

# Value Co-creation in Parkinson Networks

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## 1 Introduction

Western countries have seen a transition from a goods-oriented economy to a services-oriented economy. Marketing literature [4, 11] suggests that the notion of economic exchange, core to the economy, has shifted from following a goods-dominant logic to a service-dominant logic. Combined with the digital transformation, this results in the creation of what might be called *digital service ecosystems* [3].

In the (joint) development / growth of digital service ecosystems, *infrastructural* investments need to be made by the participants in order to prepare themselves for the actual co-creation of value. Such infrastructural investments could e.g. include cultural / knowledge assets, as well as “institutions” in terms of rules, norms, meanings, symbols, practices, and similar aides to collaboration [11], social / contractual assets in terms of defined institutional arrangements [11], contracts with partners in the value web, etc, as well as technological assets such as shared technology platforms, etc. To ensure that such investments remain controllable, manage coherence [12], ascertain if key quality concerns (e.g. sustainability, security, privacy, flexibility) are met, etc., one generally suggests to use an design / architecture oriented approach [6, 9].

In designing and growing digital service ecosystems, and systems (of systems) in general, different modelling frameworks are used that typically cover different aspects / perspectives, while also maintaining coherence between these aspects / perspectives. Examples in an enterprise and information systems engineering context include ARIS [10] and ArchiMate [5]. As argued in [8], for value co-creation, it is important to take a holistic perspective of the digital service ecosystems and its context. Concerns, such as sustainability, equity between partners, etc, can only be considered sensibly at the level of the ecosystem as a whole.

During last year’s VMBO, we reported on work done, in the context of the ValCoLa project, towards the development of a modelling framework language for value co-creation [8], in particular the strategy we aim to follow in the development of such a framework. One of the key messages in [8] was also the need to use case studies in the development of the modelling framework. Contrary to e.g. the development of ArchiMate [5], there is not (yet) a rich experience in the design of value co-creation driven digital service ecosystems.

Our presentation will report on the results of an ongoing case study involving the development of Parkinson’s disease related health networks.<sup>4</sup> In the remainder of this

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<sup>4</sup><https://www.parkinsonnet.nl>

extended abstract, we will highlight some of the involved activities, initial results, and next steps.

## 2 Background

Parkinson's disease is a common and disabling neurodegenerative disorder [1]. To improve the quality of care, while at the same time reduced costs, for healthcare for patients (and their families) suffering with Parkinson's disease, Dutch researchers in the Parkinson's domain have pioneered the concept of Parkinson networks. The concept of a ParkinsonNetwork has introduced a new way of care, where "*specialised professionals and engaged patients work together to try to achieve optimal outcomes*" [1].

The Dutch ParkinsonNet has indeed been able to achieve these goals [1], triggering other countries to try and copy the same model, such as Luxembourg.<sup>5</sup> In achieving these goals, patient participation, empowerment, and self management are seen as key components, combined with the use of information technology to drive and support, the network. Figure 1 depicts the medical disciplines, as identified in [1], that are (potentially) involved in healthcare for Parkinson's disease.

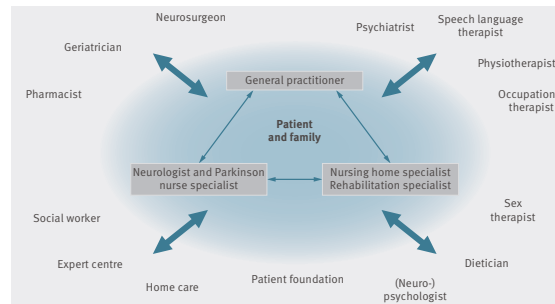


Fig. 1. Disciplines involved in the care of patients with Parkinson's disease, taken [1]

The combination of a network, the focus on co-creation of (health) value, and the role of information technology to bring the parties together, makes the creation of Parkinson networks an interesting case for the ValCoLa project.

