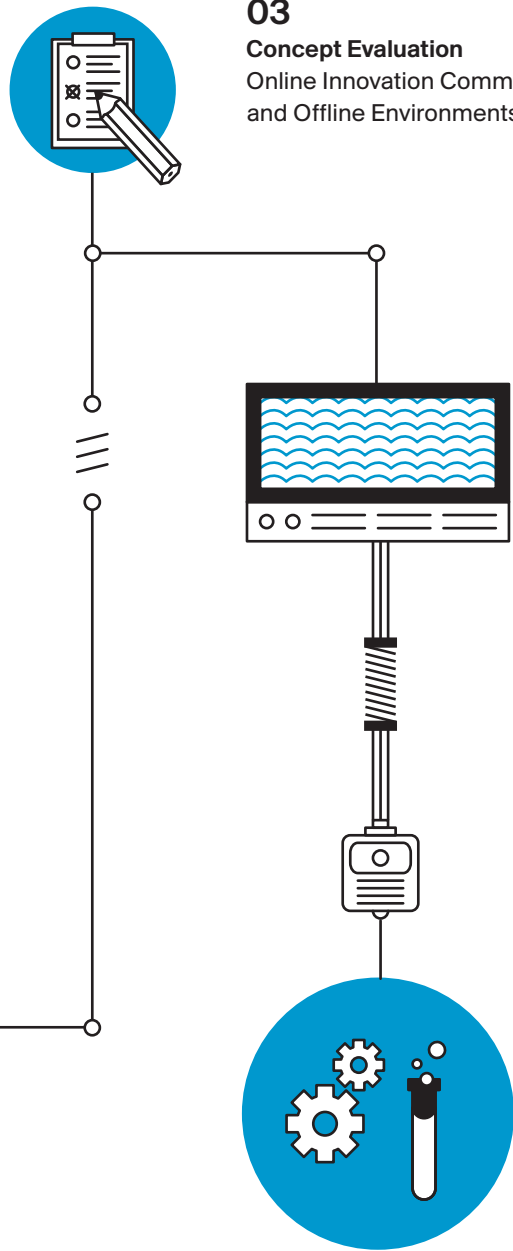
04. Lastly, prototyping and testing takes place using offline environments such as JOSEPHS®. To evaluate final design aspects of the sustainability label, different prototypes were tested using a charging station which was placed at JOSEPHS® for three months. Feedback was collected by people visiting the lab. As these visitors were common people, often without any prior knowledge concerning e-mobility or sustainability topics, their feedback gave important insights concerning communication issues which need to be addressed prior to market launch.

