

MASTER'S THESIS

Design dimensions of Digital Platform Ecosystems for Independent Living Services

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Abstract

This thesis summarizes the results of theoretical and empirical research, through a case-study approach, into a Framework for a Digital Platform Ecosystem (DPE) for Independent Living Services (ILS). A theoretical framework for a DPE is developed based on content analysis of selected articles from a literature review. This framework consists of seven design dimensions (building blocks): 'Network effects'; 'Governance'; 'Boundary resources'; 'Architecture'; 'Data governance'; 'Value-creating mechanisms'; 'Ecosystems and the wider environment', and at least two to six subdesign dimensions per design dimension. The framework is researched for the relevance of its subdesign dimensions, through a case-study approach, using an organization that qualified the research criteria for a DPE for ILS. Using Thematic Analysis (TA), the transcribed interviews of actor-participants were analyzed for themes. Participants also rated the subdesign dimensions for their relevance. This resulted in a final framework for a DPE for ILS for the case-organization. The framework can be used by DPE's for ILS, which are at a developing stage, to gain an understanding of the design dimensions and subdesign dimensions of the DPE. It may also be used to establish a common understanding of the DPE between actors from a framework perspective as well as addressing responsibilities. Further validation of the framework should be undertaken contributing to triangulation of the results.

Key terms

Digital Platform Ecosystem, Design Dimension, Independent Living Services, Health Service Platform, Building Block, Framework.

Summary

Based on the main research question, three conclusions are drawn from this research:

1. The development of a theoretical framework that includes the design dimensions and subdesign dimensions for the Digital Platform Ecosystem (DPE) for Independent Living Services (ILS).
2. Empirical evidence for the relevance of this framework for the case-DPE that has been studied.
3. No alterations or changes by the study participants for the definitions used for the subdesign dimensions of this framework.

Starting from a theoretical background the thesis begins with an exploration of the DPE and its design dimensions (building blocks). The main focus is on DPE's and their design dimensions. As a broader understanding of what makes up a DPE and which elements it contains is still lacking this concludes in a problem statement and main research questions from the focus of ILS. Following this, a research approach was devised to address the available research literature between October 1st 2010 and October 1st 2020, applying a selected set of search terms through the digital library of the Open University. The resulting set of articles was reviewed in four phases, using 'EndNote', and concluded into a set of 14 articles which were included for the theoretical research. A theoretical framework for a DPE was then devised using the process of content analysis. This framework includes seven design dimensions and for each of these at least two and maximal six subdesign dimensions. This answers the first of the three sub-questions for the research.

The two remaining sub-questions were answered through the empirical stage of the research from chapter three of the thesis and onwards. This started with defining the research strategy concluding in the use of a case study strategy and defining the criteria for the case DPE. Also, a data collection approach including an interview protocol were devised. The qualitative research method of 'Thematic Analysis' (TA) was chosen to extract and identify codes from the interviews and to generate themes from these codes.

A Dutch based non-profit DPE for ILS was selected for interviews with the respective actor-participants, and over the course of seven months, eight interviews were performed. The interviews addressed the relevance of each of the subdesign dimensions of the framework. Firstly, using the method of TA, each interview was recorded and transcribed. Following this a process of coding relevant parts for each subdesign dimension (from each interview) and identification of themes (patterns) for all coded parts of the design dimensions was applied. Also, the mean numbered relevance for each subdesign dimension was calculated. Secondly, answering the third sub-question, the additions by the participants to the subdesign dimensions were identified and evaluated against the theoretical framework.

In chap. 4.1 the final framework a DPE for ILS for the case-organization is presented. This answers the main research question and its sub-questions outlined in chap. 1.4. This is followed by chap. 5, which discusses the main findings of the research and follows to its conclusions. Recommendations for practical application of the findings and further research are given in sections 5.3 and 5.4.

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1. Introduction

1.1. Background

Independent Living Services (ILS) are an umbrella term for all kinds of ICT solutions that enable elderly people to live longer independently at home. ILS are “hindered by a lack of interoperability, leading to incompatible data exchange formats and protocol, expensive integration efforts, and lack of economies of scale as sensors and devices are typically dedicated to only one service offering” (de Reuver & Keijzer-Broers, 2015) (p.1). This makes it difficult for care service providers to share data and to bundle services and products from different device providers (Nikayin et al., 2013). It is likely that a platform can solve these issues, because a platform “brings together individuals and organizations so they can innovate or interact in ways not otherwise possible, with the potential for nonlinear increases in utility and value”(Cusumano et al., 2019) (p.22). A platform also gives care service providers a standard interface to connect to multiple assistive devices as well as customers’ data. An increasing longevity of people is coupled with greater susceptibility to disease and disability, multimorbidity and chronicity of health conditions. These factors greatly influence the uptake and use of ILS. “There are no common platforms that independent living providers can utilize to bring their services to end-users”; a platform for ILS would provide a multisided platform connecting end-users of ILS with service and application providers (de Reuver & Keijzer-Broers, 2015) (p.1). Such an ICT platform would address the paradigm shift that takes place in healthcare systems, resulting in complexity for both users as well as providers of ILS: a transition to more localized care arrangements that are multidisciplinary, community-oriented, consisting of a mix of professional and informal care (de Reuver & Keijzer-Broers, 2015). To realize benefits of using a platform, one must first decide on its design dimensions (e.g., governance, architecture) (de Reuver and Lessard (2019). Design dimensions can be interpreted as the building blocks or design elements of a platform (Hein et al., 2020) (Otto & Jarke, 2019). These terms are often used interchangeably; in this thesis the term ‘design dimensions’ will be used. For Health Service Platforms (HSP’s) an understanding of the contribution of their design dimensions such as governance and architecture and their interactions from a process perspective is emerging. Fürstenau et al. (2019) identify that research for a process perspective for digital HSP’s is lacking which facilitates the development of the different areas of platform design and management in health care.

1.2. Exploration of topic

A Digital Platform Ecosystem (DPE) “comprises a platform owner that implements governance mechanisms to facilitate value-creating mechanisms on a digital platform between the platform owner, as well as an ecosystem of autonomous complementors and consumers” (Hein et al., 2020) (p.90). It is characterized by interdependencies between the platform and their agents (Hein et al., 2020). Well known examples of platforms are e.g. Facebook and Airbnb. DPE’s are increasingly used for provision of health services e.g. through real-time monitoring of patients and preventive care (Fürstenau et al., 2019; Otto & Jarke, 2019). They contribute to the development of health areas such as disease prevention, remote patient care or self-management. Rather than only enabling product innovation or facilitating economic transactions, as is the case with literature on digital platforms, their focus is on the transformation of healthcare delivery with the goal to improve health outcomes (de Reuver & Lessard, 2019). Furthermore, several authors report on design dimensions of Digital Platform Ecosystems.

Three examples are given here. First, Hein et al., (2020) identify three design dimensions: 1. Status of platform ownership: the relationships among partners in the ecosystem; 2. Value creating mechanisms in the ecosystem; 3. Autonomy of complementors: the degree of freedom that complementors have when they co-create value with the digital platform. Second, ‘governance’ and ‘architectural rules of platforms’ are identified as design dimensions of DPE’s, because they “balance the level of platform control with the necessary incentives for platform participants to engage with the platform and generate value for one another” (Constantinides et al., 2018) (p.381). Third, de

Reuver and Lessard (2019) identify two design dimensions for HSP's: networks of digital components (e.g. software) and liquefied resources (e.g. business rules) that provide an initial framework for describing health service platform architecture.

1.3. Problem statement

Although several authors report on design dimensions of DPE's, there is no clear agreement on what constitutes the definitive design dimensions. Due to the different views on design dimensions for DPE's, a more comprehensive view is required. To close this gap, this study will focus on identifying the design dimensions of a DPE, then evaluate the validity (correctness) and refinement (completeness) of the identified design dimensions in the practical context of ILS.

Fürstenau et al. (2019) identify three core functions of DPE's in healthcare: 1. Shared patient information repositories; 2. Service integration and interoperability; and 3. Service innovation. These functions can address two main problems in health care provision: the fragmentation of services and the lack of innovation. While the interest in the application of DPE's for ILS is increasing, there is no specific framework on design dimensions of DPE's which is being applied. This study will focus on identifying the design dimensions of a DPE as a foundation for the empirical research in the context of ILS.

A theoretical basis is required that outlines the design of digital platforms as an ecosystem before empirical research can be undertaken addressing how platforms for health services are designed (de Reuver et al., 2018; Hein et al., 2020; Tura et al., 2018).

The main problem for this research is stated as: *"While there is an increasing body of research on the design dimensions for Digital Platform Ecosystems, due to the fragmented view, there is a lack of systematic understanding of what design dimensions constitute a Digital Platform Ecosystem for Independent Living Services"*.

1.4. Research objective and questions

Based on the problem statement, the design dimensions of DPE's for ILS require further investigation. The objective of this research is therefore to identify the design dimensions of DPE's through a systematic literature review, and empirically validate these design dimensions for ILS by conducting a case study.

Main research question. The main research question that addresses this objective is: Which design dimensions determine the design of Digital Platform Ecosystems for Independent Living Services?

Sub-question 1: What are the design dimensions that characterize Digital Platform Ecosystems in the research literature? This will be the central question for the literature review.

Sub-question 2: Are the identified design dimensions of a DPE relevant and (correct) in a real-life context of Independent Living Services? This will be the question for the empirical study.

Sub-question 3: How can the identified design dimensions be refined with practical information? This will be the question for the empirical study.

1.5. Motivation/relevance

Two main arguments, one practical and one scientific, provide the motivation for the research questions.

First, DPE's are a rapidly emerging phenomenon that greatly affect consumers, service delivery organizations, and businesses. Changes in service delivery of ILS as well as changes in the health status of elderly people and/or people with chronic health conditions vastly challenge the way in which these platforms can be designed and used. For organizations participating in ILS platforms, it is essential to understand DPE's to evaluate the benefits and its effectiveness.

Second, while the scientific body of knowledge and theory development for DPE's is gradually developing (Gawer, 2014; Hein et al., 2019; Otto & Jarke, 2019), the amount of research for health services in relation to DPE's is still scarce. There is an increasing potential for service delivery to

people with needs for ILS, and effective and efficient provision of healthcare to improve health outcomes (de Reuver & Lessard, 2019)(p.1). Health care services are characterized by fragmentation of services and lacking innovation. Also the finance model for health services influences efforts to implement and scale digital health platforms (Fürstenau & Auschra, 2016; Fürstenau et al., 2019). Addressing the design dimensions for DPE's is likely to develop service delivery for elderly people and people with chronic health conditions, but also enhance the body of scientific knowledge.

1.6. Main lines of approach

This thesis is structured into five chapters. Chapter two outlines the theoretical framework that addresses the first research question. Chapter three presents a methodology that justifies the empirical research process and data analysis. The results of the empirical research are presented in chap. four. In chap. five, the conclusions relate the results with the research questions and theoretical framework. These are followed by recommendations for further research.

2. Theoretical framework

This chapter outlines the Systematic Literature Review as the research approach for addressing the research questions in chapter 1. In ch. 2.1 this approach will be explained and the outline of the review protocol. Chapter 2.2 describes the progression of the literature review, followed by the results in chap. 2.3. Chapter 2.4 states the objective for the empirical follow-up research.

2.1. Research approach

The objective for the theoretical part of this approach is to identify, bring together and synthesize relevant scientific literature that addresses sub-question one. The Systematic Literature Review (SLR), will be used because it serves two main purposes that fit the research objective of this thesis: a. identification and critical appraisal of relevant research and b. collection and analysis of data from this research (Snyder, 2019). The SLR-process has an iterative character, as the different activities that are employed during the different phases are repeated during the review, thereby contributing to a refinement during the review. An overview of the phases and stages of the SLR process is included in appendix 1. The review protocol that specifies the method that was used to undertake this review (Kitchenham & Charters, 2007) is shown in summary in figure 1 and detailed in appendix 2.

Review protocol of Systematic Literature Review	
A. The background	Thesis section 1.1
B. The research questions	Thesis section 1.4
C. Search Process	Search performed in digital library of the Open Universiteit. Sources: formally published journals and conference papers since 2010. These are primary studies and secondary studies
D. Search Terms	Search terms are derived from the initial literature in Ch. 1: ((Digital Platform) OR (Multi-sided Platform) OR (Digital Ecosystem) OR (Digital Platform Ecosystem) OR (Platform Ecosystem)) AND ((Building blocks) OR (Design dimensions) OR (Design elements))
E. Inclusion criteria	<ul style="list-style-type: none"> Setting for the studies: industries and businesses in general including health care. Articles published between January 1st 2010 and November 1st 2020. Articles published in a peer-reviewed (refereed) journal or conference proceedings. Articles in the English language that are full-text available. The main objective of the studies should be design dimensions of the digital platforms.
E. Exclusion criteria	<ul style="list-style-type: none"> Studies whose focus is limited to the intra-organizational perspective. Studies that do not address the first sub-question.
F. Article selection procedures	Thesis section 2.2
G. Study quality assessment and procedure	Thesis appendix 3
H. Data Extraction Strategy	<ol style="list-style-type: none"> Open coding: the article content that relates to the search terms is coded to summarize the meaning of the data. Grouping on content: grouping similar coded data into categories. Categorization: classification of categories into subdesign dimensions of a specific design dimension. When a category is specified as subdesign dimension the specific subcategories are outlined. Abstraction: subcategories (subdesign dimensions) from phase three are summarized per design dimension in table one.
I. Data Synthesis	The information from the coding phase that relates to design dimensions is classified in the phase "Grouping on content". When this information is sufficiently specific to be categorized as subdesign dimension this is done in the categorization phase (Thesis appendix 13).
J. Reporting the review	This phase concerns the dissemination of the results, and will be applied when this thesis is finished.

Figure 1. Review protocol of Systematic Literature Review

2.2. Implementation

The literature review has progressed in four phases as shown in figure 2, based on the PRISMA guidelines for reporting items for systematic reviews and meta-analysis (Moher et al., 2009). For the eligibility phase, the criteria to assess the study quality, developed by Dyba et al. (2007), will be applied on the eligible articles. Each criterium will be graded by the researcher on a “yes” or “no” scale. The criteria as well as their application to the eligible articles are shown in appendix 3. Not included are additional comments made by the researcher with the application of the criteria. These are available for the thesis committee however. Appendix 4 presents a listing of the articles from the eligibility phase that have been included and excluded for the inclusion phase.

