



dRural

D1.1 1st version of the dRural Ecosystem Development Methodology

Towards a methodology for Service Ecosystem Design (vs 2.0)

WP1 D1.1

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Abstract

This whitepaper laid out the first methodology for crafting a deeper comprehension of and paves the way for the further development of the service ecosystem. The methodology serves as an overarching methodology across the regions. The methodology finds it fundament on the latest academic literature in different fields and on knowledge from experts in the field. We persuade to think in service because

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it opens up novel opportunities for value creation between actors on different levels (micro, meso, macro). Based on this idea, we proposed an action-oriented ethnographic approach that taps deeper into the actors' interactions, value-in-use, norms, beliefs and value. While stating this may sound superfluous in the context of this project, it is extremely important to understand each individual region and its idiosyncrasies. Our approach takes this into account is sensitive and flexible towards cultural characteristics and differences. Furthermore, the methodology is characterised as iterative and cyclical, which stimulates to collect, through different techniques, fine-grained data over time and direct learning. This allows to build a solid understanding of the service ecosystem from the bottom up and advance it over time.

Disclaimer

The opinions expressed and arguments employed in this document do not necessarily reflect the official view from the European Union and other dRural consortium partners. Responsibility with the views and data expressed therein lies entirely with the authors.

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1. Painting the bigger picture

1.1. Guiding the reader

A whitepaper, in general, serves to inform the reader about a complex concept, issue or a problem through persuasive arguments and thereby helps to better understand the issue at hand. Along these lines, this whitepaper unfolds a first methodology for creating an understanding and developing a service ecosystem and carefully lays out key elements involved. The whitepaper is structured as follows. First, 'Painting the bigger picture' discusses the higher order goals of dRural. Second, the 'Thinking in terms of service' poses a critical view on the relevance and rationales of choosing for a service ecosystem approach. This part is crucial to include since it lays the basis for this whitepaper and discusses the key elements to be investigated in a service ecosystem. Subsequently, the requirements for a successful methodology are discussed. These elements build towards the detailed description of and execution and operationalisation of the methodology. This is followed by concrete examples that exemplify the methodology. The whitepaper closes with a glossary of terms and concluding remarks.

1.2. Improving people's lives in rural areas

dRural's aspiration is clear: becoming the digital service marketplace of reference for European rural areas through crafting a (digital) solution that renders services to rural communities. This should, in parallel, create opportunities for economic growth and enhance quality of life. To do so, actors should collaborate in a smart way and integrate resources such as knowledge and skills. Bottomline, this is the key to actors' existence, let alone their success. In order to ensure this, a resonating focus between the value end-users wish for and the value service(s) offer(s) them is paramount. A starting point is to understand in further detail this context and the actors' value and engagement in this context. This brings the necessity of actually getting in touch with the actors to understand what they value. In dRural, we can consider different contexts consisting of, for example, mobility, regional development or healthcare. In these context, exemplary ecosystem actors can be mobility providers and commuters, (agricultural) farmer communities or in the latter, patients or citizens and more generally, hospitals, ancillary medical service providers or municipalities). Hence, our imperative duty to develop an understanding of the entire service ecosystem that functions independently across the different contexts. In this whitepaper, we elaborate on this and lay out how we create this understanding



2. Thinking in terms of service

2.1. Moving from a goods- to a service-centred society

Currently, we live in a society that rapidly evolves. Trends and developments, such as digitalization, changes people's behaviour and the way people interact. This affects how people work together, organisations collaborate, and from a more metaphorical view, society works. These developments caused a paradigm shift from a Goods-Dominant Logic (GDL) to a Service-Dominant Logic (SDL) (Vargo & Lusch, 2004, 2008). In a nutshell, instead that goods are at the centre of exchange and value creation (in the GDL), it is service that is placed at the core and thereby acts as the glue between actors (in the SDL). The shift from GDL to SDL pushes us to shift from a 'products or services' mindset to one that is centred around 'service' as a whole including products and services as well. This is important to underscore since it positions our worldview in considering elements like service, value creation, and actors' needs in terms of value-in-use.

Service is the process of using one's resources for the benefit of another actor (Vargo & Lusch, 2004, 2016; Vargo et al., 2018). Service (includes products and services) can support individuals' or organisations' processes and thereby facilitate them in the creation of 'value-in-use' (i.e., value that emerges through the integration and usage of resources and consequently making actors better off) (Grönroos & Gummerus, 2014). The value-in-use perspective on value is immanently user-centric. Thinking in terms of value-in-use triggers to think about how value is created through usage processes and in turn creates novel in-depth insights. Hence, when adopting such perspective on value, higher chances of service adoption exist compared to a technology push approach. All in all, we can observe that a shift in mindset from a 'goods-oriented' to a 'service-oriented' is immanent. Hence, the 'service' focus and positioning of this whitepaper.

2.2. Service ecosystem as a lens to understand actors' raison d'être

From a service perspective, value creation not only occurs between individual actors. When zooming out, it becomes apparent that value is created among multitudes of actors. In essence, value creation can be seen as a 'massive multiplayer game' (Vargo et al., 2018). For example, patients are oftentimes the linchpin between general practitioners, surgeons, health insurance companies and municipalities. Despite their focal role, value creation not only occurs through the dyad (i.e., a relation between two actors) of patients and other actors, but in and through entire network. Platforms, which are dynamic configurations of tangible and intangible resources upon which network members co-create value through a set of specific activities (Parolini, 1999; Perks et al., 2017), can serve as an accommodating vehicle. Thus, in understanding actors and proposing service(s) on a platform, it is important to understand how actors exist and interact in such complex network of relationships and how these relate to idiosyncratic value of individual actors (Eggert et al., 2018).