02
Idea Selection & Concept
Offline Environments,
Innovation Workshops

01
Idea Generation
Online Innovation Community
and Offline Environments



03
Concept Evaluation
Online Innovation Community
and Offline Environments



04
Prototyping & Testing
Offline Environments

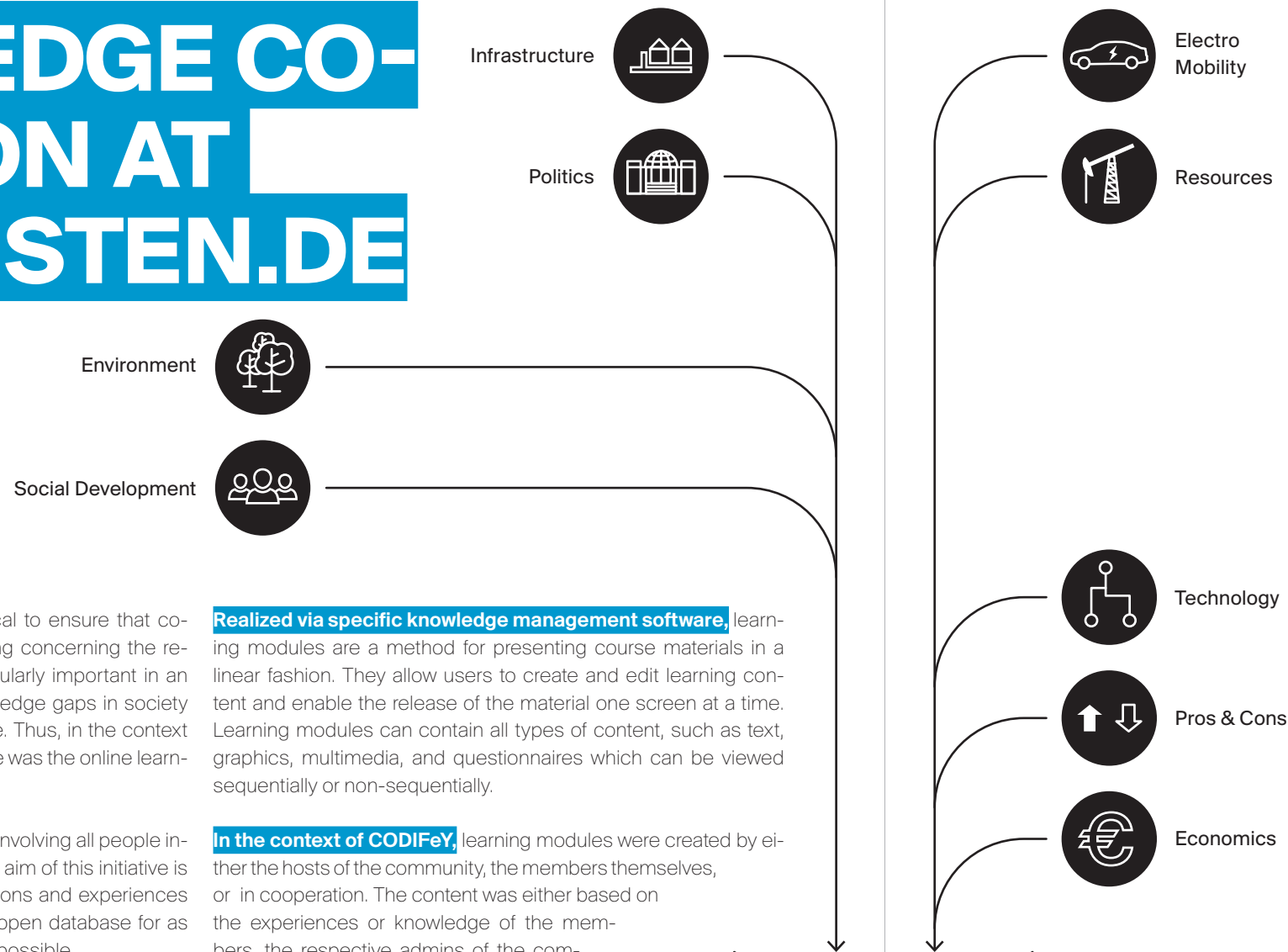
To implement the idea of online-offline co-creation, a multifaceted communication strategy is needed. This strategy should build on the strengths and potentials of the respective platform, simultaneously considering potential weaknesses and threats. In the context of eMobilisten, the communication strategy aims to take advantage of strengths, such as its unique service portfolio and its proximity to scientific research. At the same time, potentials are leveraged, for instance prevailing megatrends like sustainability and connectivity. Simultaneously, the weakness of a meagre communication budget and the challenge of low initial public awareness in comparison to established communities, need to be compensated for.

This point of departure provides the basis for eMobilisten.de's threefold communication strategy, iteratively pursuing cognitive, affective, and conative goals. Initially, public awareness has to be generated and expanded while clearly communicating the offer's benefits. This leads to increased trust within the target group and provides eMobilisten.de with a competitive standing as a highly competent platform. Finally, this encourages users to actively interact on eMobilisten.de in a lively discussion. In addition to private consumers, corporations, businesses and institutions like ENERGIEregion Nürnberg e.V. and Fraunhofer IIS are also part of the core target group. The latter help eMobilisten.de to position itself in a distinctive and unique manner. Reaching these target groups and the aforementioned communication goals requires multifaceted and competent communication. eMobilisten.de uses a mixture of outdoor advertising, event- and online-marketing as well as conferences, trade fairs and workshops.

Owing to its ever-growing importance within the communicational landscape, social media marketing is an important cornerstone of eMobilisten.de's communication strategy. Centered around editorial posts on Facebook and Twitter, the platform's target group receives high-quality news within the universe of e-mobility that is both borderless and in real-time. Published content on several days a week helps with positioning eMobilisten.de as an approved integrated service co-creation platform.

Peter Wehnert, Michael Putz & Christofer Daiberl, FAU Erlangen-Nuremberg

KNOWLEDGE CO-CREATION AT EMOBILISTEN.DE



To foster effective co-creation, it is critical to ensure that co-creators have a basic level of understanding concerning the respective innovation objective. This is particularly important in an area like e-mobility, where significant knowledge gaps in society still exist due to limited personal experience. Thus, in the context of CODIFeY, an integral part of eMobilisten.de was the online learning component.