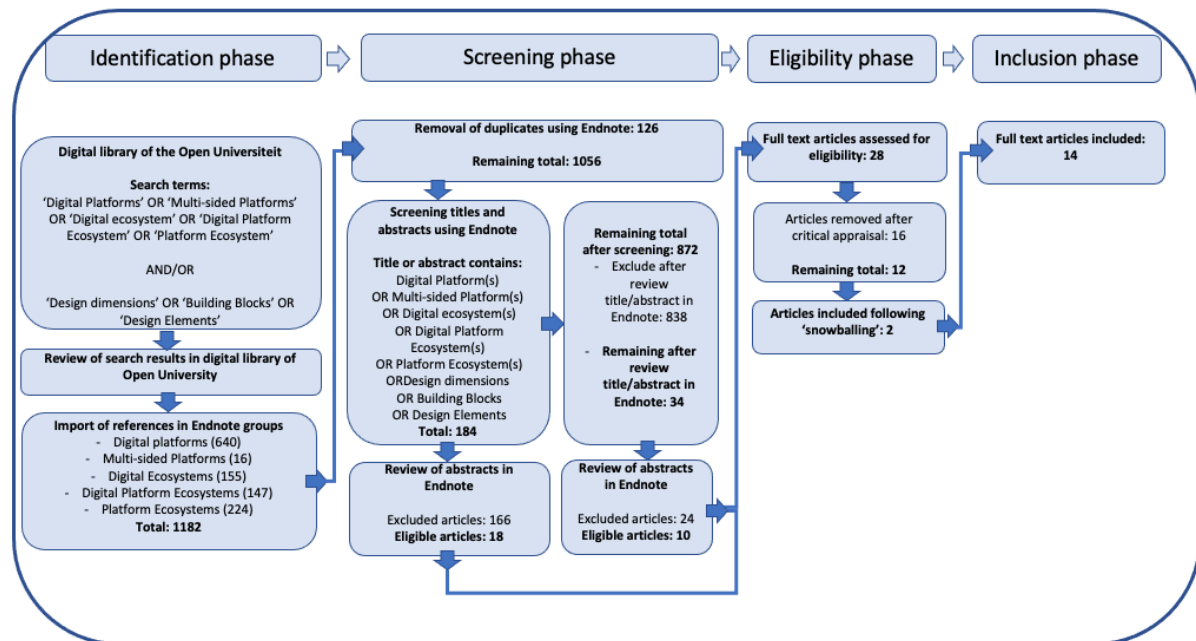


Figure 2 Flow of information during the different phases of the review

2.3. Results and conclusions

This section presents the results of the answer to sub-question 1 (section 1.4). It is based on the data extraction strategy (element H. in figure 1 and appendix 2) The content analysis indicates that design dimensions of DPE's support and enforce each other to develop a sociotechnical environment which together enable and stimulate cooperation and interaction. As such the DPE can be considered as a 'living and evolving ecosystem' in itself. The design dimensions **Architecture** and **Governance** provide the basis for a DPE. Without them it is not possible to establish and develop a DPE. This is in line with the finding that architecture and governance provide balance to the level of platform control and incentivize participation and engagement (Constantinides et al., 2018) (Jacobides et al., 2018). The design dimension **Data Governance** addresses several aspects of governance of data that is exchanged in the DPE. The design dimension **Boundary Resources** is made up of resources that facilitate technical and social interaction. The important relation between boundary resources and governance is stressed as a key problem of organization design: the balancing the trade-offs involved in controlling the core technology as one of the main goals of platform ecosystem governance (Jacobides et al., 2018) (p. 2259). The design dimension **Network Effects** are required for growth and development, by accelerating the effects of boundary resources. The design dimension **Ecosystem and the wider environment** establishes relationships with other DPE's. The combined effects of all the design dimensions accumulates in the design dimension **Value-creating mechanisms**. Each design dimension includes a number of subdesign dimensions. These can be interpreted as operational elements of design dimensions. They are operationalized in table 1. Appendix 13 provides the details of the content analysis.

2.4. Objective of the follow-up research

The empirical part of the follow-up research has the objective to identify whether the subdesign dimensions are actually relevant and being applied in the real-life context of a case study for ILS. This is relevant in order to test the validity of the theoretical findings from chap. 2.

Table 1. Design dimension and subdesign dimensions

Design dimension 1. Network effects - definition	Subdesign dimensions	Description	Reference
The effects of the presence of participants, products and services on a platform. An increase of one of these factors as well as more end-users stimulates an increase of the other factors. Network effects are fostered by business and operational dimensions (Fürstenau et al., 2019; Valdez-De-Leon, 2019) (Gawer & Cusumano, 2014)	1. Openness	“The platform allows access to platform resources (e.g., API’s) enabling ecosystem participants to develop their own use cases”	(Valdez-De-Leon, 2019) p. 47
	2. Modularity	“Enables different organizations to build complementary products or services”.	Valdez-De-Leon, 2019)p. 47
	3. Quality	“Features that enable high availability, reliability, and security, which can be highly valued by ecosystem participants”.	Valdez-De-Leon, 2019)p. 47
	4. Facilitation of participation	“This aims for the enhancement of both a user and contributor base. Such a growing base can add to the creation of (cross-side) network effects”.	(Fürstenau et al., 2019)p. 584
	5. Degree of innovation on complementary products	“The more innovation there is on complements, the more value it creates for the platform and its users (via network effects), creating a cumulative advantage for existing platforms”.	(Gawer & Cusumano, 2014)p. 421
	6. User-base	The usefulness of technology on a platform increases with the increase of the user-base.	(de Reuver et al., 2018) (Gawer & Cusumano, 2014)

Design dimension 2. Governance - definition	Subdesign dimensions	Description	Reference
Addresses the ownership, coordination, regulation, decision rights, access rights, knowledge management and resource allocation of a platform (Foerderer et al., 2018) (Tura et al., 2018) (Tiwana et al., 2010)	1. Pricing	Decisions to subsidize and price complementors. E.g., complementor apps on software platforms can be priced or subsidized as an incentive mechanism to influence interaction.	(Song et al., 2018)
	2. Mechanisms to coordinate and control platform participants	Mechanisms to coordinate and control platform participants such as specification of decision-making rights and rules of control with regard to using the platform, services offering, and defining platform access rights.	(Song et al., 2018) (Otto & Jarke, 2019) (Fürstenau et al., 2019) (Tiwana et al., 2010)
	3. Decisions and policies	Decisions and policies about the platform’s self-development, facilitation of collaboration and third party contributions.	(Song et al., 2018) (Fürstenau et al., 2019) (Hein et al., 2020)
	4. Leadership and ownership status	Leadership and ownership status and related decisions with regard to the ecosystem/ platform and it’s complementors.	(Foerderer et al., 2018) (Tura et al., 2018) (Tiwana et al., 2010) Fürstenau et al., 2019)

Design dimension 3. Boundary resources - definition	Subdesign dimensions	Description	Reference
Resources that facilitate technical and social interaction, relationship development and innovation on a platform (Otto & Jarke, 2019) (de Reuver et al., 2018)	1. Technical boundary resources	Resources through which different agents/ complementors create relationships and interact with each other in order to co-create value. E.g., API's, SDK's, applications for end-users.	(Otto & Jarke, 2019; Valdez-De-Leon, 2019)
	2. Social boundary resources	Regulations and policies facilitating the relationship between platform provider and complementors, such as app developers. E.g., Intellectual Property Rights (IPR), documentation for software services and support services for complementors.	(Otto & Jarke, 2019) (de Reuver et al., 2018)
Design dimension 4. Architecture - definition	Subdesign dimensions	Description	Reference
Is concerned with the integration and interaction of (technical) components and modules. This facilitates and allows exchange between the demand and supply side on the platform (Tiwana et al., 2010) (Otto & Jarke, 2019).	1. Technical architecture	The selection, possibly creation and use of standards and "connectors", as well as a blueprint for the integration of the different technical components like reference architectures.	(Fürstenau et al., 2019; Otto & Jarke, 2019)
	2. Platform span	"The number of subsystems into which a platform or module can be partitioned".	(Tiwana et al., 2010)p. 678
	3. Modularity	"The degree to which changes within a subsystem do not create a ripple effect in the behavior of other parts of the ecosystem".	(Tiwana et al., 2010)p. 678
	4. Composability	"The resistance of modules to change".	(Hein et al., 2019)p.634 (Tiwana et al., 2010)
	5. Malleability	"The adoption of evolving user needs by enabling a flexible reconfiguration or extension of existing modules".	(Hein et al., 2019)p. 634 (Tiwana et al., 2010)
	6. Design rules	"The rules that platform owners expect module developers to obey to ensure interoperability with the rest of the ecosystem".	(Tiwana et al., 2010)p. 679
Design dimension 5. Data governance - definition	Subdesign dimensions	Description	Reference
Instruments that facilitate, stimulate, and control data sovereignty, trust, security and interoperability of data between user and providers (Otto & Jarke, 2019).	1. Trustworthiness of complementors	When data are exchanged these are key instruments regulating the adoption and use of the platform, sovereignty of data owners and data providers and trustworthiness are essential.	(Otto & Jarke, 2019)
	2. Data sovereignty	"The corporate entity's capability of being entirely self-determined with regard to its data".	(Otto & Jarke, 2019) (Otto, 2018)p. 7.
	3. Interoperability of data	"Is needed for standardized interaction of ecosystem actors (vocabularies play a key role in this task, as they facilitate the mapping of different data sources and the integration through linked-data presentations"	(Otto & Jarke, 2019)p. 570

	4. Secure exchange of data.	Secure exchange of data.	(Otto & Jarke, 2019)
	5. Metadata management	"Information about the data owner, data usage conditions and financial aspects (e.g., price of data)".	(Otto & Jarke, 2019)p. 572
	6. Data provenance	"Tracking the dataflow across multiple nodes of the network".	(Otto & Jarke, 2019)p. 572
Design dimension 6. Value-creating mechanisms-definition	Subdesign dimensions	Description	Reference
Mechanisms that are the result of transactions between participants on a platform, which lead to improved use value or exchange value (Hein et al., 2020; Tura et al., 2018).	1. The efficient and convenient facilitation of transactions	"Digital platforms help complementors and consumers locate and interact with each other and exchange value in a mutually beneficial manner"	(Hein et al., 2020)p. 91
	2. The provision of affordances	"The innovation capabilities of digital platforms that enable complementors to create solutions complementary to the platform core".	(Hein et al., 2020)p. 92
	3. Actor roles within the platform	Identification of possible beneficiaries to the value proposition of the platform and how their commitment is achieved.	(Tura et al., 2018)
	4. Value creation and capture	Consideration how value is created and captured/ appropriated through price structure and revenue model.	(Tura et al., 2018)
Design dimension 7. Ecosystem and the wider environment - definition	Subdesign dimensions	Description	Reference
The environment of a platform, be it other ecosystems (e.g. regulatory, financial or larger platforms) or industries (Fürstenau et al., 2019).	1. Management of regulatory issues and laws	Coping with regulations, laws and informal expectations regarding, for example, data security and quality control which can constrain but also enable platform development.	(Fürstenau et al., 2019)p. 584
	2. Dialogue with regulatory authorities	Dialogue with regulatory authorities.	(Fürstenau et al., 2019)
	3. Choice of partners	Forging alliances by adopting and endorsing existing standards or setting up proprietary standards.	(Fürstenau et al., 2019)
	4. Forging alliances with other platforms or whole industry actors	This implies technology and/or standard choices.	(Fürstenau et al., 2019)p. 583

3. Methodology

In this study two-phase research was followed. In the design phase, a framework for design dimensions of DPE was developed in chapter 2. In the evaluation phase, we will validate this framework empirically through an evaluation of its correctness (relevance) and reasoning for the relevance (to provide an in-depth understanding) and possibly refine the framework in practice.

3.1. Conceptual design: select the research method(s)

3.1.1. Research objective

The objective for the empirical research is to check the relevance, correctness and completeness of the design dimensions in the proposed framework through a case study of a Digital Platform Ecosystem for health services. The empirical part of the research addresses sub-questions two and three of chap. 1.4.

3.1.2. Research strategy

Different research strategies exist for answering the sub-questions two and three of this study:

- The Survey strategy addresses the collection of standardized data that can be analyzed quantitatively. This is associated with a deductive research approach and implies a theory-testing approach. (Saunders et al., 2019). For this thesis no theoretical propositions have been formulated that require testing. This excludes the use of this strategy.
- Archival and documentary research relies on the availability of data and archives, as well as access to these sources (Saunders et al., 2019). As the research questions address the real-life situation of a DPE, this is not likely to be reflected through this strategy. Also, substantive access to sources is likely to be difficult due to commercial or competitive motives. Therefore, this strategy is not used either.
- The Case study strategy is considered the most appropriate strategy for addressing our research questions because it has the capacity to generate insights and leads to empirical descriptions (Saunders et al., 2019). The case study strategy allows “an in-depth inquiry into a topic or phenomenon within its real-life setting” (Saunders et al., 2019) (p.196). The use of experts is not applicable because understanding of the DPE is essential: participants are therefore part of the same DPE.

Concerns regarding the case study approach focus on:

- a.) the need for rigor; this can be addressed by following systematic procedures;
- b.) confusion with non-research case studies; this is addressed by using methodological procedures;
- c.) the inability to generalize from a single case study; a case study is generalizable to theoretical propositions and should not be confused with generalizability to populations;
- d.) the length of time to execute and lengthiness of report; this can be addressed by the composition and the method of data collection;
- e.) the comparative advantage with regard to other research methods; case studies can result in insights that are not provided by other methods, or function as adjuncts (Yin, 2018)(p. 50-54).

3.2. Technical design: elaboration of the method

3.2.1. Research method

1. Definition of the case and determination of the scope of the data collection.

Risks involved with using a case study strategy are the lack of analytic benefits, e.g. the ability for replication with two cases, and the inability producing a stronger effect and vulnerability as ‘all eggs are in one basket’ (Yin, 2018). Because the limited scope of the research, these risks are addressed through applying sufficiently robust selection criteria for the single-case that is used for this research:

1. a Digital Platform Ecosystem for Independent Living Services that is based in the EU which has been operational for more than two years and is not for profit.

2. The DPE for ILS consists of three main actors (Hein et al., 2020) (Tiwana et al., 2010) which are active on this platform: a.) The platform provider. b.) A complementor that has been active for at least one year. c.) An end-user-organization that has been active for at least one year.

3. Each of these actors provides access to three different informant-roles (totaling 9 participants) representing distinctive practices that focus on key design and management choices for a DPE (Fürstenau et al., 2019): 1. Founder/CEO/CIO; 2. Technology knowledge advisor and 3. Project leader/manager.

The **data collection approach** involves a qualitative approach by information gathering through semi-structured interviews. This is a type of non-standardised interview that includes a predetermined list of themes and key questions referring to these themes to structure the interview (Saunders et al., 2019). The structure of the interview is shown in figure 3.

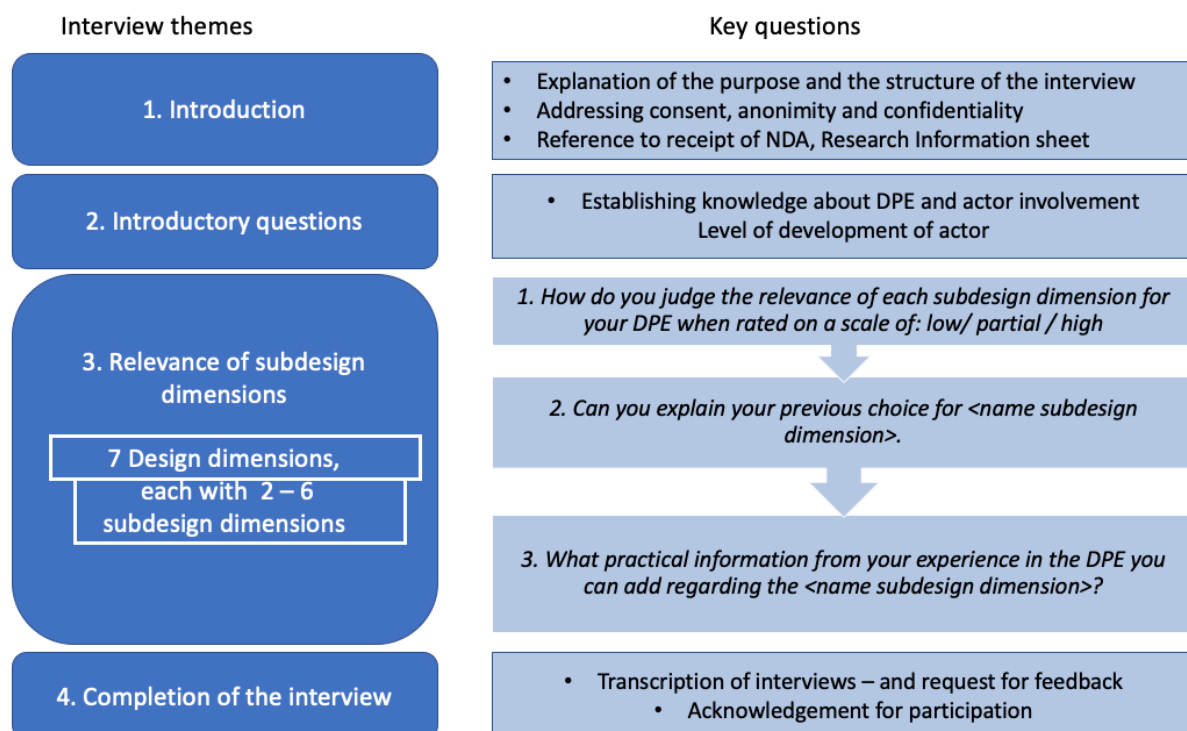


Figure 3. Interview structure

2. Clarification of the nature of the study questions. By collecting data through the interviews the sub-questions two and three are addressed and the subdimensions of the design dimensions from the framework in table 1 are validated. An interview protocol provides structure and assure that the relevant themes are addressed. Also, the Interview Protocol Refinement (IPR) framework (Castillo-Montoya, 2016) is used to design the interview protocol (appendix 5 and 6). The interview questions address for each design dimension the subdesign dimensions that have been identified. The participants will receive a research information sheet (appendix 7), a Non-Disclosure Agreement (appendix 9) and an informationsheet on the identified design dimensions (appendix 8) at least seven days prior to the interview.