A service ecosystem perspective embraces this idea. A service ecosystem is defined as a "relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange" (Vargo & Lusch, 2016, pp. 10-11). Value creation is complex and dynamic, and shaped by multiple actors (Vargo & Lusch, 2011; Vink et al., 2020). Institutional arrangements, which basically are the interrelated rules, roles, norms, and beliefs, guide the process of value creation and stimulate innovation (Sitaloppi et al., 2016; Vink et al., 2020). For instance, in the healthcare context mentioned earlier, institutional arrangements can consist of empathy, fellowship and trust on a micro level, while public health safety and regulations are present on a more macro level.



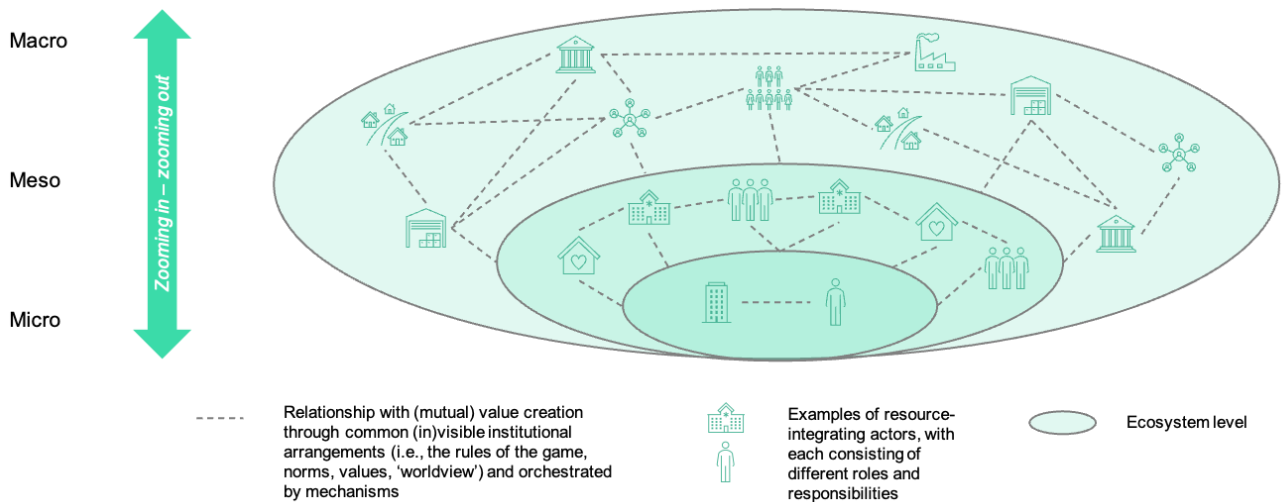


Figure 1: Visual overview of a service ecosystem²

2.3. Embracing complexity in the creation of solutions

Understanding service ecosystems can be a complex task. Many actors are involved in a dynamic and interdependent network with each having their own roles, responsibilities and needs. Understandably, value creation becomes complex and dynamic. Concurrently, such complexity should be acknowledged to prevent the creation of naïve solutions (Vink et al., 2020).

In comprehending a service ecosystem, one should consider different ‘levels of aggregation’ (Vargo & Lusch, 2016). The principle of ‘zooming-in’ and ‘zooming-out’ (Chandler & Vargo, 2011) allows to gain a vantage point at each level. This helps to analyse and understand each separate layer and their interdynamics while simultaneously seeing the bigger picture, namely the ecosystem as a whole. We label the different levels as micro, meso and macro (Möller et al., 2020; Vargo & Lusch, 2016). Basically, the micro covers individuals and their dyadic relationships (e.g., patient – doctor). Meso covers the market and industry (thus including service providers) and communities (e.g., medical institutions). Finally, a macro perspective sheds light on areas or regions in society (e.g., local/regional governmental institutions).

A service ecosystem, including its layers, is illustrated in Figure 1.

² Adapted from Kelleher et al. (2019); Nicolini (2009); Vargo and Lusch (2016); Vink et al. (2020)



3. Sketching the methodology's conditions

3.1. An action-oriented ethnographic approach

The challenge of understanding and developing the service ecosystem is one of explorative and actionable nature that needs to be built from the bottom up. Along these lines we adopt an action-oriented ethnographic approach. In basic terms, the practice of ethnography is the study of people and their culture and seeks to unravel and explicate patterns in action and behaviour (Arnould, 1998; O'Reilly, 2012; Van Maanen, 2011). This necessitates that the ethnographer is overtly or covertly involved in people's daily lives (Hammersley & Atkinson, 1994) and collects data in direct access to 'sources' (i.e., research subjects, groups of interest, participants) through a multitude of techniques (Goulding, 2005). Ethnography is known for its explanatory power and turn complexities into actionable fields, making it an excellent tool for market learning (Cayla & Arnould, 2013). Action research complements this with its aim for applicable results through iterative cycles of participative research and action (Cap et al., 2019; Coughlan & Coughlan, 2002). We coalesce these views to come to a closer understanding of the service ecosystem and its development.

3.2. Illuminating the entire iceberg

Still, we have to take into account that not everything is cognitively directly accessible. The dualistic visible-invisible challenge remains. Some elements, such as physical interactions, artefacts and sayings can be relatively easily observed. These elements would depict 'the tip of the iceberg'. However, other elements and patterns, such as norms, beliefs, values, are difficult to instantly grasp. Hence, our task is to 'dive deeper' and to make invisible elements and patterns visible through employing multiple techniques. This is also illustrated in the figure below.