The goal was to build an online community involving all people interested in electric mobility in Germany. The aim of this initiative is to publicize and promote creative contributions and experiences from all around the nation, and provide an open database for as much information concerning e-mobility as possible.

The process of knowledge co-creation is informed by a teaching-learning concept which identifies critical success factors for the eMobilisten network. Offering information concerning a specific topic is no longer taken for granted in a traditional way since the community itself can contribute its own ideas and knowledge. In order to ensure effective knowledge dissemination, information is presented in the form of learning modules.

Realized via specific knowledge management software, learning modules are a method for presenting course materials in a linear fashion. They allow users to create and edit learning content and enable the release of the material one screen at a time. Learning modules can contain all types of content, such as text, graphics, multimedia, and questionnaires which can be viewed sequentially or non-sequentially.

In the context of CODIFeY, learning modules were created by either the hosts of the community, the members themselves, or in cooperation. The content was either based on the experiences or knowledge of the members, the respective admins of the community, the outcome of research after a call for ideas, or the result of information offered at other websites.

Knowledge co-creation brings new ideas into a community by considering these main mechanisms:

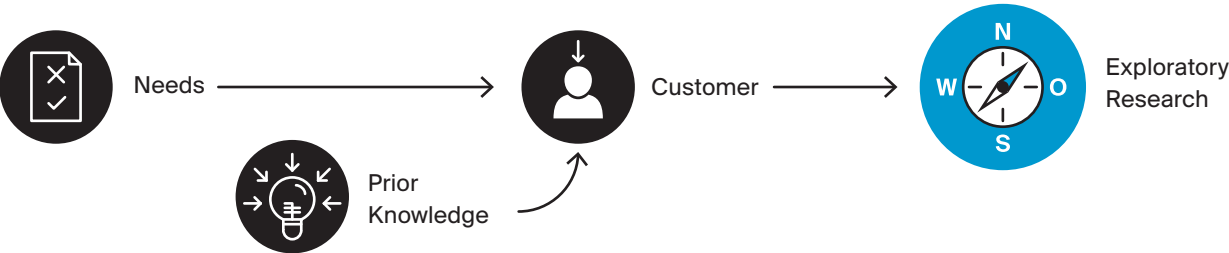
Social learning is critical: Copying other people's knowledge, when combined with individual experiences, is dramatically better than learning alone. When one individual's information is unclear, it should rely more on social learning and vice versa. Clear information needs less social learning. Taking this into account, the quality of learning units in learning networks like eMobilisten.de can be ensured. Users share their knowledge in learning modules and enrich the supply of current news, experience, and know-how. Even existing units are improved over time. Because the results are endorsed by the user groups and other stakeholders, the output is of high quality and sustainable on all levels.

Diversity is important: A big danger of knowledge co-creation is groupthink. How can you avoid groupthink and echo chambers? You have to compare what the social learning suggests with what isolated individuals, who have only external information sources, are doing. If the so-called common sense from social learning is just an overconfident version of what isolated people think, then you are likely in a groupthink or echo chamber situation. In this case, a good strategy is to bet against the common sense. Here, co-creation of knowledge has a positive effect on the networks' resources. Experiencing the process step by step with all stakeholders should allow for the group to avoid making wrong decisions based on assumptions. This also avoids the unnecessary waste of time and energy that can lead to low quality learning units

that are not fully supported by the intended user groups. This especially holds true in the context of e-mobility where assumptions concerning range, battery durability, or safety constitute barriers for the dissemination of this kind of mobility in Germany. Hence, by providing learning blocks that are specifically tailored to target wrong assumptions based on common sense, unbiased knowledge can be co-created.

Contrarians are important: When people are behaving independently of their social learning, it is likely that they have independent information and that they believe in that information enough to fight the effects of social influence. Find as many of these 'wise guys' as possible and learn from them. Here, the co-creative process creates equal space for all contributors to add value. Discovering and collaborating with both different and common interests through direct dialogue is highly inspiring and can profoundly change the learning environment for the better. In the context of e-mobility, users with contrary world views, so called e-mobility-natives, have profound knowledge of the technology and the capabilities of electric vehicles and enrich the learning environment by providing their experiences from their everyday encounters. Thus, learning modules that focus on theoretical constructs are enriched by practical experiences and thus appear more reliable to other users.