3.3. Data analysis

In this section the analysis of the collected data will be addressed, as well as the advantages and disadvantages of the selecte method. Each recording of the interview will be transcribed anonymously and will be sent to the participant for validation. This will corroborate the accuracy of the findings. The interviews will be performed in English; participants will also be requested to answer in English. If this is not possible, and they only speak Dutch, their answers will be translated into English.

Thematic Analysis (TA) will be used for analysing the transcribed data: “a method for identifying, analysing, and reporting patterns (themes) within data” (Braun & Clarke, 2006)(p. 79).The flexibility of TA is an advantage. TA does not apply precise analytical procedures and allows for a generic approach to qualitative data analysis (Braun & Clarke, 2006) (Nowell et al., 2017) (Saunders et al., 2019). A disadvantage of TA is the lack of substantial literature which can guide the conduct of this method. The flexibility can also lead to inconsistency and a lack of coherence in the development of themes that result from the data (Nowell et al., 2017). The different phases used in TA are outlined in figure 4. and specified in appendix 11.

The data from the interviews will be collected in tables for data analysis, shown in appendix 10. For each interview segment that addresses a subdesign dimension, ‘items of interest’, are identified which are then coded. This ‘selective coding’ allows for identification of analytical concepts that the researcher is looking for, in contrast with complete coding, which identifies anything and everything of interest or relevance. It also requires existing theoretical and analytical knowledge, giving the researcher the ability to identify analytical concepts (Braun & Clarke, 2013). From the codes for the subdesign dimensions and the associated data, themes are identified for each subdesign dimension. A theme “has a central organizing concept, which tells us something about the content of the data that’s meaningful” (Braun & Clarke, 2013), p. 224. The themes of the design dimensions are then derived from the themes for the subdesign dimensions and the associated data. To address the flexibility of TA and to guide the quality of the analysis process, the checklist of Criteria for Good Thematic Analysis (Braun & Clarke, 2006), (appendix 12), will be used.

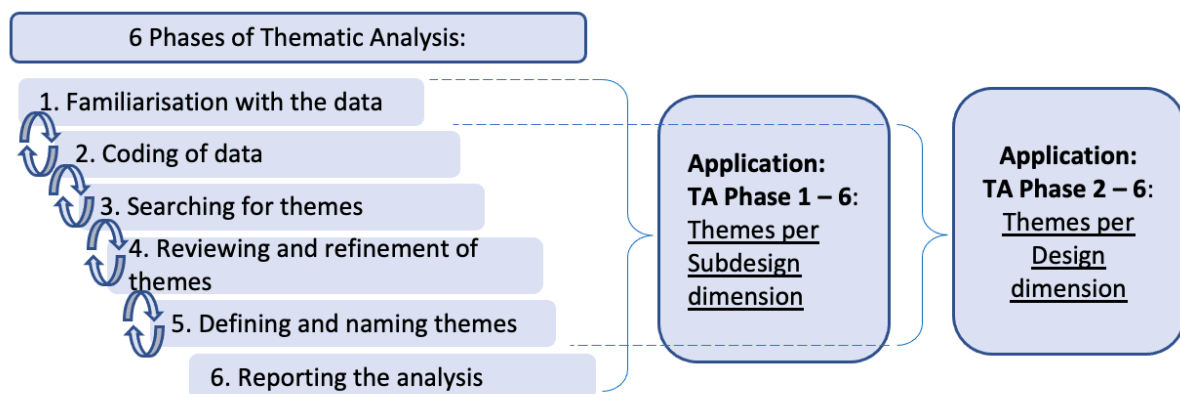


Figure 4. Phases of Thematic Analysis (Braun & Clarke, 2006) and their application

3.4. Reflection regarding validity, reliability, quality and ethics

The evidence for the quality of the research design and research method will take place through a discussion of validity and reliability as quality measurements. These interpret the strengths of the findings from the research. The ethics involved with this research will also be addressed.

3.4.1. Validity

Validity is the extent to which any measuring instrument measures what it is intended to measure” (Carmines, 1979) (p. 17).

Internal validity addresses whether what you actually measure is also what you intend to measure (Saunders et al., 2019). This concerns the degree to which the participants properly identify subdesign dimensions within the context of the design dimensions. Internal validity addresses two aspects: 1. *Content validity* addresses whether the interview questions provide sufficient coverage of the research question and the related topics (Saunders et al., 2019). This is answered through the methodology of the SLR and the content analysis (chap. 2.1). The accuracy of the findings and evidence presented is corroborated by the review of the interviews by the participants (Yin, 2018) (Saunders et al., 2019).

Construct validity addresses whether the measurement actually represent the constructs (subdesign dimensions) that were intended to be measured (Carmines, 1979; Saunders et al., 2019). This is addressed through the interview protocol which ensures that data are collected in a systematical way (chap. 3.2). Also phase four of the Thematic Analysis (chap. 3.3) considers if the themes that have been devised in relation to the dataset are sufficiently representative for the meanings that are evident in the whole dataset. (Braun & Clarke, 2006). By addressing the relevance of the subdesign dimensions through a rating followed by an open question asking to explain this choice, different methods are applied to measure the relevance. This is a way of establishing the **convergent validity** of this construct (Saunders et al., 2019).

External validity concerns the generalization of the findings to other relevant contexts (Saunders et al., 2019)(p. 21) As the research is based on a single case study the results can provide insights that contribute to further evidence for the understanding of design dimensions for a DPE for ILS.

3.4.2. Reliability

Reliability concerns the extent to which an experiment, test, or any measuring procedure yields the same results on repeated trials (Carmines, 1979) (p. 11). A different researcher that applies the same approach should get the same results within a certain acceptable level of random error. Random error is unsystematic and involves chance factors that influence measurement of phenomena, e.g. bias by the researcher or misunderstanding by the participant. To safeguard consistent understanding of the questions an interview protocol is piloted and used for all participants. Participants also receive the same information and instructions prior to the interview. This addresses participant error by reducing the factors that may inadversely affect their performance.

3.4.3. Quality of thematic analysis

Braun and Clarke (2006) advocate the use of the checklist of Criteria for Good Thematic Analysis (appendix 12) to determine whether a proper thematic analysis is provided.

3.4.4. Ethical aspects

The participants are informed of the interview process, the transcription and recording of their responses and the usage of these transcriptions and the opportunity to review the draft case study. Participants are also informed in writing and verbally, prior to the interview, that data and reporting will be anonymized. Before requesting their informed consent to participate they will receive a research information sheet outlining the main points addressed in this paragraph and chap. 3.2 (Saunders et al., 2019). Participants will not be coerced in any way (e.g. through financial incentives) to participate in the research or to supply information that they are not comfortable with.

4. Results

The results of the case study are presented in this section, starting with the implementation of the research and deviations from the research method. Following this, the results to sub-questions two and three from chap. 1.4 are outlined. This leads to a final framework that is applicable to the DPE for ILS which was subject to the case study.

4.1. Research Implementation

Eight participants, specified in figure 5, from the DPE were interviewed through sessions of approximately 1 ¾ hours.



Figure 5. Platform actors and participants

The expected technical level of information of the subdesign dimensions and the lack of examples for the subdesign dimensions would make it difficult for respondents to respond during the interview without prior information. Following the first interview, and after consultation with the platform CEO the decision was made to provide participants subsequently with initial information prior to the interview and commence the interviews in Dutch. Therefore, an interview package (in Dutch) was provided with an explanation about the research and research questions. The package included an appendix with the (sub)design dimensions, their definitions and examples for each subdesign dimension. All remaining participants were briefed about the research and their participation and received the interview package one week prior to the interview. They were requested to review the information and keep the appendix at hand during the interview. Therefore the “Open introductory questions”, as listed in the research method chap. 3.2.1.; figure 3 were skipped as participants would otherwise have been biased by the information send to them in advance.

4.1.1. Results sub-question 2

In answering the question 'are the identified design dimensions of a DPE relevant and (correct) in a real-life context of Independent Living Services?' a two-step approach has been taken Step 1. The themes for each subdesign dimension (of a design dimension) have been derived from results of the TA coding process and associated data which was outlined in section 3.3. These themes are derived from the participants' interviews through the identification of 'items of interest' and their coding. In these interviews participants were asked to explain their choice for judging the relevance of each subdesign dimension. The themes therefore address the relevance of the subdesign dimensions in the context of the case-organization.

Step 2. The TA process from step 1 is repeated, and here the themes of the subdesign dimensions and their originating coding processes have been revisited to arrive at the themes for each design dimension. There is however no hierarchical relationship between the themes of the subdesign dimensions and the themes of the design dimension. On an overarching level, the themes address the relevance and correctness of their design dimension in the context of the case-organization and “capture the most salient patterns in the data relevant to answer the research question” (Braun & Clarke, 2013), p. 225. The flow of information for this process is displayed in figure 11, appendix 17.

The themes for the subdesign dimensions and design dimensions are presented together in appendix 17, and they are presented with the design dimensions in table 2. The relevance of each subdesign dimension, as rated by the participants, resulted in a mean relevance for each design dimension. The minimum mean rate for a subdesign dimension was 1,9 and the maximum mean rate was 3,0 on a scale of low (1) /partial (2) /high (3); therefore all subdesign dimensions were classified as ‘partial’ to ‘highly relevant’ for their respective design dimensions. These ratings are summarized per design dimension in table 2. and specified in appendix 14. Applying the TA analysis, figure 6 shows coding examples for a subdesign dimension of each design dimension. These display examples of ‘items of interest’ identified from the participant interviews and the codes applied to these. The complete coding for all interviews of each subdesign dimension is presented in appendix 16. This includes coding examples for each design dimension. The full interview transcripts have not been included in this thesis; the anonymized data remain however available for the thesis committee.

Table 2. Themes and mean relevance per design dimension (chap. 4.1.1)

Design dimension	Mean relevance score per design dimension (1)	Theme 1	Theme 2
1. Network effects	2,6	Level of development of the platform: the stadium of development of the platform is prescriptive for the level to which the subdesign dimension will be developed. All participants indicate that the platform is in an initial stage of development. Therefore, they did have insufficient insight in the effect of and experience with the subdesign dimension.	Perspective with regard to the platform function: the participants identified that the subdesign dimensions could be positioned in the perspective of platform development.
2. Governance	2,4	Taking ownership / positioning: platform owner and complementor assume a leading position for the platform owner. Specific in relationship to the societal role of the platform and also aimed at the platform users. The strategic and visionary rol of the platform CEO is mentioned as an important factor.	Role taking and responsibility: apart from assuming ownership is also taking a specific role and responsibility narrowly connected. The question that can be asked is whether and at what moment the user should take responsibility for it's role in the platform.
3. Boundary resources	2,3	Mutual dependency of platform actors: network boundaries require a mutual dependency of platform actors in order to create agreement on the resources at a social and technological level. This creates opportunities for the use of uniform norms and standards and optimalisation of solutions.	
4. Architecture	2,3	Mutual dependency of technical components: a functional architecture is strongly dependent of the technical components from which it is built as well as the way in which these cooperate with eachother.	Interaction with complementors and facilitation of users: in the design and layout of the architecture, interaction with complementors is an important element. The architecture should facilitate its users.
5. Data governance	2,6	Ownership: data governance requires ownership by all parties; the creators and users. Ownership is underpinned by principles such as vision and autonomy.	Responsibility for data: taking responsibility for data which are being created and used lies at the heart of data governance. As different parties are involved this is subject to aspects

			such as data quality, mutual solidarity and trust.
6. Value-creating mechanisms	2,3	Developmental perspective: the application of value creation is strongly dependent of the developmental stage of the platform and its facilitation. Potentially, monetary value plays a less important role because the platform does not have a commercial basis.	Contracts: value creation requires agreement between actors. On the one side between platform and complementors ('commercial contracts') and on the other side between platform and users ('social contracts').
7. Ecosystem and the wider environment	2,3	Cooperation: for the development and continued existence of an ecosystem, cooperation is an overarching theme. The cooperation assumes compliance with laws and rules and a level of openness towards each other as well as reliability of partners.	

4.1.2. Results sub-question 3

The third sub-question that was addressed in this study covered the refinement of the definitions of the subdesign dimensions with practical information. These additions and comments are specified in appendix 15.

4.1. Final framework for a Digital Platform Ecosystem for ILS

The conclusion of the foregoing analysis is a final framework of design dimensions that is applicable for the case-Digital Platform Ecosystem for Independent Living Services. The framework is presented in figure 7. This framework is made up of seven design dimensions, each with two or more subdesign dimensions. All ratings for the design dimensions vary between 'partial' and 'high relevance'; therefore all design dimensions and subdesign dimensions from table 1, chapter 2.3 are included in this framework. Each design dimension is subject to one or two themes, which are derived from the subdesign dimensions. These theme(s) reflects the relevance of each design dimension for the case DPE. They are the result of the thematic analysis, outlined in chapters 4.1.1. and 4.1.2