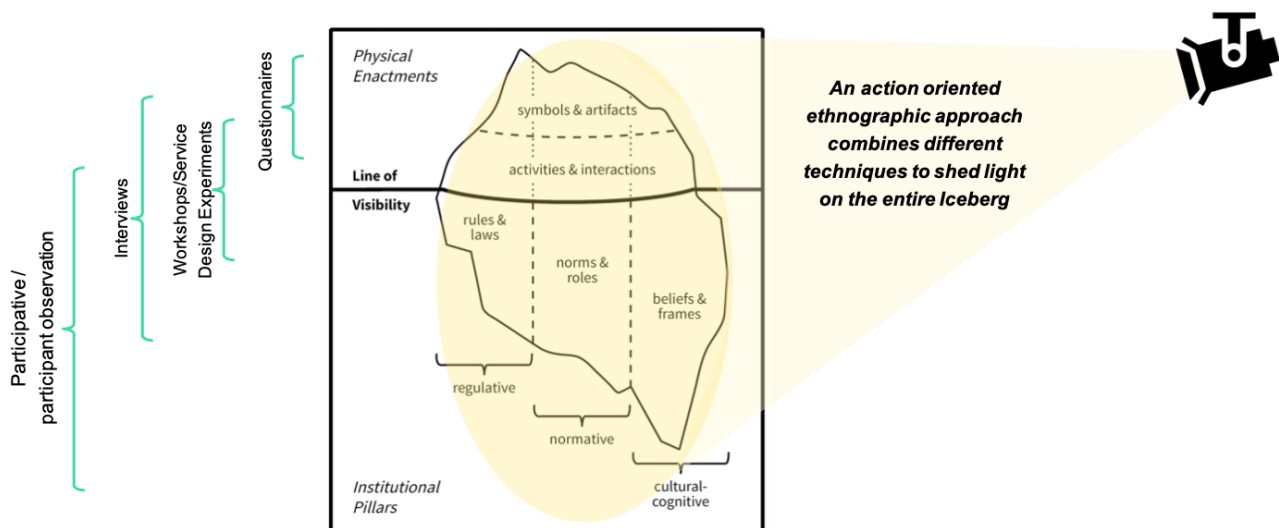


Figure 2: A holistic approach captures the entire picture, which includes the visible and the invisible³

³ Adapted from Vink et al. (2019)



4. Laying out the methodology in detail

4.1. Execution and operationalisation of the approach

An iterative cyclical approach is used to gather data and (incrementally) build theory from the bottom up. Such approach is favourable in gathering data over time through multiple sources and allows to remain flexible in sharpening focus or making adaptation during the entire process. Furthermore, because of its iterative nature, the approach accommodates direct and continuous learning (Coughlan & Coughlan, 2002). The following cycles and phases, illustrated in the figure below, form the red line. In following this approach, change – in its broadest terms – can be realised over time.