OPEN INNOVATION LABORATORY



A key factor for success in the development and testing of new products and services is asking the right research questions and choosing the right research method for answering them. Research methods must be able to generate data in sufficient quantity and quality, as well as in a resource efficient manner.

Facilities like the Fraunhofer JOSEPHS® try to implement a collaborative approach to service development by offering an open laboratory in which product and service prototypes may be experienced, tested, and evaluated by random visitors. Data is collected via qualitative and quantitative means, supported by technologies like Fraunhofer SHORE® for recognition of emotional responses, and subsequently analyzed to identify customer needs and improve the product or service.

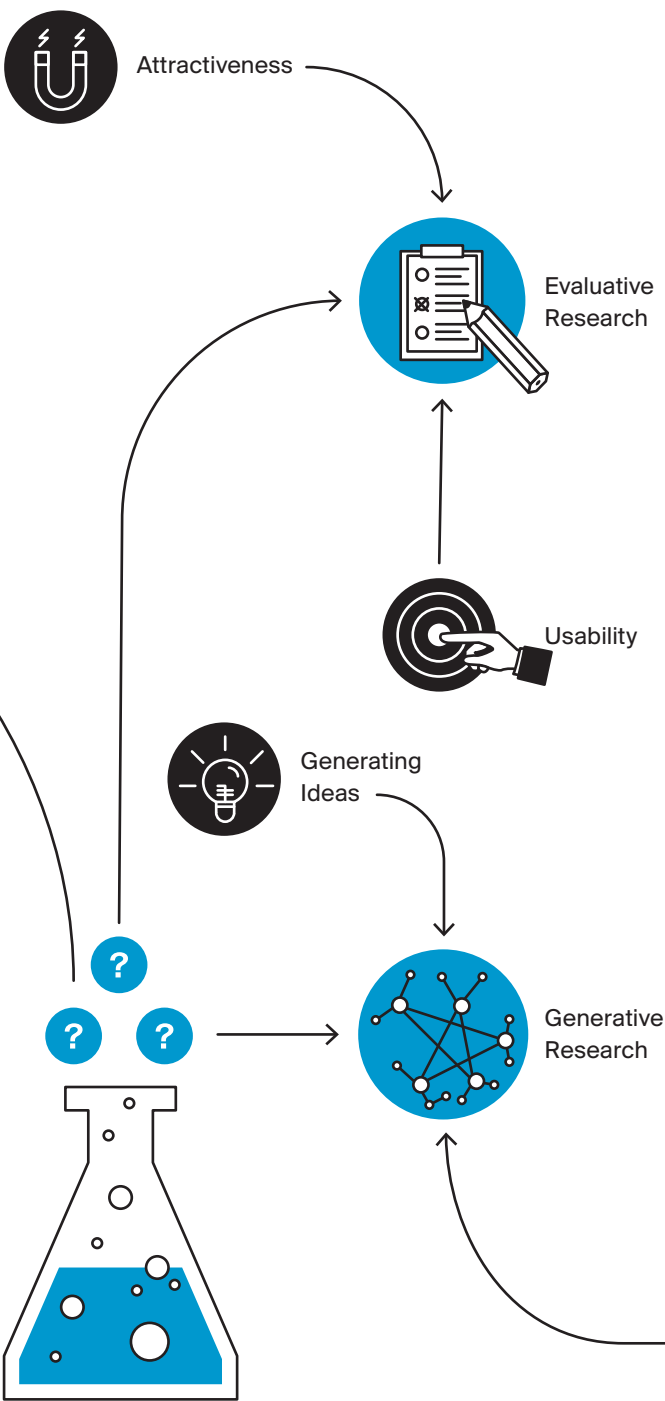
Which methods prove to be best suited for answering different research questions and how should they be adjusted to the specifics of an open laboratory like JOSEPHS® in order to yield satisfactory results?

In CODIFeY, various quantitative and qualitative methods (e.g. questionnaires, short interviews, behavioral observation, workshops, online discussions in the eMobilisten.de online community) were used to investigate exploratory, generative and evaluative research questions concerning attitudes and expectations towards e-mobility solutions. Data was collected from visitors of JOSEPHS® as well as from members of the online community eMobilisten.de and participants of workshops.

To assess the suitability of research methods to research questions, each method

was evaluated by project staff. That is, they examined the method for every question as it pertained to data quantity and data quality.