Design dimension 1. Network Effects - Subdesign dimension 1. Openness	
Items of Interest e.g.: "That 'open', that we should do this. Yes, because that was the basis of our platform." (P1). "Yes, in fact, to improve their own development actually and there it goes to develop in that area, and they have to find something for that and then this could be a nice tool for that." (P5). "Yes, the thing is with <Case-organization>, at the moment it is right that in this, this phase they often use open, other open ecosystems so. It is mainly a consumer of APIs and it is not really a publisher of APIs yet, but of course it could be. Ehm it does make it, but it makes use of that openness at its core, so."(P7).	Coding: "Openness as facilitator" ; "Future perspective to use"(P1); "Development" (P5); "Stage of development determining the use of open ecosystems" (P7).
Design dimension 2. Governance - Subdesign dimension 4. Leadership and ownership status and related decisions with regard to the ecosystem/ platform and it's complementors	
Items of Interest e.g.: "because as the owner of a platform, have a responsibility towards <user organization>" (P5). "Because I don't know who that owner is or where that ... I think the board is the owner in the sense that they manage the cash flows. But I think <CEO case-organization> does have a kind of Mark Zuckerberg function, or a Steve Jobs function in the sense of intellectual leadership"(P6)." But that you are already involved in the development of that question and the decision of which questions, on which functionality do we go now, is now relevant to work out, to give attention to."(P7)	Coding: "Responsibility towards the user"(P5); "Knowledge about owner structure"(P6); "Form of leadership and ownership"(P7).
Design dimension 3. Boundary resources - Subdesign dimension 2. Social boundary resources	
Items of Interest e.g.: "These social boundary resources are essential to be able to execute the technical boundary resources and perhaps vice versa. That reinforces each other or influences each other." (P1). "They want a good, working system and they assume that they have chosen parties that are able to determine whether IPRs are good or security is well organized, etc."(P5). "Well, for me on the medical side... <case-organization> does not yet have medical data, but on the medical side it is also high, because I cannot exist without certifications and without a well-documented platform."(P8).	Coding: "Reinforcing effect of the platform."(P1); "Relevance" (P5); "Determining product in relation to this type of platform" (P8).
Design dimension 4. Architecture - Subdesign dimension 5. Malleability	
Items of Interest e.g.: "So then that is constantly in a kind of ping pong story with the architects with developers of what things... and then I would also like to hear back from well, how many hours would you spend on it? Is this something that still fits into our timeline? Does it provide a very great convenience? Then I am willing to make a different choice within us, our design sprints." (P1). "We have already thought about this in architecture, in the past. And also in the choices we make, we are already trying to make choices that make it possible to use other reconfigurations in the future. So if you design that well, you can later reuse the same components for other things, for example."(P6).	Coding: "Customer and architecture dependency" (P1); "Architecture platform determines importance subdesign dimensions."(P6).
Design dimension 5. Data governance - Subdesign dimension 6. Data provenance	
Items of Interest e.g.: "For example, if it is about information, doctor's information or something, then you want the users, they also get certain information that is 'authoritative', I do not know if the Dutch word is even, so it comes from a certain authority, so to speak. So there will be important to say: well, for example, this comes from doctors site or I know a lot of what, so that you can see the user: okay, this is not just something, this is important or something." (P6). "I think that's it: accountability. And then combine on the core of <case-organization> that yes, you have to, you have to be accountable to such a. If you, if you're working on medical data and then that's really relevant." (P7). We say: we make the technology available and <case-organization> figure it out with the data." (P8).	Coding: "Authority of the data is decisive" (P6); "Information and accountability about the movement of data through the platform" (P7). "Technical angle determines complementor" (P8)
Design dimension 6. Value-creating mechanisms - Subdesign dimension 2. The provision of affordances	
Items of Interest e.g.: "The collaboration and co-creation must lead to a win-win. So as far as we are concerned, everyone has their own business model and everyone is also allowed to make money, but not on the platform, but because of the platform, so that is actually an unwritten rule in the design of <case-organization>." (P1). "We are still really in the creative phase in which we want to keep a bit of a grip ourselves, which we want to do in consultation with end users." (P3). "if you say: I actually want to keep the user inside, then you actually have to do the entire service of products and services supplier again, or something, or integrate or well, whatever." (P6).	Coding: "Co-creation" (P1); "Development" (P3); "Future vision for the design of the platform" (P6).
Design dimension 7. Ecosystem and the wider environment - Subdesign dimension 3. Choice of partners	
Items of Interest e.g.: "I think the partners with whom we develop the idea and the reliability that they radiate, that is of great importance." (P3). "Again, we make as open as it can be, so we try to be as open as possible so that you are clear where you can, to prevent you from getting a kind of secrecy story in which everyone dies at some point." (P5). "An essential role for the platform,<case organization>. If she didn't, there would be nothing. So I can't judge the importance high enough, say for her as far as she's concerned, but that's not our role in that." (P6).	Coding: "Reliability" (P3); "Openness" (P5); "Leadership platform owner" (P6).

Figure 6. Coding examples for subdesign dimensions of all design dimensions

Design dimension 1	Theme 1	Theme 2
Network Effects	Level of development of the platform: initial platform development.	Perspective with regard to the platform function: position subdesign dimensions in relation to the stage of platform development.
Definition Network effects	Subdesign dimensions	Description
The effects of the presence of participants, products and services on a platform. An increase of one of these factors as well as more end-users stimulates an increase of the other factors. Network effects are fostered by business and operational dimensions.	1. Openness	The platform allows access to platform resources (e.g. API's) enabling ecosystem participants to develop their own use cases.
	2. Modularity	Enables different organizations to build complementary products or services.
	3. Quality	Features that enable high availability, reliability, and security, which can be highly valued by ecosystem participants.
	4. Facilitation of participation	This aims for the enhancement of both a user and contributor base. Such a growing base can add to the creation of (cross-side) network effects.
	5. Degree of innovation on complementary products	The more innovation there is on complements, the more value it creates for the platform and its users (via network effects), creating a cumulative advantage for existing platforms.
	6. User-base	The usefulness of technology on a platform increases with the increase of the user-base.

Design dimension 2	Theme 1	Theme 2
Governance	Taking ownership / positioning: platform owner and complementor are assuming a leading position. For the platform owner, the platform CEO assumes a key strategic and visionary role.	Role taking and responsibility: active and specific.
Definition Governance	Subdesign dimensions	Description
Addresses the ownership, coordination, regulation, decision rights, access rights, knowledge management and resource allocation of a platform.	1. Pricing	Decisions to subsidize and price complementors. E.g. complementor apps on software platforms can be priced or subsidized as an incentive mechanism to influence interaction.
	2. Mechanisms to coordinate and control platform participants	Mechanisms to coordinate and control platform participants such as specification of decision-making rights and rules of control with regard to using the platform, services offering, and defining platform access rights.
	3. Decisions and policies	Decisions and policies about the platform's self-development, facilitation of collaboration and third party contributions.
	4. Leadership and ownership status	Leadership and ownership status and related decisions with regard to the ecosystem/ platform and its complementors.

Design dimension 3	Theme 1	
Boundary resources	Mutual dependency of platform actors: mutual dependency of platform actors in order to create agreement on the resources at a social and technological level.	
Definition boundary resources	Subdesign dimensions	
Resources that facilitate technical and social interaction, relationship development and innovation on a platform.	1. Technical boundary resources	Resources through which different agents/ complementors create relationships and interact with each other in order to co-create value. E.g. API's, SDK's, applications for end-users.
	2. Social boundary resources	Regulations and policies facilitating the relationship between platform provider and complementors, such as app developers. E.g. Intellectual Property Rights (IPR), documentation for software services and support services for complementors.

Design dimension 4	Theme 1	Theme 2
Architecture	Mutual dependency of technical components: strong dependence and interdependence.	Interaction with complementors and facilitation of users: important with a focus on facilitation of its users.
Definition Architecture	Subdesign dimensions	Description
Is concerned with the integration and interaction of (technical) components and modules. This facilitates and allows exchange between the demand and supply side on the platform.	1. Technical architecture	The selection, possibly creation and use of standards and "connectors", as well as a blueprint for the integration of the different technical components like reference architectures.
	2. Platform span	The number of subsystems into which a platform or module can be partitioned.
	3. Modularity	The degree to which changes within a subsystem do not create a ripple effect in the behavior of other parts of the ecosystem.
	4. Composability	The resistance of modules to change.
	5. Malleability	The adoption of evolving user needs by enabling a flexible reconfiguration or extension of existing modules.
	6. Design rules	The rules that platform owners expect module developers to obey to ensure interoperability with the rest of the ecosystem.

Design dimension 5	Theme 1	Theme 2
Data governance	Ownership: by all parties; the creators and users. Ownership is underpinned by principles such as vision and autonomy.	Responsibility for data: active responsibility. This is subject to aspects such as data quality, mutual solidarity and trust.
Definition Data governance	Subdesign dimensions	Description
Instruments that facilitate, stimulate, and control data sovereignty, trust, security and interoperability of data between user and providers.	1. Trustworthiness of complementors	When data are exchanged these are key instruments regulating the adoption and use of the platform, sovereignty of data owners and data providers and trustworthiness are essential.
	2. Data sovereignty	The corporate entity's capability of being entirely self-determined with regard to its data.
	3. Interoperability of data	Is needed for standardized interaction of ecosystem actors (vocabularies play a key role in this task, as they facilitate the mapping of different data sources and the integration through linked-data presentations.
	4. Secure exchange of data.	Secure exchange of data.
	5. Metadata management	Information about the data owner, data usage conditions and financial aspects (e.g. price of data).
	6. Data provenance	Tracking the dataflow across multiple nodes of the network.

Design dimension 6		Theme 1	Theme 2
Value-creating mechanisms	Developmental perspective: Value creation is strongly dependent of the developmental stage of the platform and it's facilitation. The non-commercial aspect of the platform may influence development.		Contracts: Requirement for agreement between actors; business to business and business to consumers.
Definition Value-creating mechanisms	Subdesign dimensions	Description	
Mechanisms that are the result of transactions between participants on a platform, which lead to improved use value or exchange value.	1. The efficient and convenient facilitation of transactions	Digital platforms help complementors and consumers locate and interact with each other and exchange value in a mutually beneficial manner.	
	2. The provision of affordances	The innovation capabilities of digital platforms that enable complementors to create solutions complementary to the platform core.	
	3. Actor roles within the platform	Identification of possible beneficiaries to the value proposition of the platform and how their commitment is achieved.	
	4. Value creation and capture	Consideration how value is created and captured/ appropriated through price structure and revenue model.	
Design dimension 7		Theme 1	
Ecosystem and the wider environment	Cooperation: necessary requirement for the development and continued existence of an ecosystem, cooperation is an overarching theme. The cooperation assumes compliance with laws and rules and a level of openness towards each other as well as reliability of partners.		
Definition Ecosystem and the wider environment	Subdesign dimensions	Description	
The environment of a platform, be it other ecosystems (e.g. regulatory, financial or larger platforms) or industries.	1. Management of regulatory issues and laws	Coping with regulations, laws and informal expectations regarding, for example, data security and quality control which can constrain but also enable platform development.	
	2. Dialogue with regulatory authorities	Dialogue with regulatory authorities.	
	3. Choice of partners	Forging alliances by adopting and endorsing existing standards or setting up proprietary standards.	
	4. Forging alliances with other platforms or whole industry actors	This implies technology and/or standard choices.	

Figure 7. Final framework for the case-organization of a Digital Platform Ecosystem for ILS

5. Discussion, conclusions and recommendations

5.1. Discussion – reflection

5.1.1. Reflection on the empirical results

The exploratory phase of this thesis as outlined in chap. two states that there is no clear agreement on what constitutes the definitive design dimensions, and that a more comprehensive view is required. Three observations can be made that connect the literature with the empirical observations.

First, study participants partly confirm the view of Constantinides et al. (2018) that the design dimensions Governance and Architecture function as a balancing factor for platform engagement and value generation. This is reflected in the themes for the design dimension Governance (“taking ownership/ positioning” and “role taking and responsibility”) and the theme “interaction with complementors and facilitation of users” (Architecture) (chap. 4.1.1., table two). The themes identified for their subdesign dimensions substantiate this; for Governance this is demonstrated through subdesign dimension (subdes. dim.) two (theme: “determining for autonomy”); subdes. dim. three (theme: “role and responsibility development”) and subdes. dim. four (themes: “interdependence of participants on the platform” and “platform ownership”). For Architecture this is demonstrated through subdes. dim. five (theme: “positioning of the customer”) and subdes. dim. six (“positioning of complementors vis-à-vis platform owners”) (appendix 16 and 17). All design dimensions with their corresponding subdesign dimensions were analyzed independently from each other, therefore relationships between design dimensions such as mentioned by Constantinides et al. (2018) were not part of the research.

Second, Hein et al. (2020) identify three different building blocks that characterize DPE’s. For the first building block, Governance, the relationships among partners and distribution of power is translated through the ownership model of the platform according to Hein et al. (2020). The results of the empirical research substantiate this. The themes for the design dimension Governance (“taking ownership/ positioning” and “role taking and responsibility”) substantiate these relationships among partners and the distribution of power. Also, the themes for all its subdesign dimensions substantiate this; subdes. dim. one: (theme: “interpretation of ownership”); subdes. dim. two: (theme: “determining for autonomy”); subdes. dim. three: (theme: “role and responsibility development”) and subdes. dim. four: (themes: “interdependence of participants on the platform” and “platform ownership”). Hein et al., (2020) distinguishes for the second building block between value-creating mechanisms that allow the platform to function as intermediary between supply and demand and use its innovative capabilities. The themes belonging to the design dimension Value-creating mechanisms: “contracts” and “development perspective”, confirm these functions (chap. 4.1.1., table two). These are substantiated by the themes for subdes. dim. one (“platform as intermediary between actor”); subdes. dim. two (“development perspective”); subdes. dim. three (“agreement on value creation”) and subdes. dim. four (“role of actors” and “development perspective”) (appendix 16 and 17). The third building block “degree of complementor autonomy” that Hein et al. (2020) identifies relates to the autonomy of complementors when co-creating value with the platform. While this building block is not directly related with a specific design dimension from the research framework, themes from all design dimensions can be connected with this building block; Network effects (“level of development of the platform” and “perspective with regard to the platform function”); Governance (“taking ownership/ positioning”); Boundary resources (mutual dependency of platform owners”); Architecture (“interaction with complementors and facilitation of users”); Data governance (“responsibility for data”); Value-creating mechanisms (“developmental perspective” and “contracts”) and Ecosystem and the wider environment (“Cooperation”). This could suggest that a building block that emerge from the literature, but cannot directly be linked to the design dimensions of this framework, may not necessarily qualify as a building block when applied to the themes of this empirical framework but can still be addressed

from a relevance-perspective through the themes that have emerged for this framework. However, being based on a case-study, this framework addresses a non-commercial DPE that is in a developing stage, so the future development of the framework may lead to new themes or a different operationalization of these themes.

Third, the view of a DPE by de Reuver and Lessard (2019) characterizes a platform as enabler which facilitates the creation and access of resources for value cocreation through the exchange of services. The design dimensions which facilitate this, networks of digital components (e.g., software) and liquefied resources (e.g., business rules), are substantiated through the design dimensions Boundary Resources (theme: “mutual dependency of actors”) and Value-creating mechanisms (themes: “developmental perspective” and “contracts”) of the framework (chap. 4.1.1., table two and appendix 17). The use of these themes, identified in the empirical research allows a perspective that moves beyond a traditional view of ‘static’ design dimensions or building blocks by focusing on the relevance of the design dimensions for the platform. Through the application of themes, this does support the view by de Reuver and Lessard (2019) that the perceived value of services that are delivered to end users and their integration with existing resources and activities is more important than the services itself. This conclusion aligns with the author’s focus of health based digital platforms on transforming healthcare delivery to improve health outcomes. Value creation from the stakeholder’s perspective is a key characteristic, rather than a functional approach based on architecture de Reuver and Lessard (2019).

No additions of changes were made in the definitions and descriptions of de design dimensions and subdesign dimensions that were identified by answering sub-question 1. Several comments were made about subdesign dimensions, all of which were evaluated by the researcher. None of these however lead to changes in the definitions. Two comments require explanation; 1. the use of the concept ‘modularity’ in two different design dimensions (Network effects and Architecture). Because they are derived from the literature they won’t be changed. 2. The term ‘Complementor’ was not explained in the work package, however this was done during the interview and did not lead to further questions.

5.1.2. Reflections on the research set-up

Validity. The case-organization is considered to be at a developing stage as a DPE. Within the Dutch context the case organization is considered to be one of the few, if not the only DPE for ILS with a non-profit orientation. In cooperation with the CEO of the DPE all participants were approached through her reference. This meant that the intended representation as outlined in 3.2.1 could not always be followed, due to availability or ability/willingness of participants to cooperate. Also, knowledge regarding the different design dimensions varied according to the roles of the participants in respect to the design dimensions. This may influence the content validity of the answers. This may be addressed in future research by researching design dimensions with specific participants with content knowledge of specific design dimensions.

The chosen method of TA may also have limited the necessary depth of analysis, affecting construct validity, because 32 subdesign dimensions needed to be discussed within an acceptable 90- to 105-minute timeframe, in line with recommendations for a virtual interview (Braun & Clarke, 2013) (appendix 16).

Quality of TA analysis. Also, the outbreak of the coronavirus disease (COVID-19), early in 2020 and the subsequent measures to prevent spread of the virus resulted in interviews by video with all participants. A video-interview lacks ‘physical’ interaction, the ability to read body language and can limit interpretation of voice characteristics or facial expressions. It has however also positively affected the availability and accessibility of participants and contributed to a convenient setting, as participation was possible from participant’s homes or work locations (Braun & Clarke, 2013). With regard to the limitations of the research that have already been mentioned above, the analysis and results have not been reviewed independently by other researchers. This is due to constraints in time and availability of other researchers. These factors may also affect on the reliability of the

research. A mitigation strategy for this was the use of the “Checklist of good criteria for TA” in appendix 12 and use of the textbook by Braun and Clarke (2013).