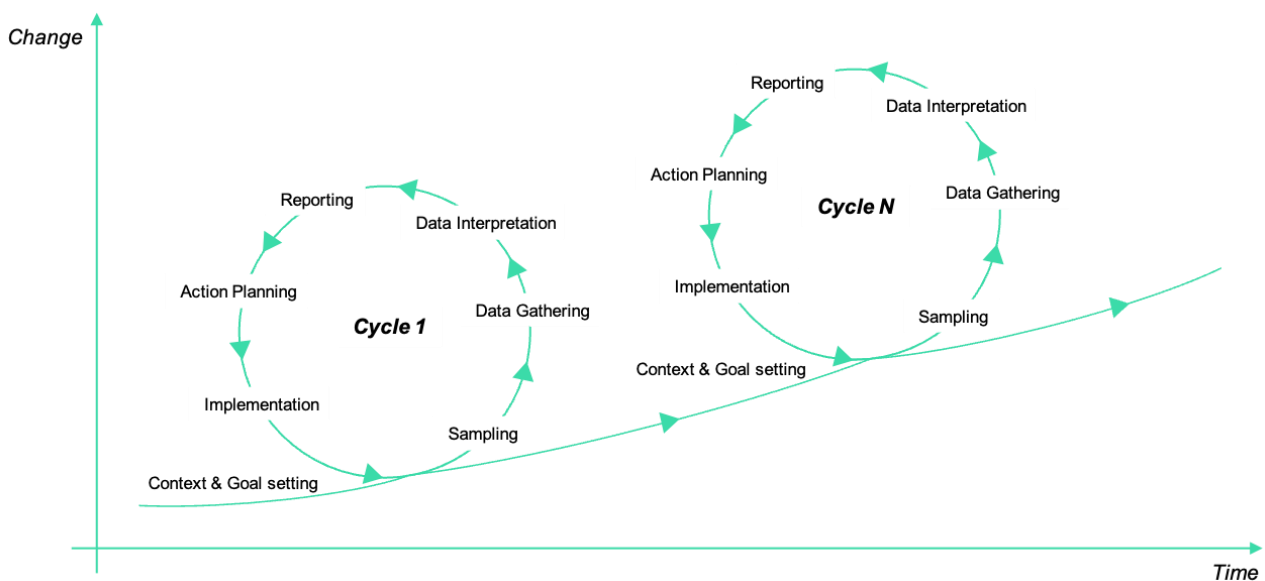


Figure 3: Action-oriented ethnographic cycles⁴

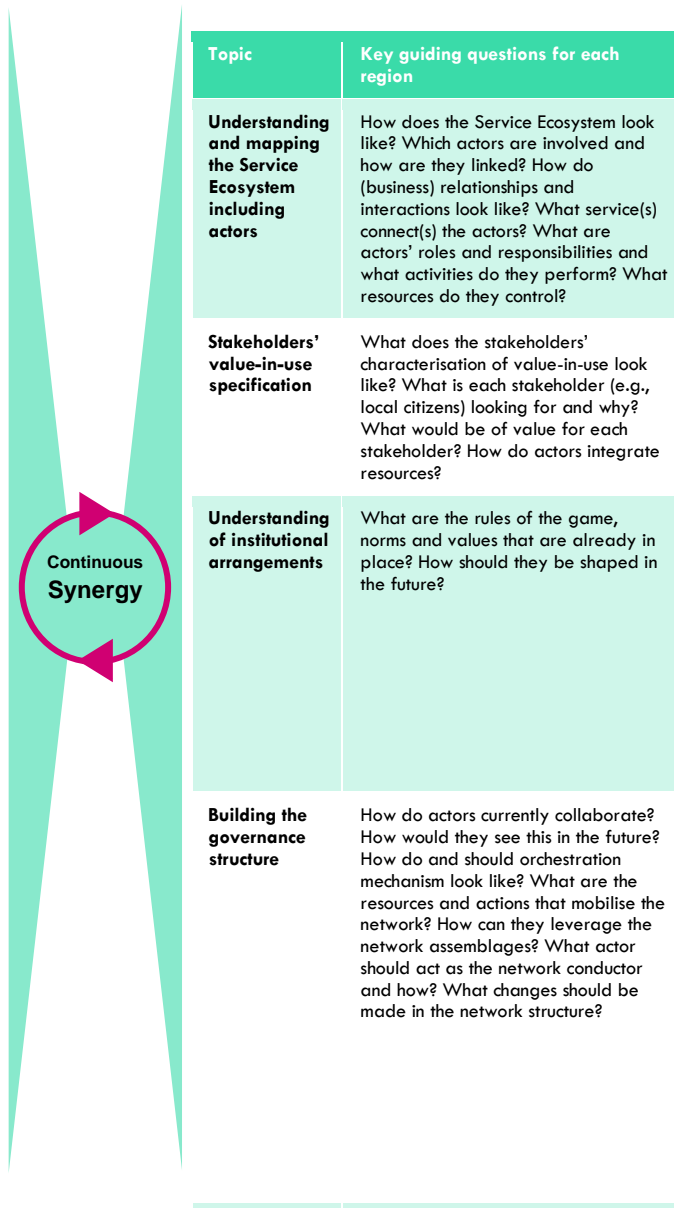
We apply this approach specifically to the context, goals and objectives of dRural. We detail this in the table below. The left-hand side describes the cycles including its guidelines and execution. The right-hand side details the topics for WP1 including key questions. Continuous synergy safeguards a resonating focus between the cycles and the topics that should be covered. This allows to make slight adaptations where necessary along the way. For example, one topic might require different data collection techniques as the other.

⁴ Adapted from Cap et al. (2019); Coughlan and Coughlan (2002); Visconti (2010)



Table 1: Operationalisation of data collection

	Guidelines	Execution
Context & Goal setting	Set the stage and get to know the context at hand within each region. Learn about their overall goals and objective, from the perspective of each actor (such as service providers and end-users) involved. Separate them in multiple spheres for creating a holistic understanding. We speak to experts in the field as a source of inspiration and validation (e.g., Josina Vink) and use other work packages' output as orienting support (e.g., sprints Platform Design Toolkit)	Create a first picture of the context in each region using several guiding questions: <ul style="list-style-type: none"> ▪ Why? What are the social challenges to solve? ▪ What? What are the desired (regional and collective) outcomes? ▪ For whom? What are the intended target groups? ▪ Where? Specific region in focus or broader? ▪ By whom? Who will provide the solutions? ▪ When? What is the time frame to realise the aims?
Sampling	Select the context and units to be investigated (at the different levels in the regional ecosystem – micro – meso – macro). Sample criteria are included, based on the context and goals, which help to guide the process of creating and gaining access to units of research. Sample size is not pre-defined, instead the principle of theoretical & practical saturation is followed.	Oscillate between the micro, meso and macro level and start with the end-users (e.g, citizens, patients, commuters or farmers), followed by the service providers that facilitate solutions. Commence with literature scan, followed by expert recommendations and subsequently snowball sampling with stakeholders.
Data gathering	Gather the actual data following eclectic methods and techniques that contribute to making sense of the research challenge and meeting project objectives. The focus lies on generating in-depth 'raw' data. This takes place within each region.	Explorative and refinement data collection techniques are used to cover each topic. Chapter 5 exemplifies the techniques. <i>Explorative</i> <ul style="list-style-type: none"> ▪ Obtrusive techniques (e.g., interviews, focus groups, world cafés, workshops) ▪ Non-obtrusive techniques (e.g., participant observation) ▪ Internal brainstorm / workshops ▪ Archival / artefacts study / Desk research <i>Refinement</i> <ul style="list-style-type: none"> ▪ Workshops in different forms to validate and refine ▪ Interviews or focus groups to validate and refine Facilitated and realised by UT and Train the Trainer programme.
Data interpretation	Interpret and attribute meaning to the data through iterative analysis. The aim is to extract theoretical explanations and practical implications.	Abductive analysis, i.e., continuously moving between the data and theoretical concepts following β guiding steps: 1) qualitative content analysis of informants' accounts; 2) intertemporal confrontation of each informant's accounts so as to check for the internal consistency of the collected answers; 3) cross-lecture of informants' accounts searching for patterns of convergence/divergence; 4) extraction of the theoretical explanations (second order analysis); and 5) reduction of these explanations to a general theoretical framework (Gioia & Chittipeddi, 1991; Visconti, 2010)
Reporting	Write down the findings <i>through</i> action for action while considering the different stakeholders and groups of interests involved.	To meet deliverables and ensure results, short reports are created after each cycle. Each year, a moment to report and tune will be organised with the dRural project management. In this, all deliverables are taken into account, including in M18.
Action planning	Plan further action as a follow-up on the findings and report. Exemplary questions are: what needs to change where? To whom do we need access?	Internal meetings to set-up initial action plan and tune with relevant work packages (WP3 & WP8 for certain) and involved stakeholders.
Implementation	Embed desired changes in practice and think ahead to and prepare for next cycle.	Train, support, coach stakeholders that needs to realise change.