Results indicate that questionnaires, short interviews, focus groups, and creativity workshops had the best overall performance. Traditional methods like questionnaires and interviews turn out to be well suited for use in an open laboratory, yielding the best results for evaluative questions. They need, however, to be adapted to the specifics of the research setting: For example, visitors tend to spend only short time within a single test setting and usually have little prior knowledge concerning the products and services they test. Researchers may react to this by utilizing, for example, short scales in questionnaires and presenting them on an interactive screen with a visually appealing design.



Product tests and observational studies of visitor interactions with prototypes also prove to be well fitted for answering evaluative questions, especially concerning usability and technology acceptance. However, observations of human-product-interaction only produce satisfactory results when the observation is limited to a small number of well-defined and operationalized behavioral categories (e.g. which component of a prototype draws the visitors' initial attention). Rules for categorization of observed behavior should be discussed and developed together with the appointed observers and documented in a code book.

Data for answering exploratory research questions could be gathered via most methods. Questionnaires, short interviews, associative and projective methods (e.g. asking visitors for their associations towards terms like "being mobile" or inviting them to take another person's perspective and describe their needs towards e-mobility solutions) and focus groups yielded the best results.

In focus groups, workshops and online discussions, most data concerning generative research questions could be collected. Combining focus groups and online discussions for generating ideas with follow-up in-depth workshops involving experts for further development and concretization of ideas (e.g. creating mock-ups) proved to be particularly effective.

All in all, the experiences illustrate that in the setting of an open laboratory like JOSEPHS®, one single research method will not be enough to gather sufficient information for answering all relevant questions for further development of a prototype. Several methods should be chosen depending on the stage of development of the prototype and systematically combined. Moreover, the insights gained in CODIFeY illustrate the potential of open user-integration in early and late stages of development for the successful design of services in technology-driven ecosystems, like in the context of e-mobility.

Robert Luzsa, Stephanie Schmitt-Rüth, & Frank Danzinger, Fraunhofer IIS – Center for Applied Research on Supply Chain Services SCS, Nuremberg



Prototyping

ONLINE-OFFLINE-CO-CREATION – BENEFITS & CHALLENGES

Benefits

Through our examination of merging online and offline platforms in co-creation, we can see that it offers great innovation opportunities which can lead to superior solutions for customers. A systematic and structured combination of online and offline methods for user integration allows for increased effectiveness in the overall co-creation process. By complementing online methods with offline methods, the platform's inherent weaknesses can be leveled out.

When you want to integrate users into the generation of new ideas, online innovation communities appear to be promising, empowering the incorporation of bright minds from around the globe. The interaction among co-creators via a web-based platform enables a vivid exchange of ideas that can be fostered by mind opening multimedia content and learning courses.

Learning courses are particularly important to foster co-creation when there is still limited or fragmented knowledge about the innovation topic addressed. It is possible to efficiently share innovation related knowledge, in turn enabling co-creators to produce meaningful contributions.

In order to transfer the broad-scale ideas from the online community into coherent service concepts, particularly knowledgeable community members can be invited to offline innovation workshops. These personal encounters facilitate improved mutual understanding and more focused problem solving. Moreover, offline environments for co-creative service prototyping and testing enable the assessment of latent needs by observing interactions with new or improved service processes and prototypes.

Challenges

Online-offline co-creation has great potential, yet there are also some challenges to take into consideration when moving between these worlds. Concerning the online-offline co-creation methods we have looked at, each has specific characteristics and requirements regarding resources needed for successful implementation. In the case of innovation communities, a significant moderation effort is needed until a mature, self-governing community is established.

In the context of offline workshops, interactions can be stringently controlled, yet they will nonetheless always remain time and knowledge intensive. Although offline workshops are suitable for paving the way for ideas to become innovative solutions, the self-selected online co-creators have to be kept in the loop since they provided the initial trigger for conducting a successful online-offline co-creation initiative. You can keep them motivated by broadcasting blog posts with the latest developments from the offline workshops on the online community's website.

In terms of media richness, you can provide all sorts of information to your innovators in the online community. Through this, they gain a common understanding of the underlying premise in the innovation task. By contrast, the modes of information distribution are limited in offline settings. Here, you have to take care to personally provide all the knowledge necessary to enable participants to understand the innovation context.