The initiators of the Dutch ParkinsonNet already had the idea to generalise the concept. Both in terms of re-applying the model in other countries, but also to generalise it into a general healthcare concept that could be beneficial to patients with other forms of chronic disease, such as Alzheimer's.

## 3 Approach

In developing the Parkinson network(s) case study we also observe(d) the need for value co-creation between the research communities involved. Where the ValCoLa project

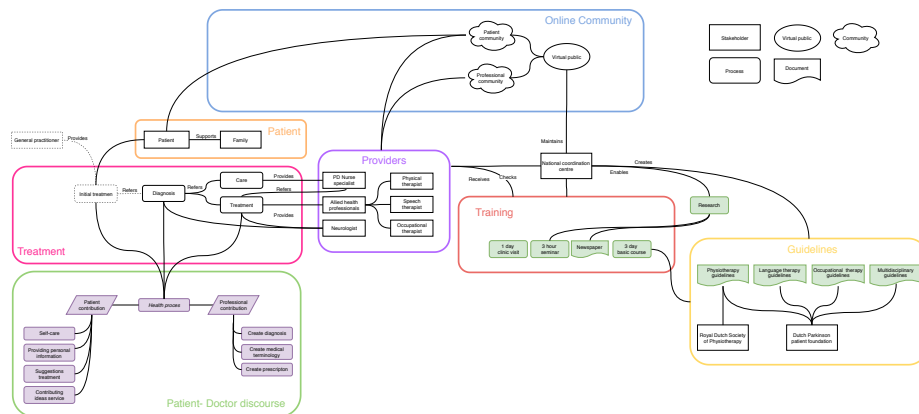
<sup>5</sup><https://www.parkinsonnet.lu>

needed a case study, the ParkinsonNetworks have a need to better understand the workings of such networks, as well as make their development strategies more explicit, the initiators of ParkinsonNetworks have a need to use such insights and / or capitalise on their own experiences.

Condering the broadness of the stakeholders involved in the “running” and “growing”, of a ParkinsonNet, it is key to take a value co-creation, ensuring the goals of all relevant stakeholders are met sustainably. This resulted in the strategy to:

1. first understand what (in general) the key stakeholders of a ParkinsonNet are,
2. then identify the potential value exchanges between the involved stakeholders (in relation to their respective goals),
3. instantiate these for specific countries / networks, and
4. identify re-usable growth strategies (in terms of heuristics) for “growing” Parkinson networks.

For the identification of stakeholders, Figure 1 served as one of the inputs. However, additional stakeholders are involved as well, for example, insurance companies, government agencies, funding agencies, etc. Figure 2 provides an overview of the resulting landscape of potential stakeholders. The role (or even presence) of these stakeholders may differ from country to country.



**Fig. 2.** Landscape of the ParkinsonNet

In identifying the typical stakeholders and their goals, we soon realised that there were goals (and even stakeholders) that pertain to the *running* activities of the network (e.g. patients needing care, health care professionals looking for job satisfaction by being more effective in providing healthcare, etc) and those that pertain to *growing* the network (e.g. insurance companies, governments, health care organisations, etc).

The inclusion of re-usable, value co-creation driven, strategies to *grow* ParkinsonNetworks also triggered the inclusion of the underlying structures, in terms of *situational analysis*, *risk analysis*, and *heuristics* to select / define *risk mitigation* strategies and *project delivery strategies*, as used in the ISPL (a best practice library for information services procurement) [2, 7].

## 4 Next steps

We are now in the process of (1) better documenting the potential stakeholders and their potential value exchanges (based on a literature study on papers dealing with the development of Parkinson networks), (2) more broadly validating these with the domain experts, (3) making the “reasoning structure” used in ISPL [2, 7] suitable to capture different growth strategies for ParkinsonNetworks, in particular by adding the role of value co-creation between stakeholders, and (4) capturing (and comparing) successful / failed strategies in growing ParkinsonNetworks explicit in terms of the former “reasoning structure”

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