4.2. Exemplary script for demonstrator per region

Each cycle consists of seven steps. Our estimation is that one cycle per region will be walked through per approximate year. Although possibilities per regions may be different and subject to (unforeseen) contingencies, the following Figure depicts a snapshot of the script for one cycle for a regional demonstrator with a focus on data gathering. It is emergent by nature and is gathered through several techniques. Different actors, ranging from regional stakeholders to promoters and from service providers to end-users, are involved according to the intensity mentioned.

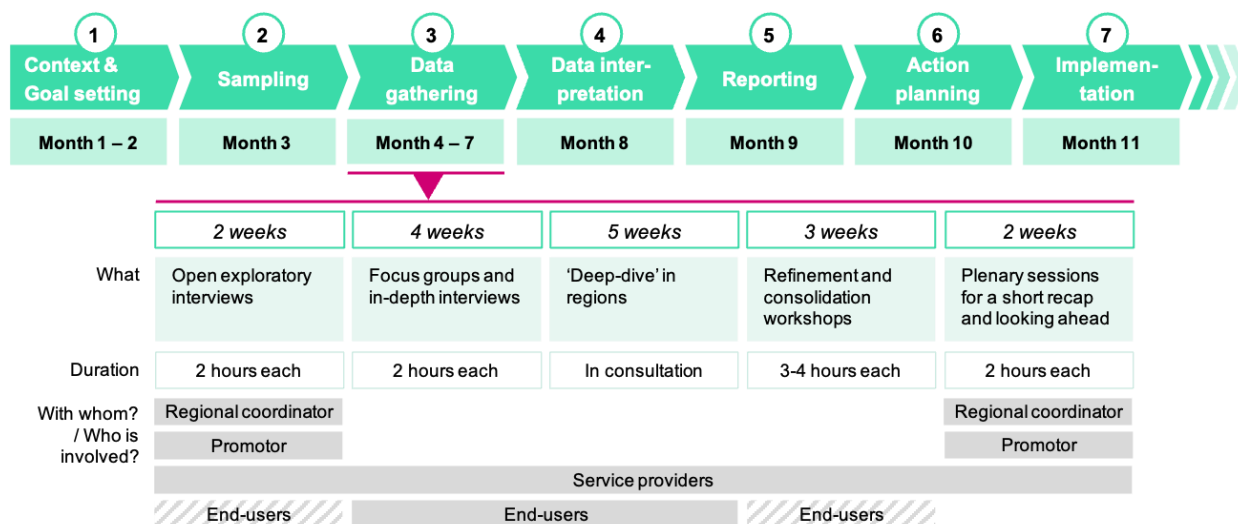


Figure 4: Example of script for a demonstrator region with a focus on data gathering

4.3. Train the Trainer programme facilitates data gathering

The data gathering is facilitated and organised by the UT. Our team of researchers will either be directly or indirectly involved in data gathering. In the first case, we will completely take care of the data collection. In the latter, we organise a Train the Trainer programme (TtTp) in which we coach and train individuals that are involved in the data gathering. These individuals can be local professionals and students. Specifically for students, we invite native speaking master level students, with a background in (digital) business, marketing or anthropology, to conduct their thesis research in the dRural project. We either recruit them via the UT's network or through collaborations with other (international) universities. We discuss with local universities how supervision for the master students is organised. Also, we make sure to align master students' thesis research with the rhythm of the project since curricula can be country and university dependent. Partners from different work packages and regions are involved for networking or additional help, which always takes place in close consultation and common agreement.

This programme offers the potential to locally have local boots on the ground and skilled people that understand the local culture and speak the language. This in turn offers potential in understanding the ecosystem.

Through concise and intensive 'bootcamps', each individual is well informed and confident in gathering data at the regional demonstrators. The bootcamp for the TtTp covers the essentials in one week, as depicted in Table 2.



	Type	Topic
Day 1	Plenary introduction session	dRural project and WP1
Day 2	Crash course	“Seeing the world through Service: Service Logics, service ecosystems, value-in-use”
Day 3	Crash course	“Essentials of qualitative research”
Day 4	Crash course	“Ethnography and Action Research”
Day 5	Co-creation session & closing	Region specific: organising data collection, finalising the script and looking ahead

Table 2: Bootcamp for the Train the Trainer programme

4.4. Supported on knowledge and best practices

Our approach to understanding and developing the service ecosystem is based on knowledge and practices from different fields. We make use of literature and tools in different fields that collaboratively build this whitepaper, as illustrated in Figure 5 and elaborated upon below.

1. The theoretical fundament is built on academic literature in different fields such as marketing, service research, organization studies, research methodologies. See for example Vargo and Lusch (2004).
2. Research methodologies inform methodologies opportunities in terms of approach, methods and techniques. See for example Visconti (2010).
3. Literature that bridges theory (1) and method (2) and is applied in concrete settings, is used to make it relevant and applicable to dRural’s context. See for example Vink (2019) for an application in healthcare.
4. Tools, formats and inspirational examples from industry and practice (such as consulting) are used to concretise the methodology into workshops and other vehicles to engage stakeholders and gather data. See the illustrations described in example 6 in chapter 5.