Reliability. The interview protocol, together with the initial meeting and accompanying work package about the research that included the definitions and examples of the subdesign dimensions and subsequent interview for all participants were consistently used. Only for the first interview a different work package was used that did not include examples; after evaluation with the platform CEO this approach was further implemented. This is expected to have positively affected the reliability of the research. Due to the experience and (assumed) level of knowledge of the first participant it is not likely that this has negatively impacted on the interview.

Ethics. Participants and data have been treated according to chap. 3.4.4.

5.2. Conclusions

The motivation for this research is based on an increasing longevity of people, coupled with greater susceptibility to disease and disability, multimorbidity and chronicity of health conditions. These factors greatly influence the uptake and use of ILS. There are no common platforms that independent living providers can utilize to bring their services to end-users (de Reuver & Keijzer-Broers, 2015). This led to the following problem statement “*While there is an increasing body of research on the design dimensions for Digital Platform Ecosystems, due to the fragmented view, there is a lack of systematic understanding of what design dimensions constitute a Digital Platform Ecosystem for Independent Living Services*”(chap. 1.3).

The three main conclusions from the research, based on the research questions, derived from this problem statement are:

1. Sub-question 1: What are the design dimensions that characterize Digital Platform Ecosystems in the research literature?

Conclusion: A theoretical framework that includes design dimensions and subdesign dimensions has been developed that addresses the subdesign dimensions for each design dimension for the DPE for ILS. This is outlined in chap. 2.3.

2. Sub-question 2: Are the identified design dimensions of a DPE relevant and (correct) in a real-life context of Independent Living Services?

Conclusion: The empirical evidence for this framework, using a case-study approach, confirms the relevance of the framework for the case-DPE. Through the themes derived for the subdesign dimensions the final themes for the design dimensions have been established. These demonstrate the relevance for each design dimension, together with the relevance scores. This is outlined in chap. 4.1.

3. Sub-question 3: How can the identified design dimensions be refined with practical information?

Conclusion: The empirical research has identified separate subdesign dimensions for each design dimension of the framework. Participants have reflected on the definitions of the subdesign dimensions. This did not result in a change of a definition of any of the subdesign dimensions. This is outlined in chap. 4.2.

This case study has contributed to the validation design dimension that were identified from the literature review. This has resulted in a partial to high relevance for all design dimensions, and maximum two themes per design dimension outlining its relevance from the perspective of the DPE. No additions of changes were made in the definitions and descriptions of the design dimensions and subdesign dimensions that were identified by answering sub-question one.

5.3. Recommendations for practice

The practical application of this research is two-fold. For a (future) actor in a DPE, the actors can use the framework to gain an (initial) understanding of the different roles in a DPE and the design dimensions and subdesign dimensions that make up the framework from the perspective of a developing DPE. Actors can also assess which design dimensions may bear relevance for its own actor role in a DPE as well as for the other actors. This may be used to establish a common

understanding of the DPE between different actors from a framework perspective as well as addressing responsibilities for the different design dimensions by the platform actors. Secondly, design dimensions and related concepts that emerge from the literature can be assessed for convergence with the framework against the themes of the subdesign dimensions and design dimensions.

5.4. Recommendations for further research

As a single-case study, the interpretation of the results requires caution due to the inability to generalize (Yin, 2018). Therefore, further validation of the framework through other non-profit DPE's for ILS should be undertaken contributing to triangulation of the results. This should also address the different stages of development of a non-profit DPE. Other research opportunities exist with regard to the relationships of the individual subdesign dimensions relative to each other and the contribution to their design dimension. Also, the current design dimensions have been operationalized into specific subdesign dimensions. Future research opportunities could address whether the framework design dimensions could be developed as a criterium for industry standards. A similar research opportunity is assessing the suitability of specific design dimensions to evaluate the strategy of a DPE, e.g., with regard to governance or ecosystem.

6. Appendices

6.1. Appendix 1 Phases and stages in the SLR process

Table 3. Phases and stages in the SLR process Source: Kitchenham and Charters (2007)(p.6).

Phase	Stage
1. Planning the review	
	a. Identification of the need for a review
	b. Specifying the research question
	c. Developing a review protocol
2. Conducting the review	
	a. Identification of research
	b. Selection of primary studies
	c. Study quality assessment
	d. Data extraction and monitoring
	e. Data synthesis
3. Reporting the review	
	a. Specifying dissemination mechanisms
	b. Formatting the main report

6.2. Appendix 2 Review protocol of the SLR

A. The Background is described in chap. 1.1

B. The Research Questions are described in chap. 1.4

C. Search Process

Literature sources to be searched.

A search is performed in the digital library of the Open Universiteit allowing to search multiple databases simultaneously. The sources are formally published journals and conference papers (Saunders et al., 2019) since 2010. These are primary studies: “an empirical study investigating a specific research question” and secondary studies: “a study that reviews all primary studies relating to a specific research question” (Kitchenham & Charters, 2007) (p. vi).

D. Search terms

The search terms are derived from the initial literature that was studied for chapter 1. The following search query will be used for finding articles: ((Digital Platform) OR (Multi-sided Platform) OR (Digital Ecosystem) OR (Digital Platform Ecosystem) OR (Platform Ecosystem)) AND ((Building blocks) OR (Design dimensions) OR (Design elements)). The EndNote software application has been used for managing and sorting references.

E. Inclusion and exclusion criteria

Inclusion criteria.

- The setting for the studies relates to industries and businesses in general including health care.
- Articles that are published between January 1st 2010 and November 1st 2020.
- Articles that have been published in a peer-reviewed (refereed) journal or conference proceedings.
- Articles in the English language that are full-text available.
- The main objective of the studies should be design dimensions of the digital platforms.

Exclusion criteria

- Studies whose focus is limited to the intra-organizational perspective.
- Studies that do not address the first thesis sub-question.

F. Selection procedures; application of the criteria

1. Due to the initial goal of this thesis, only one assessor: the author of this thesis, will evaluate the studies. Identification: based on a key word search as outlined in the review protocol, a total of 1182 references were identified in the OU library.
2. Screening: from the 1182 references identified in phase 1, 126 references were identified as duplicates. This resulted in a total of 1056 references. These were uploaded in Endnote v. 9.3 and the search terms were applied individually, limited to title and abstract. This resulted in 184 references. These and the resulting 872 references that were excluded were manually reviewed (based on title and abstract) for potential eligibility with regard to the research question and the availability of the search terms.
3. Eligibility: of the 184 references, 18 were potentially eligible. Of the 872 references 10 were deemed potential eligible. Eligibility was based on the availability of the search terms in the title and/ or abstract. The resulting total score of potential eligible articles was 28.
4. Inclusion: after full text assessment of the 28 articles, using the study quality assessment procedure in phase G., 12 articles have been included in the analysis. The six remaining articles were not deemed relevant for the content analysis phase. Two articles (de Reuver et al., 2018) and have been additionally included applying the method of backward snowballing (Wohlin, 2014), following references by respectively eight included articles (Tiwana et al., 2010) and three included articles (de Reuver et al., 2018). Appendix 4 presents a listing of the articles from the eligibility phase that have been included and excluded for the inclusion phase.

G. Study quality assessment and procedure

The 11 criteria developed by Dyba et al. (2007) will be used to assess the study quality, where each criterium will be graded on a “yes” or “no” scale. The criteria as well as their application to the

eligible articles is shown in appendix 3. For this study, the researcher will include articles based on these criteria, combined with additional comments made by the researcher with the application of the criteria.

H. Data extraction strategy

The extraction strategy uses content analysis: “a research method for making replicable and valid inferences from data to their context, with the purpose of providing knowledge, new insights, a representation of facts and a practical guide to action” (Elo & Kyngäs, 2008) (p. 108). The data extraction focuses on design dimensions and subdesign dimensions and proceeds through the following phases:

1. Open coding: the article content that relates to the search terms is coded to summarize the meaning of the data.
2. Grouping on content: grouping similar coded data into categories.
3. Categorization: classification of categories into subdesign dimensions of a specific design dimension. When a category is specified as subdesign dimension the specific subcategories are outlined.
4. Abstraction: Subcategories (subdesign dimensions) from phase three are summarized per design dimension in table one. (Elo & Kyngäs, 2008) (p. 111).

The process is iterative: following the coding of each subsequent article more knowledge is generated about grouping, categorization and abstraction of the data, and earlier stages are revisited during the process. The technique used to categorize and code includes both coding components that are clearly visible in the data (manifest content) as well as coding components with “meaning that are behind the manifest content” (latent content) (Saunders et al., 2019)(p. 573). The result of the data extraction phases is included in appendix 13 of this thesis. This is a way to address potential researcher bias (Saunders et al., 2019), be it that this can only be controlled following the analysis.

I. Data synthesis

The data synthesis includes the design dimensions and subdesign dimensions which are presented in chap. 2.3 of this thesis. Appendix 13 contains the results of the content analysis for the design dimensions and subdesign dimensions. In appendix 13, the information from the coding phase (Column E), that relates to design dimensions is classified in the phase “Grouping on content” (Column F). When this information is sufficiently specific to be categorized as subdesign dimension this is done in the categorization phase (Column G and H).

J. Reporting the review

This phase concerns the dissemination of the results, and will be applied when this thesis is finished.

6.3. Appendix 3 Criteria to assess the study quality

Table 4. Criteria to assess the study quality Source: Dyba et al. (2007)(p. 230).

Quality Issues	Criteria	Yes/ No
Quality of reporting		
	1. Is the paper based on research (or is it merely a “lessons learned” report based on expert opinion)?	Yes / No
	2. Is there a clear statement of the aims of the research?	Yes / No
	3. Is there an adequate description of the context in which the research was carried out	Yes / No
Rigor of the research methods		
	4. Was the research design appropriate to address the aims of the research?	Yes / No
	5. Was the recruitment strategy appropriate to the aims of the research?	Yes / No
	6. Was there a control group with which to compare treatments?	Yes / No
	7. Was the data collected in a way that addressed the research issue?	Yes / No
	8. Was the data analysis sufficiently rigorous?	Yes / No
Credibility of the study methods		
	9. Has the relationship between researcher and participants been adequately considered?	Yes / No
	10. Is there a clear statement of findings?	Yes / No
Relevance of the study		
	11. Is the study of value for research or practice?	Yes / No

Table 4.1 Application of the criteria to assess study quality to the eligible articles

	Article number	1	2	3	4	5	6	7	8	9	10
Quality Issues											
Criteria	Yes/ No	Valdez-De-Leon, O. (2019). "How to Develop a	Tiwana, A. (2015). "Evolutionary Competition in Platform	Song, P., et al. (2018). "The Ecosystem of Software Platform	Schmidt, A. L., et al. (2020). "Growing with others: A longitudinal study	Riasanow, T., et al. (2020). "Core, intertwined, and ecosystem	Otto, B. and M. Jarke (2019). "Designing a multi-sided data	Hein, A., et al. (2019). "The emergence of native multi-sided	Hein, A., et al. (2020). "Digital platform ecosystems."	Fürstenau, D., et al. (2018). "A process perspective on platform	Foerderer, J., et al. (2018). "Knowledge boundaries in
Quality of reporting											
1. Is the paper based on research (or is it merely a "lessons learned" report based on expert opinion)?	Yes / No	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
2. Is there a clear statement of the aims of the research?	Yes / No	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
3. Is there an adequate description of the context in which the research was carried out	Yes / No	Y	Y	Y	Y	Y		Y	Y	Y	Y
Rigor of the research methods											
4. Was the research design appropriate to address the aims of the research?	Yes / No	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
5. Was the recruitment strategy appropriate to the aims of the research?	Yes / No	NA	Y	Y	Y	NA	NA	Y	NA	Y	Y
6. Was there a control group with which to compare treatments?	Yes / No	N	N	N	N	NA	NA	NA	NA	N	N
7. Was the data collected in a way that addressed the research issue?	Yes / No	Y	Y	Y	Y	Y	Y	Y	N	Y	Y
8. Was the data analysis sufficiently rigorous?	Yes / No	N	Y	Y	Y	Y	Y	Y	N	Y	Y
Credibility of the study methods											
9. Has the relationship between researcher and participants been adequately considered?	Yes / No	NA	NA	NA	NA	N	Y	N	N	N	N
10. Is there a clear statement of findings?	Yes / No	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Relevance of the study											
11. Is the study of value for research or practice?	Yes / No	Y	N	Y	N	Y	Y	Y	Y	Yes and No	Y
Include or exclude?		Include	Exclude	Include	Exclude	Include	Include	Include	Include	Include	Include

Table 4.1 continued

Article number		11	12	13	14	15	16	17	18	19	20
Quality Issues											
Criteria	Yes/ No	Dini, P., et al. (2011). "The (Im)possibility of Interdisciplinary	Davlem bayeva, D., et al. (2019). "Mapping the economics, social and	Cui, Z., et al. (2019). "From peripheral to core: a case study	Barykin, S. Y., et al. (2020). "Economics of Digital Ecosystems."	Aulkemier, F., et al. (2019). "Platform-based collaboration in digital	Au, C. H., et al. (2020). "Developing a P2P lending platform: stages, strategie	Apte, U. M. and M. M. Davis (2019). "Sharing Economy Services	Abdelkafi, N., et al. (2019). "Multi-sided platforms." <i>Electroni</i>	Yonatan y, M. (2013). "A Model of the Platform Ecosyst	Tura, N., et al. (2017). "Platform design framework: concept
Quality of reporting											
1. Is the paper based on research (or is it merely a "lessons learned" report based on expert opinion)?	Yes/ No	Y	Y	Y	Y	Y	Y	Y	NA	N	Y
2. Is there a clear statement of the aims of the research?	Yes/ No	Y	Y	Y	Y	Y	Y	Y	NA	N	Y
3. Is there an adequate description of the context in which the research was carried out	Yes/ No	Y	Y	Y	Y	Y	Y	Y	NA	NA	Y
Rigor of the research methods											
4. Was the research design appropriate to address the aims of the research?	Yes/ No	N	Y	N	N	NA	Y	Y	NA	N	Y
5. Was the recruitment strategy appropriate to the aims of the research?	Yes/ No	Y	Y	Y	N	NA	Not clear	Y	NA	NA	Y
6. Was there a control group with which to compare treatments?	Yes/ No	N	NA	N	NA	NA	NA	NA	NA	NA	NA
7. Was the data collected in a way that addressed the research issue?	Yes/ No	NA	Y	Y	N	NA	Y	Y	NA	NA	Y
8. Was the data analysis sufficiently rigorous?	Yes/ No	NA	Y	N	N	NA	Y	N	NA	NA	N
Credibility of the study methods											
9. Has the relationship between researcher and participants been adequately considered?	Yes/ No	N	N	N	N	N	N	N	NA	NA	NA
10. Is there a clear statement of findings?	Yes/ No	Y/N	Y	Y/N	N	Y	Y	Y	NA	Y	Y
Relevance of the study											
11. Is the study of value for research or practice?	Yes/ No	N	N	N	N	Y	Y	N	NA	N	Y
Include or exclude?		Exclude	Exclude	Exclude	Exclude	Include	Exclude	Exclude	Exclude	Exclude	Include