Finally, a well-designed incentive scheme is critical. In developing this, the motives of the co-creators must be understood. In the case of co-creators, whom are intrinsically motivated to advance a certain topic, material compensation is not needed. Nevertheless, the provision of detailed feedback for their contributions and honest recognition of their efforts are important to foster long term engagements. However, if co-creators are not inherently motivated, appropriate monetary or non-monetary incentives are critical to drive participation. This is often the case with innovation contests where it is obvious that the organizer can profit monetarily by harnessing the contributions of the co-creators.

Benedikt Höckmayr, Christofer Daiberl & Angela Roth, FAU Erlangen-Nuremberg

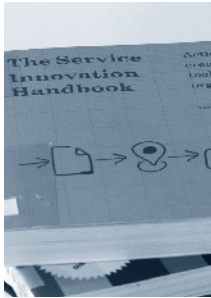
RECOMMENDED READINGS



This is Service-Design Thinking

Marc Stickdorn & Jakob Schneider

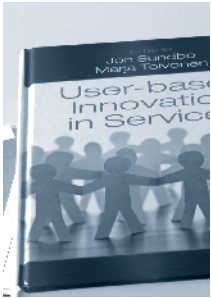
Service design is one of the core topics on the agenda of companies in almost every industry. This book provides you with tools and examples to understand and master service design.



The Service Innovation Handbook

Lucy Kimbell

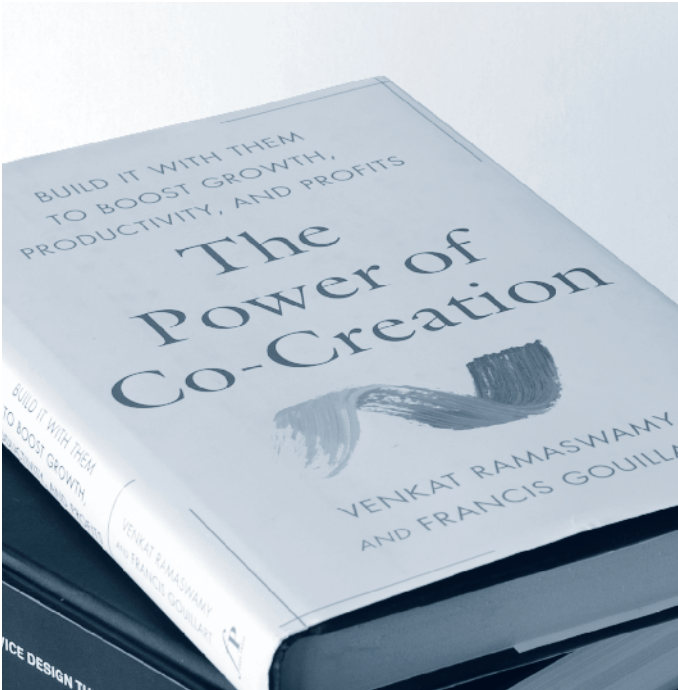
This is one of the few books that spans the realms of service design, service operations and service experience in practical and engaging ways. Lucy Kimbell's insights will help you create great service experiences for your customers.



User-based Innovation in Services

Jon Sundbo & Marja Toivonen

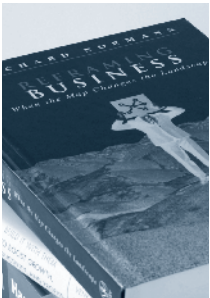
The authors showcase pioneering work on user-based service innovation using an analytical framework. This approach involves understanding the needs of users, the service firms collaborating with them, and recognising the fact that users are innovators and, because of this, services develop while in use.



The Power of co-creation

Venkat Ramaswamy & Francis Gouillart

Co-creation is about companies working together with their stakeholders in new ways to create value together. The 'Power of Co-Creation' is an excellent book with serviceable lessons to use today, offering promising principles for tomorrow.



Reframing Business

Richard Normann

Richard Normann offers new perspectives and insights on issues you might at first believe yourself to be familiar with. This book is a must for people who think about business and aim to create a different future.



Service Innovation: How to Go from Customer Needs to Breakthrough Services

Lance Bettencourt

Bettencourt's 'Service Innovation' is highly recommended for everyone interested in service innovation. The book offers ways to both improve current services and to develop new services concepts. The author provides a logical and sequential framework as well as meaningful real-world examples. These illustrate how the service innovation process can be successfully applied across a number of service related industries.

INTERVIEW

Chemmedia: Experiences of co-creation experts.