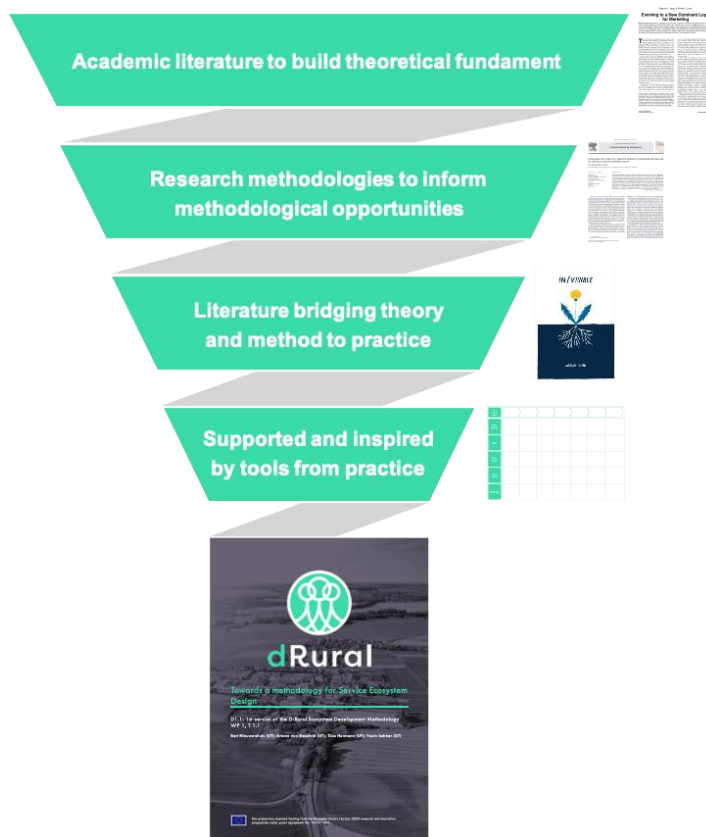


Figure 5: Making reference to different building blocks



5. Exemplifying the methodology

The methodology uses different building blocks, as mentioned in Figure 5. To concretise this further, we propose some examples of the different opportunities we see in collecting data.

Example 1: What to look for when doing participant observation

Making field notes requires a careful and sharp eye in observing what goes on around you. In organising fieldnotes, Sunstein and Chiseri-Strater (2011) proposes key principles what fieldnotes should consist of:

1. Date, time, and place of observation
2. Specific facts, numbers, details of what happens at the site and who is involved
3. Sensory impressions: sights, sounds, textures, smells, taste
4. Personal responses to the act of recording fieldnotes and how others watch you as you watch them
5. Specific words, phrases, summaries of conversations, and insider language
6. Questions about people or behaviours at the site for future investigation
7. Continuous page-numbering system for future reference

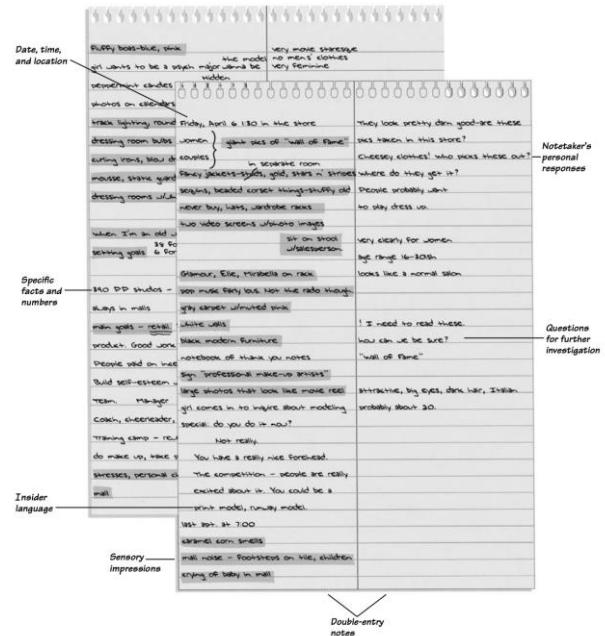


Figure 6: Exemplary fieldnotes (Sunstein & Chiseri-Strater, 2011)

Example 2: Participative participant observation in practice – in a healthcare context

Doing fieldwork in practice involves different techniques. One of them is to be fully naturalised in the setting at hand. Specifically in the context for dRural, a healthcare setting can be applicable and relevant. In this illustration, Vink (2021) presents how immersion in practice looks like and details its description, reflections and emerging questions and analysis.

Title: InForCare Workshop **Date:** 30/05/2017

Description: I assisted in the planning and delivery of a workshop for the InForCare project team coming from throughout Europe. This group used the empathy tools to stimulate if they were older, had a tremor or had particular visual impairments. They also used a hospital bed and wheel chair to move throughout hospital to understand that process. In groups they did observations of the entrance and waiting areas. We also did a lego serious play workshop where we built out our ideas individuals and then combined them into a common idea with lego. The participants were struck by their observations in the hospital. They noticed subtle things about wayfinding and getting around that said they never otherwise noticed. One participant was struck by the power and role that was gained when people put on the scrubs of hospital personnel. At the end of the day we also got a tour of the new surgery ward and I asked lots of questions about the power dynamics between staff during surgery.