Table 4.1 continued

		20	21	22	23	24	25	26	27	28	29	30
Article number												
Quality Issues												
Criteria	Yes/ No	Tura, N., et al. (2017). "Platform design framework: concept	Sriram, S., et al. (2015). "Platforms: a multiplicity of research	Ivanova, K., et al. (2020). "Technological ecosystems in capabilities	Gawer, A. and M. A. Cusumano (2014). "Industry Platform	Fayoumi, A. (2016). "Ecosystem-inspired enterprise modellin	Farshchiyan, B. A. and H. E. Thomasen (2019). "Co-Creating	Daiberl, C. F., et al. (2019). "Design principles for establishing a	Cennamo, C. and J. Santalo (2013). "Platform competition:	Alt, R. (2020). "Evolution and perspectives of electronic markets.	De Reuver, M., Sørensen, C., & Basole, R. C. (2018).	Tiwana, A., Konsynski, B., & Bush, A. A. (2010). Platform Evolution
Quality of reporting												
1. Is the paper based on research (or is it merely a "lessons learned" report based on expert opinion)?	Yes/ No	Y	N	Y	N	Y	Y	Y	Y	N	Y	Y
2. Is there a clear statement of the aims of the research?	Yes/ No	Y	Y	Y	N	Y	Y	Y	Y	NA	Y	Y
3. Is there an adequate description of the context in which the research was carried out	Yes/ No	Y	NA	Y	Y	Y	Y	Y	Y	NA	Y	Y
Rigor of the research methods												
4. Was the research design appropriate to address the aims of the research?	Yes/ No	Y	NA	Y	NA	N	Y	Y	Y	NA	N	NA
5. Was the recruitment strategy appropriate to the aims of the research?	Yes/ No	Y	N	Y	NA	NA	Y	Y	Y	NA	NA	NA
6. Was there a control group with which to compare treatments?	Yes/ No	NA	N	N	NA	NA	N	N	N	NA	NA	NA
7. Was the data collected in a way that addressed the research issue?	Yes/ No	Y	N	Y	NA	NA	Y	Y	Y	NA	NA	NA
8. Was the data analysis sufficiently rigorous?	Yes/ No	N	N	Y	NA	NA	Y	Y	Y	NA	NA	NA
Credibility of the study methods												
9. Has the relationship between researcher and participants been adequately considered?	Yes/ No	NA	N	N	NA	NA	NA	N	N	NA	NA	NA
10. Is there a clear statement of findings?	Yes/ No	Y	Y	Y	NA	N	Y	Y	Y	NA	Y	Y
Relevance of the study												
11. Is the study of value for research or practice?	Yes/ No	Y	N	N	Y	N	N	y/n	N	NA	Y	Y
Include or exclude?		Include	Exclude	Exclude	Include	Exclude	Exclude	Include	Exclude	Exclude	Include	Include

6.4. Appendix 4 Articles from eligibility phase that were included and excluded for the content analysis

Articles from the eligibility phase included for content analysis

- Art. No. 1 - Valdez-De-Leon, O. (2019). "How to Develop a Digital Ecosystem – a Practical Framework." Technology innovation management review 9(8): 43-54.
- Art. No. 3 - Song, P., et al. (2018). "The Ecosystem of Software Platform: A Study of Asymmetric Cross-Side Network Effects and Platform Governance." MIS quarterly 42(1): 121-142.
- Art. No. 5 - Riasanow, T., et al. (2020). "Core, intertwined, and ecosystem-specific clusters in platform ecosystems: analyzing similarities in the digital transformation of the automotive, blockchain, financial, insurance and IIoT industry." Electronic markets.
- Art. No. 6 - Otto, B. and M. Jarke (2019). "Designing a multi-sided data platform: findings from the International Data Spaces case." Electronic markets 29(4): 561-580.
- Art. No. 7 - Hein, A., et al. (2019). "The emergence of native multi-sided platforms and their influence on incumbents." Electronic markets 29(4): 631-647.
- Art. No. 8 - Hein, A., et al. (2020). "Digital platform ecosystems." Electronic markets 30(1): 87-98.
- Art. No. 9 - Fürstenau, D., et al. (2018). "A process perspective on platform design and management: evidence from a digital platform in health care." Electronic markets 29(4): 581-596.
- Art. No. 10 - Foerderer, J., et al. (2018). "Knowledge boundaries in enterprise software platform development: Antecedents and consequences for platform governance." Information systems journal (Oxford, England) 29(1): 119-144.
- Art. No. 15 - Aulkemeier, F., et al. (2019). "Platform-based collaboration in digital ecosystems." Electronic markets 29(4): 597-608.
- Art. No. 20 - Tura, N., et al. (2017). "Platform design framework: conceptualisation and application." Technology analysis & strategic management 30(8): 881-894.
- Art. No. 23 - Gawer, A. and M. A. Cusumano (2014). "Industry Platforms and Ecosystem Innovation." The Journal of product innovation management 31(3): 417-433.
- Art. No. 26 - Daiberl, C. F., et al. (2019). "Design principles for establishing a multi-sided open innovation platform: lessons learned from an action research study in the medical technology industry." Electronic markets 29(4): 711-728.
- Art. No. 29 - De Reuver, M., Sørensen, C., & Basole, R. C. (2018). The digital platform: a research agenda. Journal of Information Technology, 33 (2), 124–135.
- Art. No. 30 - Tiwana, A., Konsynski, B., & Bush, A. A. (2010). Platform evolution: coevolution of platform architecture, governance, and environmental dynamics.

Articles from the eligibility phase excluded for content analysis

- Art. No. 2 - Tiwana, A. (2015). "Evolutionary Competition in Platform Ecosystems." Information systems research 26(2): 266-281.
- Art. No. 4 - Schmidt, A. L., et al. (2020). "Growing with others: A longitudinal study of an evolving multi-sided disruptive platform." Creativity and innovation management 30(1): 1 - 19.
- Art. No. 11 - Dini, P., et al. (2011). "The (Im)possibility of Interdisciplinarity: Lessons from Constructing a Theoretical Framework for Digital Ecosystems." Culture, theory and critique 52(1): 3-27.

- Art. No. 12 - Davlembayeva, D., et al. (2019). "Mapping the economics, social and technological attributes of the sharing economy." *Information technology & people* 33(3): 841-872.
- Art. No. 13 - Cui, Z., et al. (2019). "From peripheral to core: a case study of a 3D printing firm on business ecosystems reconstruction." *Technology analysis & strategic management* 31(12): 1381-1394.
- Art. No. 14 - Barykin, S. Y., et al. (2020). "Economics of Digital Ecosystems." *Journal of open innovation: Technology, Market and Complexity* 6(124): 124.
- Art. No. 16 - Au, C. H., et al. (2020). "Developing a P2P lending platform: stages, strategies and platform configurations." *Internet research* 30(4): 1229-1249.
- Art. No. 17 - Apte, U. M. and M. M. Davis (2019). "Sharing Economy Services: Business Model Generation." *California management review* 61(2): 104-131.
- Art. No. 18 - Abdelkafi, N., et al. (2019). "Multi-sided platforms." *Electronic markets* 29(4): 553-559.
- Art. No. 19 - Yonatany, M. (2013). "A Model of the Platform-Ecosystem Organizational Form." *Journal of organization design (Aarhus)* 2(2): 54-58.
- Art. No. 21 - Sriram, S., et al. (2015). "Platforms: a multiplicity of research opportunities." *Marketing letters* 26(2): 141-152.
- Art. No. 22 - Ivanova, K., et al. (2020). "Technological ecosystems in capability development: A case study in emerging technologies." *Systems engineering* 23(4): 423-435.
- Art. No. 24 - Fayoumi, A. (2016). "Ecosystem-inspired enterprise modelling framework for collaborative and networked manufacturing systems." *Computers in industry* 80: 54-68.
- Art. No. 25 - Farshchian, B. A. and H. E. Thomassen (2019). "Co-Creating Platform Governance Models Using Boundary Resources: a Case Study from Dementia Care Services." *Computer supported cooperative work* 28(3-4): 549-589.
- Art. No. 27 - Cennamo, C. and J. Santalo (2013). "Platform competition: Strategic trade-offs in platform markets." *Strategic management journal* 34(11): 1331-1350.
- Art. No. 28 - Alt, R. (2020). "Evolution and perspectives of electronic markets." *Electronic markets* 30(1): 1-13.

6.5. Appendix 5 Interview protocol

The interview protocol addresses four phases:

1. Ensuring interview questions align with research questions.
2. Constructing an inquiry-based conversation, using different question types.
3. Receiving feedback on interview protocols through an interview checklist (Saunders et al., 2019) and a checklist of the interview protocol (appendix 6).
4. Piloting the interview protocol (Castillo-Montoya, 2016)(p.812).

In the interview, the participants start with some introductory questions to establish their knowledge of DPE’s and design dimensions. We also ask an open question to discover any new design elements, before asking about the sub-dimensions from the framework, as the participants are unbiased. Then in the next part, we address the framework. The three key questions address: 1.) rating the relevance of each subdesign dimension (*low/partial/high*). This allows for an objective judgement. 2. With the second open question (“why question”) they are then asked to explain their rating. Thirdly they are asked for additional information regarding the subdesign dimension, helping the researcher to identify missing information. The interview protocol and questions (table 5.) outline the structure as well as the alignment of the questions with the research. Essential requirements for the interview are that the informants are accessible through a video link; that they are willing to be interviewed and that interviews can be recorded. This will be confirmed through the interview protocol.

QNr = Question number

Question types (QT): I = Introductory question; T = Transition question; K = Key question; C = Closing question; Inf = Information for participant.

Table 5. Interview protocol and questions

Theme	QNr.	QT	Interview question	Alignment with research
1. Introduction Min. 0 - 10	1	Inf	Thank you for participating in this interview. As you have been informed through the written information that was sent to you my study seeks to understand the design dimensions or building blocks for digital platform ecosystems. The objective of the research is to identify the design dimensions of Digital Platform Ecosystems through a systematic literature review, and empirically validate these design dimensions for ILS by conducting a case study. Our interview will last approximately 1,5 hours and I will ask you questions about your organization and your role with regard to the DPE that you are	Welcome and outline of the goal, background and duration of the interview. Explanation of the purpose and the structure of the interview.

Theme	QNr.	QT	Interview question	Alignment with research
			involved in, the role of your organization in the DPE, your knowledge of DPE's and design dimensions. The interview will be conducted in English, as the study is also performed in English. It is however possible to provide explanations in Dutch if required or requested. The interview will be recorded as has been outlined in the written information. <i>Is this ok with you?</i>	Information about language that is used in the interview. Announcement of recording of interview
	2	Inf	I will now start the voice recording of this interview	
	3 4	Inf	<i>Could you please state your name and role with the organization?</i> You should have received a research information sheet and NDA prior to this interview. <i>Have you read this and do you understand the information?</i>	Confirmation of identity and role of the participant. (A) Check on receipt of the research information sheet and NDA prior to the interview (A)
	5 6 7	Inf	<i>Do you agree that this interview is recorded, and will be transcribed anonymously and analyzed for this study?</i> <i>Do you agree that your participation is voluntary and that you may withdraw this at any time during the study?</i> <i>Do you agree that the information that you provide will be treated confidential through the NDA form, and that this information will be analyzed anonymously?</i>	Explanation and consent regarding recording of the interview, transcription, anonymity of the participant, confidentiality of the information provided and opportunity to receive the transcription. (A)
	8	Inf	<i>Do you have any further questions regarding the information that has been provided?</i>	Provision of opportunity to ask questions. (A)
2. Introductory questions Min. 10 - 15		Inf	"I will now ask you a question about the digital platform enterprise, abbreviated as DPE".	
	1 2 3	I	<i>How would you describe a DPE?</i> <i>Are you familiar with digital platform enterprises (DPE)?</i> <i>Can you describe two examples of a DPE, other than the DPE you are involved in?</i>	Q.1; Q2. Establishing the knowledge about a DPE. Q3. Knowledge of existing DPE's to confirm the previous answer.

Theme	QNr.	QT	Interview question	Alignment with research
	4 5 6 7	I	<p><i>Can you describe how your organization and department is involved in the DPE (refer to name of the DPE)?</i></p> <p><i>How did this come about?</i></p> <p><i>Since when did this involvement take place?</i></p> <p><i>How would you describe the development phase of your organization regarding the DPE (refer to name of the DPE)</i></p>	<p>Q4. Establishes the involvement of the organization.</p> <p>Q5.; Q6. Establishes how the involvement started and when this started.</p> <p>Q7. Establishes the level of development of the organization.</p>
3. Relevance of subdesign dimensions Min. 25 - 80	1	T	<p>You have received a list of the identified design dimensions. They are also described as design elements or building blocks. Often these terms are used interchangeable.</p> <p><i>Regarding the listed design dimensions, would you like to add any information about these design dimensions from your practical experience?</i></p> <p>There are 7 design dimensions. I will ask you in this interview questions about the relevance of the elements of the design dimensions that I have identified through the research. These elements or subcategories are referred to as subdesign dimensions.</p> <p>These are the three questions I will ask you about each of the subdesign dimensions:</p> <p><i>A. How do you judge the relevance of each subdesign dimension for your DPE when rated on a scale of: low/ partial / high.</i></p> <p><i>B. Can you explain your previous choice for <name subdesign dimension>.</i> If a subdesign dimension is judged 'high' this indicates that it is closely connected with a design dimension. Contrary, 'low' indicates that there is almost no connection. 'Partial' indicates 'between high and low'.</p> <p><i>C. What practical information from your experience in the DPE you can add regarding the <name subdesign dimension>?</i></p>	<p>Introduction of Sub-question 1: Are the identified sub-design dimensions of a DPE relevant and (correct) in a real-life context of Independent Living Services?</p> <p>Question. A. The relevance of the subdesign dimension addresses the degree to which it can objectively be linked to the design dimension (Saunders, p. 46). The rating is an indicator of the level of relevance and allows comparison between the participants' answers.</p> <p>Question. B. The explanation validates the participant's rating.</p> <p>Question. C. Research question. The practical information adds knowledge and experience that may not have been provided through the content analysis.</p>

Theme	QNr.	QT	Interview question	Alignment with research
		Inf	1. Network effects are the effects of the presence of participants, products and services on a platform. An increase of one of these factors as well as more end-users stimulates an increase of the other factors. Network effects are fostered by business and operational dimensions. (chap. 2.3).	Statement regarding the design dimension of which the subdesign dimensions are covered.
	Netw.1	K	<i>How do you judge the relevance of each subdesign dimension for your DPE when rated on a scale of: low/ partial / high.</i> Subdesign dimensions for network effects: 1. Openness. 2. Modularity. 3. Quality. 4. Facilitation of participation. 5. Degree of innovation on complementary products. 6. User-base.	The interviewer starts with the first subdesign dimension and then proceeds to questions Netw.2 and Netw. 3 addressing the same subdesign dimension. Then, the interviewer repeats this line of questioning for the second subdesign dimension until all have been covered.
	Netw.2	K	<i>Can you explain your previous choice for <name subdesign dimension>?</i>	
	Netw.3	K	<i>What practical information from your experience in the DPE you can add regarding the <name subdesign dimension>?</i>	
		Inf	2. Governance , is described as: “addresses the ownership, coordination, regulation, decision rights, access rights, knowledge management and resource allocation of a platform”. (chap. 2.3).	Statement regarding the design dimension of which the subdesign dimensions are covered.
	Gov.1	K	<i>How do you judge the relevance of each subdesign dimension for your DPE when rated on a scale of: low/ partial / high.</i> 1. Pricing. 2. Mechanisms to coordinate and control platform participants. 3. Decisions and policies about the platform’s self-development, facilitation of collaboration and third party contributions. 4. Leaderships and ownership status and related decisions with regard to the ecosystem/ platform and it’s complementors.	The interviewer starts with the first subdesign dimension and then proceeds to questions Gov.2 and Gov. 3 addressing the same subdesign dimension. Then, the interviewer repeats this line of questioning for the second subdesign dimension until all have been covered.
	Gov.2	K	<i>Can you explain your previous choice for <name subdesign dimension>?</i>	

Theme	QNr.	QT	Interview question	Alignment with research
	Gov.3	K	<i>What practical information from your experience in the DPE you can add regarding the <name subdesign dimension>?</i>	
		Inf	3. Boundary resources are resources that facilitate technical and social interaction, relationship development and innovation on a platform.	Statement regarding the design dimension of which the subdesign dimensions are covered.
	Boun.1	K	<i>How do you judge the relevance of each subdesign dimension for your DPE when rated on a scale of: low/ partial / high.</i> Subdesign dimensions for Boundary resources: 1. Technical boundary resources. 2. Social boundary resources.	The interviewer starts with the first subdesign dimension and then proceeds to questions Boun.2 and Boun. 3 addressing the same subdesign dimension. Then, the interviewer repeats this line of questioning for the second subdesign dimension until all have been covered.
	Boun.2	K	<i>Can you explain your previous choice for <name subdesign dimension>?</i>	
	Boun.3	K	<i>What practical information from your experience in the DPE you can add regarding the <name subdesign dimension>?</i>	
		Inf	4. Architecture is concerned with the integration and interaction of (technical) components and modules. This facilitates and allows exchange between the demand and supply side on the platform	Statement regarding the design dimension of which the subdesign dimensions are covered.
	Arch.1	K	<i>How do you judge the relevance of each subdesign dimension for your DPE when rated on a scale of: low/ partial / high.</i> Subdesign dimensions for Architecture: 1. Technical architecture. 2. Platform span. 3. Modularity. 4. Composability. 5. Malleability. 6. Design rules	The interviewer starts with the first subdesign dimension and then proceeds to questions Arch.2 and Arch. 3 addressing the same subdesign dimension. Then, the interviewer repeats this line of questioning for the second subdesign dimension until all have been covered.