Introduction

We have spoken to Romy and Alex, digital communication experts from chemmedia AG, about their experiences with co-creation. The company helps innovators to communicate their ideas and establish a community of co-creators. Therefore, they have developed KnowledgeWorker (knowledgeworker.com), a web-based communication tool fostering knowledge transfer in the context of co-creation projects.

OSL Notes: Hi Romy, hi Alex. Tell us about the basic idea for your services?

Alex & Romy: We are convinced that the key to success lies in communication. For each new service or product to be developed it is most important to integrate users right from the beginning. Users are a great source of information and can also become co-creators. Thus, you should identify potential users as soon as you start developing your new service. You should not only inform them and explain the service to be developed, but also gather feedback and ask for suggestions. If you follow this strategy consequently, you are more likely to reach a service-market-fit in the future.

The digital era offers great possibilities for innovators, since it is easier than ever before to reach a broad, varied audience employing digital communication measures. This enables innovators to learn about client desires and market needs right from the beginning.

OSL Notes: What is the benefit for innovators & co-creators?

Alex & Romy: Especially in the co-creation of services it is important to convey basic knowledge of the identified service gap and explain the innovative idea.

This is not only essential for user communication, but also relevant for co-creators. It is very helpful to phrase a clear problem statement and explanation of the innovative idea. This ensures that all participants in the co-creation process have the same idea and basis to start from – no matter if they contribute online or in an offline workshop session. In the digital era, you are well advised to use digital methods and multimedia content to reach out to innovators and users.

OSL Notes: How does digital co-creation work?

Alex & Romy: In our opinion, the better part of digital co-creation is digital communication. In co-creation you wish to combine the creative minds of a number of people. So it is most important to supply every co-innovator with relevant information, independent of time and place. In order for the co-creators to contribute effectively, you need a feedback channel.

There are numerous ways to communicate with your potential audience, e.g. social media, e-mail, or phone. Today, the focus should be on digital measures aiming at establishing a social knowledge network for all innovators and users. Thus, innovators should decide on a primary communication channel which will be growing with a growing audience. It is all about continuous and relevant information for each stakeholder.

Innovators need to structure their innovative ideas in order to convey the goals to co-creators and potential users. In doing so, they should keep in mind that there might be different target groups with different needs they need to tackle.



Alex & Romy

Social media functionalities make it easier than ever before to get instant feedback from co-creators and users. Thus, innovators should analyze the use of social media functionalities, for instance likes, comments, or ratings and make use of this feedback in order to further develop the services or products.

OSL Notes: Finally, how does online and offline co-creation mix?

Alex & Romy: Good point. Online and offline co-creation work best hand in hand. If you employ both formats, you are likely to reach a bigger target group and receive broader feedback. While you can perfectly convey information via online means, you will benefit from spontaneous discussions and tangible interactions in an offline setting, e.g. a workshop. Each offline co-creation session can easily be enriched with online means such as live voting tools, simulations, interactive background information on the idea, etc.

Let's take the case of the community eMobilisten.de where both worlds merged. Results from online campaigns where more deeply discussed in offline workshops in order to reach the best possible outcome. This is how co-creation today should work.

Imprint

Publisher

Daiberl et al. (2016),
Online-Offline Co-Creation in:
Heuberger, A., Möslin K.M., (Eds.):
Open Service Lab Notes, 4/2016

Editors

Prof. Dr. Albert Heuberger
Prof. Dr. Kathrin M. Möslin

Authors

Christofer Daiberl, Frank Danzinger
Barbara Dinter, Joseph Hess, Benedikt
Höckmayr, Julia M. Jonas,
Christoph Kollwitz, Robert Luzsa,
Michael Putz, Angela Roth,
Stephanie Schmitt-Rüth, Peter Wehnert

Contact

Chair of Information Systems I -
Innovation & Value Creation
Friedrich-Alexander-University
Erlangen-Nuremberg
Lange Gasse 20
90403 Nuremberg
Germany
+49 (0) 911 5302 284
www.wi1.uni-erlangen.de

Print

KARO-DRUCK GmbH & Co.KG

Design

Moritz Hundbiss,
PHOCUS BRAND CONTACT
GmbH & Co.KG
Nuremberg, Germany

The texts in this work are licensed
under a Creative Commons Attribution-
NonCommercial 4.0 International
(CC BY-NC 4.0). It is attributed to the
Chair of Information systems I at FAU
Erlangen-Nuremberg.





Gefördert vom:



Betreut vom:



PTKA
Projektträger Karlsruhe
Karlsruher Institut für Technologie