Reflections: Participants seem so struck by the simple process of observation. It seems to change their way of looking at these situations. Many expressed a sense of being surprised by what they saw. While they were a nurse and a doctor participating there seemed, in general, to be a lack of critical discussion and recognition of alternative perspectives - primarily a focus on the patient perspective, although that was new for some. I wonder also about the role of the notebooks and reflection that each participant had in getting the most value from the different methods that they rotated through. While Louisa and I intentionally brought in critical questions around the empathy tools about the limitations of taking on the patient perspective, it seem that few people really considered this aspect, but rather embraced the excitement of stepping into someone else's shoes.

Emerging Questions & Analysis: Observation is a powerful vehicle for aiding participants in sensing surprise. Perceiving multiples was held back by a lack of relevant diversity in the group and missing strong facilitation of the groups due to time pressures, etc. The process of embodying alternatives was aided by the use of props, the location and transforming the dress of people when they role play. What are the risks of using empathy tools to "take on other people's perspectives"?

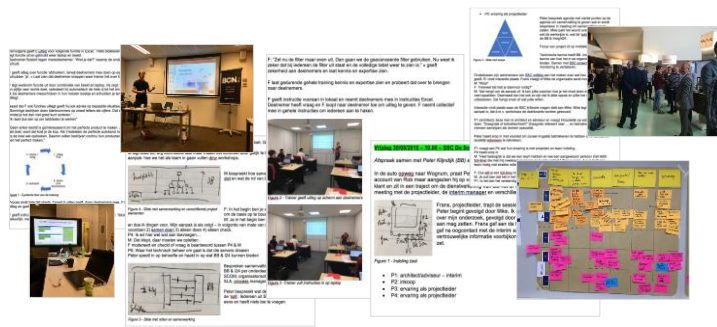
Experio Lab Field Notes

Figure 7: Example of fieldnotes in fieldwork (Vink, 2021)



Example 3: Ethnography in practice – using different techniques in a business setting

Immersion involves different techniques. In this example, snapshots of data and artefacts are shown. These consists of meetings service providers, engaging in workshops but also organising them, attending meetings, interviewing observing people, and engaging in conferences or forums.



with
and

Figure 8: Snapshots of fieldwork, based on the work of Sahhar et al. (2021)

Example 4: Using the Iceberg Framework to co-create findings

Artefacts can be used to ignite discussion. In a healthcare context, Vink (2019) shows how the Iceberg framework (see also Figure 2) can be used to illuminate symbols, activities, norms, values and beliefs.

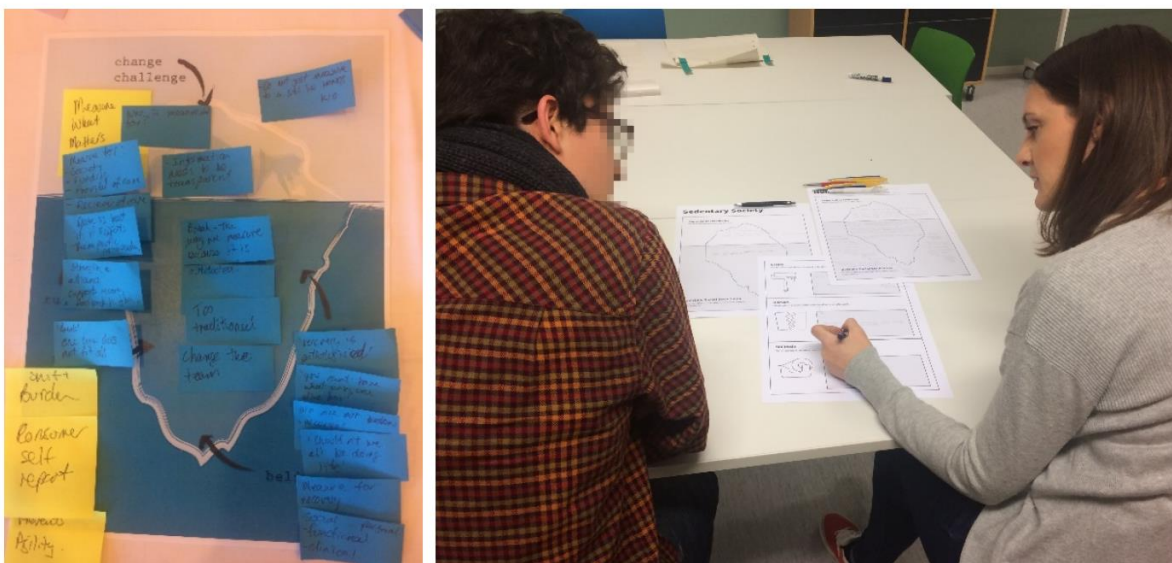


Figure 9: Illustrating the use of artefacts (Vink, 2019)



Example 5: Workshop format – User journey and its characteristics

Workshops are useful to engage people and collaboratively shape ideas. In our approach, we also propose workshops as a technique for data collection. The following format shows how stakeholders, including their roles, value-in-use and touchpoints, are mapped in their activities over time. This provides the opportunity for service providers to add services that meet the value of stakeholders.

User Journey steps									
Stakeholders									
Roles									
Value-In-use									
Touch points									
Offerings									

Figure 10: Example format for user journeys and its characteristics

Example 6: Industry examples for inspiration and applicability

To make theory more concrete and applicable, examples from the industry are used. In this, they are carefully analysed and applied according to the themes in dRural. In this example, we use Doctolib, a healthcare platform, in doing so. Doctolib aims to improve healthcare (access) throughout Europe through partnering with healthcare professionals. They created a community where doctors and hospitals are linked, via the platform, with patients. Doctors and hospitals can organise their activities, manage patients and cooperate with each other. Patients can look up information and book and manage appointments. In contemplating such solution, it is important to understand what actors are involved, on the different levels depicted in the figure below. For all actors, value-in-use can be formulated including the institutional arrangements. Such example can be used in workshops, interviews or other data collection techniques to serve as a source of inspiration and reflection.