Theme	QNr.	QT	Interview question	Alignment with research
	Arch.2	K	<i>Can you explain your previous choice for <name subdesign dimension>?</i>	
	Arch.3	K	<i>What practical information from your experience in the DPE you can add regarding the <name subdesign dimension>?</i>	
		Inf	5. Data governance refers to instruments that facilitate, stimulate, and control data sovereignty, trust, security and interoperability of data between user and providers.	Statement regarding the design dimension of which the subdesign dimensions are covered.
	Data.1	K	<i>How do you judge the relevance of each subdesign dimension for your DPE when rated on a scale of: low/ partial / high.</i> Subdesign dimensions for data governance: <ol style="list-style-type: none"> 1. Trustworthiness of complementors. 2. Data sovereignty. 3. Interoperability of data. 4. Secure exchange of data. 5. Metadata management. 6. Data provenance 	The interviewer starts with the first subdesign dimension and then proceeds to questions Data.2 and Data. 3 addressing the same subdesign dimension. Then, the interviewer repeats this line of questioning for the second subdesign dimension until all have been covered.
	Data.2	K	<i>Can you explain your previous choice for <name subdesign dimension>?</i>	
	Data.3	K	<i>What practical information from your experience in the DPE you can add regarding the <name subdesign dimension>?</i>	
		Inf	6. Value creating mechanisms refer to mechanisms that are the result of transactions between participants on a platform, which lead to improved use value or exchange value.	Statement regarding the design dimension of which the subdesign dimensions are covered.
	Val.1	K	<i>How do you judge the relevance of each subdesign dimension for your DPE when rated on a scale of: low/ partial / high.</i> Subdesign dimensions for Value creating mechanisms: <ol style="list-style-type: none"> 1. Efficient and convenient facilitation of transactions. 2. Provision of affordances. 3. Actor roles within the platform. 4. Value creation and capture. 	The interviewer starts with the first subdesign dimension and then proceeds to questions Val.2 and Val. 3 addressing the same subdesign dimension. Then, the interviewer repeats this line of questioning for the second

Theme	QNr.	QT	Interview question	Alignment with research
				subdesign dimension until all have been covered.
	Val.2	K	<i>Can you explain your previous choice for <name subdesign dimension>?</i>	
	Val.3	K	<i>What practical information from your experience in the DPE you can add regarding the <name subdesign dimension>?</i>	
		Inf	7. Ecosystem and the wider environment refers to the environment of a platform, be it other ecosystems (e.g. regulatory, financial or larger platforms) or industries	Statement regarding the design dimension of which the subdesign dimensions are covered.
	Eco.1	K	<i>How do you judge the relevance of each subdesign dimension for your DPE when rated on a scale of: low/ partial / high.</i> Subdesign dimensions for Ecosystem and the wider environment: <ol style="list-style-type: none"> 1. Management of regulatory issues and laws. 2. Dialogue with regulatory authorities. 3. Choice of partners. 4. Forging alliances with other platforms or whole industry actors. 	The interviewer starts with the first subdesign dimension and then proceeds to questions Eco.2 and Eco. 3 addressing the same subdesign dimension. Then, the interviewer repeats this line of questioning for the second subdesign dimension until all have been covered.
	Eco.2	K	<i>Can you explain your previous choice for <name subdesign dimension>?</i>	
	Eco.3	K	<i>What practical information from your experience in the DPE you can add regarding the <name subdesign dimension>?</i>	
4. Completion of the interview Min. 80 - 90			<i>Thank you for your time and willingness to participate in this interview Is there any additional information that you would like to provide?</i>	
	1		<i>The interview will be transcribed anonymously and analysed. You will receive the transcription of the interview with a request for feedback on the validity of</i>	

Theme	QNr.	QT	Interview question	Alignment with research
			<i>this transcription. Can you confirm the e-mail address to which I can send the transcription?</i>	
			End recording.	

6.6. Appendix 6 Interview protocol checklist

Table 6. Interview protocol checklist Source: Castillo-Montoya (2016) (p. 825)

Aspects of an Interview Protocol	Yes	No	Feedback for Improvement
<i>Interview Protocol Structure</i>			
Beginning questions are factual in nature			
Key questions are majority of the questions and are placed between beginning and ending questions			
Questions at the end of interview protocol are reflective and provide participant an opportunity to share closing comments			
A brief script throughout the interview protocol provides smooth transitions between topic areas			
Interviewer closes with expressed gratitude and any intents to stay connected or follow up			
Overall, interview is organized to promote conversational flow			
<i>Writing of Interview Questions & Statements</i>			
Questions/statements are free from spelling error(s)			
Only one question is asked at a time			
Most questions ask participants to describe experiences and feelings			
Questions are mostly open ended			
Questions are written in a non-judgmental manner			
<i>Length of Interview Protocol</i>			
All questions are needed			
Questions/statements are concise			
<i>Comprehension</i>			
Questions/statements are devoid of academic language			
Questions/statements are easy to understand			



Box 10.12 Checklist

To help you conduct your semi-structured or in-depth interview

Appearance at the interview

- ✓ How will your appearance at the interview affect the willingness of the participant to share data?

Opening the interview

- ✓ How will you open the interview to gain the confidence of your participant?
- ✓ What will you tell your participant about yourself, the purpose of your research, its funding and your progress?
- ✓ What concerns, or need for clarification, may your participant have?
- ✓ How will you seek to overcome these concerns or provide this clarification?
- ✓ In particular, how do you intend to use the data to which you are given access, ensuring, where appropriate, its confidentiality and your participant's anonymity?
- ✓ What will you tell your participant about their right not to answer particular questions and to end the interview should they wish?
- ✓ How will you explain the structure of the interview?

Asking questions and behaviour during the interview

- ✓ How will you use appropriate language and tone of voice, and avoid jargon when asking questions or discussing themes?
- ✓ How will you word open questions appropriately to obtain relevant data?
- ✓ How will you word probing questions to build on, clarify or explain your participant's responses?
- ✓ How will you avoid asking leading questions that may introduce forms of bias?

- ✓ Have you devised an appropriate order for your questions to avoid asking sensitive questions too early where this may introduce participant bias?
- ✓ How will you maintain a check on the interview themes that you intend to cover and to steer the discussion where appropriate to raise and explore these aspects?
- ✓ How will you avoid overzealously asking questions and pressing your participant for a response where it should be clear that they do not wish to provide one?
- ✓ How will you avoid projecting your own views or feelings through your actions or comments?
- ✓ How might you identify actions and comments made by your participant that indicate an aspect of the discussion that should be explored in order to reveal the reason for the response?
- ✓ How will you listen attentively and demonstrate this to your participant?
- ✓ How will you summarise and test your understanding of the data that are shared with you in order to ensure accuracy in your interpretation?
- ✓ Where appropriate, how will you deal with difficult participants while remaining polite?

Recording data during the interview

- ✓ How will you record the data that are revealed to you during the interview? Where this involves using an audio-recorder, have you requested this and provided a reason why it would help you to use this technique?
- ✓ How will you allow your participant to maintain control over the use of an audio-recorder, where used, if they wish to do this?
- ✓ Have you practised to ensure you can carry out a number of tasks at the same time, including listening, note taking and identifying where you need to probe further?

Closing the interview

- ✓ How will you draw the interview to a close within the agreed time limit and thank the participant for their time and the data they have shared with you?

Figure 8. Source: Saunders et al. (2019) (p. 464)

6.7. Appendix 7 Research Information sheet

1. Nature of the research

- **Title of research project:** Design dimensions of Digital Platform Ecosystems for Independent Living Services.
- **Purpose of research:** to identify the subdesign dimensions of Digital Platform Ecosystems through a systematic literature review, and empirically validate these design dimensions for Independent Living Services.
- **Type of research:** single case study.
- **Name of the researcher:** Elmar Beekman, Student at the Open University of the Netherlands, Faculty Science. Master of Science Business Process Management & IT.
- **Sponsoring/ funding of research/ Competing interests:** none.
- **Participants:** three main actors: a.) a platform provider b.) one complementor and c.) one user-organization. 3. Each of main actors each allows access to three different informants in different roles: 1. Founder/ CEO/CIO/ General Manager. 2. Technology knowledge advisor. 3. Project leader/ manager.

2. Requirements for taking part

- **Type of data required:** verbal answers that will be recorded, anonymously transcribed and analyzed.
- **How will the data be collected:** through an interview.
- **How much time will be required and on how many occasions:** 1,5 hours (90 minutes) on one occasion.
- **Target dates for the interview:** to be agreed upon, but latest by <date>.

3. What are the implications for taking part

- **Assurances about anonymity and data confidentiality:** a non-disclosure agreement (NDA) will be signed (format 'Geheimhoudingsovereenkomst Open Universiteit is added to the research information sheet).
- **Consequences for participating:** active involvement in the interview, ability to answer relevant research questions of the researcher truthfully.
- **Expected benefit:** access to the draft case study and summary report of the findings.

4. Rights of the participant

- Participation is voluntary.
- Participant has the right to decline to answer a question or set of questions.
- Participant has control over the recording of the voice recording.
- Participant may withdraw at any time.

5. Access to the data collected and the way in which it will be reported

- The researcher (Elmar Beekman) has access to the data collected as well as his tutor, on her request (Dr. S. Bagheri, Open University of the Netherlands).
- The results of the research project will be disseminated anonymously through a thesis, and possible an article and/or conference presentation.
- Anonymity and confidentiality will be remained when the data are reported.
- The voice recording data that have been collected will be saved as password protected file by the researcher (Elmar Beekman) for two years after the completion of the thesis. It will then be destroyed.

6. Contact details researcher

Name: Elmar Beekman
Student number: 852020629
E-mail address: <email address of the student>

Source : Saunders et al. (2019) (p. 267).

6.8. Appendix 8 Design Dimensions information sheet

The information sheet assures equal understanding of the meaning of the design dimensions between all participants. The subdesign dimensions are not listed in this information sheet to prevent participant bias due to prior exposure to the information. By this approach we aim for refinement and improvement of the framework.

This information sheet lists the design dimensions that resulted from a literature review for the study. Other terms that are frequently used for design dimensions are building blocks or design elements.

Seven design dimensions have been identified from a content analysis, based on the literature review. The table lists each design dimension separately in the column "Design dimension" followed by the column "Description".

A third column has been excluded from this table; this lists the various subdimensions that were identified from the literature review. These will be discussed in the interview.

Design dimension	Description
1. Network effects	The effects of the presence of participants, products and services on a platform. An increase of one of these factors as well as more end-users stimulates an increase of the other factors. Network effects are fostered by business and operational dimensions.
2. Governance	Addresses the ownership, coordination, regulation, decision rights, access rights, knowledge management and resource allocation of a platform.
3. Boundary resources	Resources that facilitate technical and social interaction, relationship development and innovation on a platform.
4. Architecture	Is concerned with the integration and interaction of (technical) components and modules. This facilitates and allows exchange between the demand and supply side on the platform.
5. Data governance	Instruments that facilitate, stimulate, and control data sovereignty, trust, security and interoperability of data between user and providers.
6. Value-creating mechanisms	Mechanisms that are the result of transactions between participants on a platform, which lead to improved use value or exchange value.
7. Ecosystem and the wider environment	The environment of a platform, be it other ecosystems (e.g. regulatory, financial or larger platforms) or industries

6.10. Appendix 10 Data collection table

Table 7. Data collection table

Subdesign Dimension Nr. of subdesign dimension and definition			
Participant nr	"Items of interest" - Quotes from interview addressing the relevance of the subdesign dimension."	"Coding"	"Theme Subdesign dimension"
1	Quote 1	Coding 1	Theme 1 Theme 2
	Quote 2	Coding 2	
2	Quote 1	Coding 3	
3	Quote 1	Coding 4	
4	Quote 1	Coding 5	
5	Quote 1	Coding 6	
6	Quote 1	Coding 7	
	Quote 2	Coding 8	
7	Quote 1	Coding 9	
	Quote n	Coding 10	
8	Quote 1	Coding 11	

6.11. Appendix 11 Data analysis phases in Thematic Analysis

The data analysis will proceed in six phases as outlined by Braun and Clarke (2006):

1. Familiarisation with the data through the transcription of the answers of the participants.
2. Coding of data by extracting the meaning of the transcribed data and labelling this with representative codes. The codes are related to the framework in chap. 2.3 of this thesis. The answers to the questions about each subdesign dimension are labelled to extract their relevance as well as additional information.
3. Searching for themes by grouping coded data into analytic categories. Because the analysis is driven by the researcher's analytical interest in design dimensions this approach is labelled as 'theoretical thematic analysis'.
4. Reviewing and refinement of themes through reorganisation of coded data.
5. Defining and naming themes by identifying the 'essence' of each theme and what aspect of the data each theme captures. (Braun & Clarke, 2006)(p. 22).
6. Reporting the analysis and providing arguments related to the research questions. These phases evolve in an iterative and reflective process (Braun & Clarke, 2006; Saunders et al., 2019).

6.12. Appendix 12 Checklist of criteria for Good Thematic Analysis

Process	No.	Criteria
Transcription	1	The data have been transcribed to an appropriate level of detail, and the transcripts have been checked against the tapes for 'accuracy'.
Coding	2	Each data item has been given equal attention in the coding process.
	3	Themes have not been generated from a few vivid examples (an anecdotal approach), but instead the coding process has been thorough, inclusive and comprehensive.
	4	All relevant extracts for all each theme have been collated.
	5	Themes have been checked against each other and back to the original data set.
	6	Themes are internally coherent, consistent, and distinctive.
Analysis	7	Data have been analysed - interpreted, made sense of - rather than just paraphrased or described.
	8	Analysis and data match each other - the extracts illustrate the analytic claims.
	9	Analysis tells a convincing and well-organised story about the data and topic.
	10	A good balance between analytic narrative and illustrative extracts is provided.
Overall	11	Enough time has been allocated to complete all phases of the analysis adequately, without rushing a phase or giving it a once-over-lightly.
Written report	12	The assumptions about, and specific approach to, thematic analysis are clearly explicated.
	13	There is a good fit between what you claim you do, and what you show you have done - i.e., described method and reported analysis are consistent.
	14	The language and concepts used in the report are consistent with the epistemological position of the analysis.
	15	The researcher is positioned as <i>active</i> in the research process; themes do not just 'emerge'.