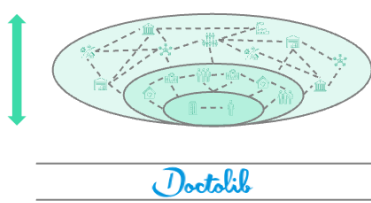
<i>Service Ecosystem view</i>	<i>Possible actors involved*</i>	<i>Exemplary value-in-use according to different actors</i>	<i>Exemplary institutional arrangements</i>
	<ul style="list-style-type: none"> • Medical insurance services • Medical suppliers • Pension service providers • Third-party service providers • Regulatory service providers 	<ul style="list-style-type: none"> • (In)direct connection with end-users that allows for more customised and resonating value promises 	<ul style="list-style-type: none"> • Public health safety • Expertise (exchange)
	<ul style="list-style-type: none"> • Hospitals/(private) clinics including nursing services (e.g., nurses, nursing homes), rehabilitation services (e.g., rehabilitation physicians) • Patient’s family members 	<ul style="list-style-type: none"> • Convenience and efficient processes through centralised booking / management system with key customer data 	<ul style="list-style-type: none"> • Expertise (exchange) • Fellowship
	<ul style="list-style-type: none"> • Patient • Direct medical services: e.g., general practitioner/specialist 	<ul style="list-style-type: none"> • Conveniently booking & managing health issues, instant availability, sense of security/ certainty • Higher efficiency in administrative processes, focus on core tasks 	<ul style="list-style-type: none"> • Empathy • Fellowship • Privacy • Security • Trust

Figure 11: Use and application of industry examples



In a similar context as Doctolib, one can also think of following example where different actors are mapped throughout the workflow of services and applications. Especially when understanding the different actors, their resources and activities, a holistic view can be created of what actions and activities occur through different actors, mediated by digital services.

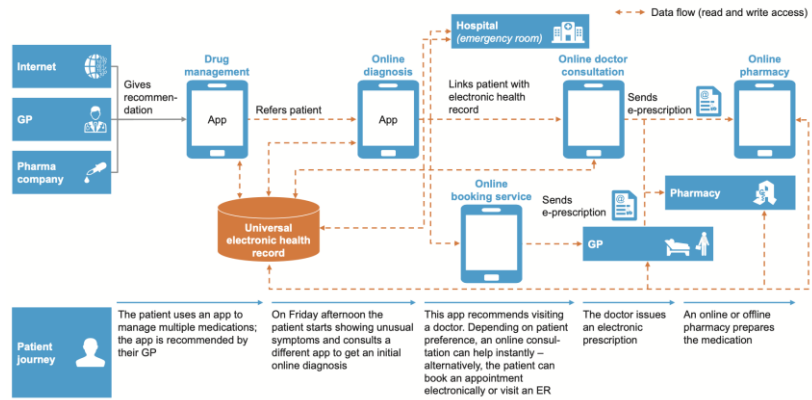


Figure 12: Inspiration from the industry (Hehner et al., 2018)



6. Closing remarks

This whitepaper laid out the first methodology for crafting a deeper comprehension of and paves the way for the further development of the service ecosystem. The methodology serves as an overarching methodology across the regions. The methodology finds its fundament on the latest academic literature in different fields and on knowledge from experts in the field. We persuade to think in service because it opens up novel opportunities for value creation between actors on different levels (micro, meso, macro). Based on this idea, we proposed an action-oriented ethnographic approach that taps deeper into the actors' interactions, value-in-use, norms, beliefs and value. While stating this may sound superfluous in the context of this project, it is extremely important to understand each individual region and its idiosyncrasies. Our approach takes this into account is sensitive and flexible towards cultural characteristics and differences. Furthermore, the methodology is characterised as iterative and cyclical, which stimulates to collect, through different techniques, fine-grained data over time and direct learning. This allows to build a solid understanding of the service ecosystem from the bottom up and advance it over time.

Finally, we thank all reviewers for helping to improve this whitepaper.



7. Glossary of terms

Term	Description
Service ecosystem	A relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange” (Vargo & Lusch, 2016, pp. 10-11).
Service	The process of using one’s resources for the benefit of another actor (Vargo & Lusch, 2004, 2016; Vargo et al., 2018). Products and services are part of the overall concept of service and therefore should not be confused with each other.
Value-in-use	The value that emerges through the integration and usage of resources (Grönroos & Gummerus, 2014).
Value	The underlying concept of making people better off.
Dyad	A relationship between two actors, which can occur on different levels (individuals, organisations, institutions, or societies).
Institutional arrangements	The interrelated rules, roles, norms, and beliefs that guide the process of value creation and stimulate innovation (Sitaloppi et al., 2016; Vink et al., 2020).
Overt data collection	Data collection through actively intervening in daily practice and/or involving the research subject, through for example interviews.
Covert data collection	Data collection through remaining ‘silenced’ and not interrupting daily practices of research subjects, through for example participant observation.
Micro level	The level covering individuals and their dyadic relationships (e.g., patient – doctor).
Meso level	The level covering the market and industry (thus including service providers) and communities (e.g., medical institutions).
Macro level	The level covering on areas or regions in society (e.g., local/regional governmental institutions).
Platform	A dynamic configuration of tangible and intangible resources that act as foundations for value-creating systems (Parolini, 1999), upon which network members co-create value through a set of specific activities (Perks et al., 2017)



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