Figure 10. Source: Braun and Clarke (2006) (p. 96)

6.13. Appendix 13 Content analysis

Column	Headers	Description
A	Number	Row number
B	Nr. Search OU	Article number from table 1. Eligibility articles used for literature review
C	Description from article	Relevant tekst copy
D	Page nr.	Page nr. in article copy originated from
E	E. Open coding	the article content that relates to the search terms is coded to summarise the meaning of the data
F	F. Grouping on content	grouping similar coded data into categories.
G	G. Categorization Single term from F. Grouping	classification of categories into subdesign dimensions of a specific design dimension.
H	H. Subcategories from categorization	When a category is specified as subdesign dimension the specific subcategories are outlined.
I	I. Categorization numbered	Hidden
J	J. Abstraction	Subcategories from G are summarized as design dimension or subdesign dimension.
K	K. Full reference Search OU	Hidden

Table 1. Eligibility articles used for literature review

Nr.	Search OU	Article
1		Valdez-De-Leon, O. (2019). "How to Develop a Digital Ecosystem – a Practical Framework." <i>Technology innovation management review</i> 9(8): 43-54.
3		Song, P., et al. (2018). "The Ecosystem of Software Platform: A Study of Asymmetric Cross-Side Network Effects and Platform Governance." <i>MIS quarterly</i> 42(1): 121-142.
5		Riasanow, T., et al. (2020). "Core, intertwined, and ecosystem-specific clusters in platform ecosystems: analyzing similarities in the digital transformation of the automotive, blockchain, financial, insurance and IIoT industry." <i>Electronic markets</i> .
6		Otto, B. and M. Jarke (2019). "Designing a multi-sided data platform: findings from the International Data Spaces case." <i>Electronic markets</i> 29(4): 561-580.
7		Hein, A., et al. (2019). "The emergence of native multi-sided platforms and their influence on incumbents." <i>Electronic markets</i> 29(4): 631-647.
8		Hein, A., et al. (2020). "Digital platform ecosystems." <i>Electronic markets</i> 30(1): 87-98.
9		Fürstenau, D., et al. (2019). "A process perspective on platform design and management: evidence from a digital platform in health care." <i>Electronic markets</i> 29(4): 581-596.
10		Foerderer, J., et al. (2018). "Knowledge boundaries in enterprise software platform development: Antecedents and consequences for platform governance." <i>Information systems journal (Oxford, England)</i> 29(1): 119-144.
15		Aulkemeier, F., et al. (2019). "Platform-based collaboration in digital ecosystems." <i>Electronic markets</i> 29(4): 597-608.
20		Tura, N., et al. (2017). "Platform design framework: conceptualisation and application." <i>Technology analysis & strategic management</i> 30(8): 881-894.
23		Gawer, A. and M. A. Cusumano (2014). "Industry Platforms and Ecosystem Innovation." <i>The Journal of product innovation management</i> 31(3): 417-433.
26		Daiberl, C. F., et al. (2019). "Design principles for establishing a multi-sided open innovation platform: lessons learned from an action research study in the medical technology industry." <i>Electronic markets</i> 29(4): 711-728.
29		De Reuver, M., Sørensen, C., & Basole, R. C. (2018). The digital plat <i>Journal of Information Technology</i> , 33 form: a research agenda. (2), 124–135.
30		Tiwana, A., Konsynski, B., & Bush, A. A. (2010). Platform evolution: coevolution of platform architecture, governance, and environmen tal dynamics.

Number	Nr. Search	Description from article	Page nr.	E. Open coding	F. Grouping on content	G. Categorization	H. Subcategories from categorization if abstraction is design dimension	J. Abstraction
12	1	The platform...This is the key building block of the ecosystem; the enabler upon which ecosystem partners can build their products or services.	47	Platform as key building block and enabler for ecosystem partners	Platform Building block Enabler Ecosystem partners	Platform Building block	NA	Design dimension
13	1	Crucial aspects here include openness, modularity and quality as perceived by the ecosystem. Openness means that the platform allows access to platform resources (via APIs, for example) enabling ecosystem participants to develop their own use cases. Modularity is a key driver to developing digital ecosystems as it enables different organizations to build complementary products or services. Quality means features that enable high availability, reliability, and security, which can be highly valued by ecosystem participants.	47	Crucial aspects of platforms are openness, modularity and quality	Subcategories of platform: openness, modularity, quality	Subdesign dimensions of network effects	Openness Modularity Quality	Subdesign dimension
14	1	Network effects...More participants and products or services on the platform lead to more end-users attracted to it. At the same time, more end-users on the platform attract more participants with their products and services	48	Participants, End-users and Products and services create network effects	Network effects: participants, end-users, products and services	Subdesign dimensions of network effects	Participants End-users Products and services	Subdesign dimension
15	1	Two key dimensions to foster network effects: business and operational.	48	Business and operational are two key dimensions of Network effects	Network effects	Enablers of Network effects		Design dimension
20	1	APIs can be used to foster network effects. things to consider when developing APIs include transparency and communication with the developer community, good quality documentation, ease of use, steadiness and dependability (not constantly changing), use of standards and long-term support.	49	API's enable network effects. Several aspects need to be considered when using API's: transparency, communication with the developer community, documentation, use of quality standards.	API's as subcategory of Boundary Resource	Subdesign dimension of Boundary Resource	API's	Subdesign dimension
21	1	Communities of participants need to exist. These participants should be able to develop products and services based on platform resources (via APIs). Experts in the panel observed some key considerations	49	Communities of participants enable digital ecosystems	Communities of participants as Boundary Resource	Subdesign dimension of Boundary Resource	Communities of participants	Subdesign dimension
22	1	Spearhead Products or Services... These are products or services that ecosystem leaders develop either themselves or through third parties, on top of their platform, in order to target a particular segment of the market	49	Spearhead Products or Services as Enablers of digital ecosystems	Spearhead Products or Services as Boundary Resource	Subdesign dimension of Boundary Resource	Spearhead products or services	Subdesign dimension
23	1	Support functions... Support functions are essentially the internal organization and related functions that provide support to ecosystem participants	49	Support functions as enablers of digital ecosystems	Support functions as Boundary Resource	Subdesign dimension of Boundary Resource	Support functions	Subdesign dimension
24	1	Revenue Model... participants need to define the right revenue generation and allocation model, one that incentivizes participants to join the ecosystem at an early adoption stage, whilst reducing their risks to innovate	49	Revenue Model as enabler of digital ecosystems	Revenue Model as Boundary Resource	Subdesign dimension of Boundary Resource	Revenue model	Subdesign dimension

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Number	Nr. Search	Description from article	Page nr.	E. Open coding	F. Grouping on content	G. Categorization	H. Subcategories from categorization if abstraction is design dimension	J. Abstraction
25	1	Governance... An ecosystem governance model establishes very clearly the rules of engagement among ecosystem partners.	50	Governance as Enabler of digital ecosystems through rules of engagement	Governance	Governance	Rules of engagement	Design dimension
32	3	Similar to other platforms, software platforms are characterized by cross-side network effects (CNEs).	122	Software platforms are characterized by Cross-side network effects (CNE's)	Cross-side network effects (CNE's) as Boundary Resource	Subdesign dimension of Boundary Resource	Cross-side network effects	Subdesign dimension
33	3	CNE refers to the phenomenon that the size and growth of one side, either the user-side or app-side, reinforce the size and growth of the other side	122	Definition of Cross-side network effects (CNE's): size and growth on one side reinforces growth and size on the other side.	Definition of CNE	Subdesign dimension of Boundary Resource	NA	Subdesign dimension
34	3	CNEs influence a platform's strategies to build the installed base on either side.	122	Effect of Cross-side network effects (CNE's) on a platform	Effect of CNE	Subdesign dimension of Boundary Resource	NA	Subdesign dimension
35	3	CNEs can help incumbents by allowing them to leverage their market advantages on one side by building dominant positions on the other side and creating substantial entry barriers.	122	Effect of Cross-side network effects (CNE's) for incumbents	Effect of CNE	Subdesign dimension of Boundary Resource	NA	Subdesign dimension
37	3	network effects are not all about size, but are also determined by the nature of network value and the value creation/capture processes of network participants	123	Network effects are determined by size, nature of network value and value creation/capture proces	Determinants of Network effects	Network effects	NA	Design dimension
38	3	two types of value to various stakeholders (e.g., individuals, organizations, and society): use value and exchange value	123	Operationalization of network values to various stakeholders through differentiation between use- and exchange value.	Use- and exchange value	Subdesign dimension of Value creating mechanism	Use value Exchange value	Subdesign dimension
39	3	Use value refers to the quality of a product or service as perceived by users in relation to their needs.	123	Definition of Use value relating the preseived quality to the needs	Use value	Subdesign dimension of Value creating mechanism		Subdesign dimension
40	3	Exchange value refers to the tangible or intangible monetary value that can be realized by the seller when the exchange of a product or service takes place, or the payment by the user to the seller for the use value of the product or service.	123	Definition of exchange value as tangible or intangible value, realized through exchange of a product.	Exchange value	Subdesign dimension of Value creating mechanism		Subdesign dimension
41	3	user-to-app CNEs are essentially based on exchange value, as app developers do not derive value from directly "using" platform users but derive value from serving users in exchange for their tangible or intangible payments.	123	Description of the relationship between App-to-user CNE's and the resulting use value	user-to-app CNE's and the resulting exchange value	Subdimension of Boundary Resource	User-to-app CNE's	Subdesign dimension
42	3	in app-to-user CNEs, users find the platform a more valuable option to use when there are more complementary apps for them to use on the platform. Therefore, app-to-user CNEs are essentially based on the use value, as users can derive value (e.g., perceive aesthetic or functional quality) from directly using these apps.	124	Description of the relationship between user-to-app CNE's and the resulting exchange value	App-to-user CNE's and the resulting use value	Subdimension of Boundary Resource	App-to-user CNE's	Subdesign dimension
48	3	Platform governance in software platforms refers to all policies and mechanisms through which a software platform operator exerts influence over participants on both sides and coordinates operations in the ecosystem	125	Description of Governance in Software platforms as a process of policies and mechanisms through which influence is exerted	Definition of Governance	Sudesign dimension of Governance	policies and mechanisms	Subdesign dimension

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19	3	In general, platform governance includes three broad categories of policies and mechanisms. First, although pricing is often linked with profitability, it is also an inherent governance mechanism Second, mechanisms used to coordinate and control platform participants are the central elements of platform governance Third, some policies of a platform's self-development play an important role in governance	125	Governance of categories for Software Platform Governance: pricing, mechanisms to coordinate and control platform participants, policies of a platform's self-development.	Governance	Governance	three broad categories of policies and mechanisms. First pricing Second, mechanisms used to coordinate and control platform participants Third, policies of a platform's self-development	Design dimension
13	3	In contrast, the platform governance perspective is concerned with the platform ecosystem and diverse stakeholders (not only the platform owner), and needs to uncover characteristics of complex adaptive systems (Tanriverdi et al. 2010), such as interdependencies and coevolution in the ecosystem. Our findings reveal that the trajectory and direction of coevolution of the app and user-sides of the platform are affected by the governance actions of the platform owner.	138	The platform governance affects the app trajectory and direction of its co-evolution and user-sites	Influence of platform governance	Governance	NA	Design dimension
18	6	platform boundary resources are useful for studying both governance mechanisms and regulatory instruments.	562	Relationship between Platform boundary resources and governance mechanisms as well as boundary resources	Boundary Resource Governance mechanisms Regulatory instruments	Boundary Resource	NA	Design dimension
10	6	It defines boundary resources as resources that facilitate relationships and interactions between different actors and user groups.	562	Definition of Boundary resources as: resources that facilitate mechanisms and interactions between different actors and user groups	Definition of Boundary Resource	Design dimension Boundary Resource		Design dimension
11	6	It defines boundary resources as resources that facilitate relationships and interactions between different actors and user groups.	562	Definition of Boundary resources as: resources that facilitate mechanisms and interactions between different actors and user groups	Definition of Boundary Resource	Subdesign dimension of Boundary Resource	Facilitation of relationships and interactions between different actors and user groups	Subdesign dimension
13	6	The technical architecture consists of modules and components some of which remain stable during the platform's lifecycle, while other vary over time	563	Description of Technical architecture of MSP's	Technical architecture	Subdesign dimension of Architecture	Components Modules	Subdesign dimension
15	6	Governance instruments must be in place to coordinate the agents that together provide and own the platform.	563	Role of governance instruments	Governance instruments	Subdesign dimension of Governance	Coordination of agents that provide and own the platform	Subdesign dimension
16	6	That governance framework specifies decision-making rights with regard to using the platform and the services offered via interfaces...also defines platform access rights and, thus, specifies the platform's degree of openness	563	Definition of Governance framework: specification of decision-making rights with regard to using the platform, services offering, and defining platform access rights	Governance framework	Subdesign dimension of Governance	Specification of decision making rights Definition of platform access rights	Subdesign dimension
19	6	Boundary resources are resources through which different agents create relationships and interact with each other in order to co-create value	564	Definition of Boundary resources: resources through which different agents create relationships and interact with each other in order to co-create value Value creation	Definition of Boundary Resource	Subdesign dimension of Boundary Resource	Creation of relationships Agent-interaction	Subdesign dimension

Number	Nr. Search O	Description from article	Page nr.	E. Open coding	F. Grouping on content	G. Categorization	H. Subcategories from categorization if abstraction is design dimension	J. Abstraction
.00	6	technical and social platform boundary resources. Typical boundary resources are Application Programming Interfaces (APIs) and Software Development Kits (SDKs). Examples for social boundary resources are intellectual property rights and documentation of software services	564	Boundary resources are separable between technical (API's, SDK's) and social boundary resources (IPR, documentation of software services)	Technical and social boundary resources	Subdesign dimensions of boundary resources	Technical boundary resources: e.g. API's, SDK's Social boundary resources: e.g. intellectual property rights or documentation of software services	Subdesign dimension
.04	6	Platform architecture: Conceptual blueprint describing how an extensible, software based system can be partitioned into stable and complementary components, and how these components interact with each other and with the user	566	Definition of Platform architecture	Definition of Platform architecture	Architecture	NA	Design dimension
.05	6	Platform boundary resource: Resource allowing different actors to create relationships and interact with each on the platform	566	Definition of Platform boundary resource	Definition of Boundary Resource	Boundary Resource	Creates relationships Actor-interaction	Design dimension
.08	6	Ecosystem governance: Entirety of rules, responsibilities and decision-making rights affecting the behavior and interaction of the actors of the platform ecosystem	566	Definition of Ecosystem governance	Definition of Governance	Governance	Entirety of rules, responsibilities and decision making rights	Design dimension
.09	6	Regulatory instruments: Instruments for fostering and controlling adoption and use of the platform	566	Definition of Regulatory instruments	Description of Data governance	Data governance	NA	Design dimension
.13	6	a sequence of platform features considered instrumental for the launch and adoption of the IDS The six main instruments follow a logical order. The first instrument aims at ensuring 1) trust among the different users of the IDS. When trust is achieved, ensuring 2) secure exchange of data and data sovereignty is the next step. These two instruments are required for fostering the emergence of a 3) data ecosystem. For a data ecosystem to run efficiently, 4) interoperability is needed for standardized interaction of ecosystem actors (vocabularies play a key role in this task, as they facilitate the mapping of different data sources and the integration through linked-data representations). On top of data exchange, 5) apps can offer value-adding services using shared data. Finally, 6) data markets emerge on the basis of clearing and billing services (among other things).	570	Platform features that are instrumental for the launch and adoption of the IDS: trust, secure data exchange, data ecosystem, interoperability, apps, data markets.	Description of Platform features	Subdesign dimensions of Platform features	Trust Exchange of data and data sovereignty Data ecosystem Interoperability	Subdesign dimension
.14	6	A multi-sided data platform requires clear data governance rules and data management processes for the platform to successfully evolve. A central platform functionality is metadata management	572	Requirements for multi-sided data platform: data governance rules data management processes metadata management	Requirements for multi sided data platform	Subdesign dimensions of Data governance	data governance rules data management processes metadata management	Subdesign dimension
.15	6	Data provenance (Buneman et al. 2000) is necessary to be able to track the flow of data across multiple nodes of the network (i.e. different actors in the ecosystem).	572	Data provenance is necessary to track the data flow	Data provenance as requirement for tracking of the data flow	Subdesign dimensions of Data governance	Data provenance	Subdesign dimension
.16	6	the importance of knowledge transfer and education measures as social boundary resources during the adoption phase of a typical MSP	573	Social boundary resources include knowledge transfer and educational measures during the adoption phase of a MSP	Requirements for social boundary resources	Elements of Social boundary resources	NA	Design dimension

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121	6	alliance-driven MSPs like the IDS rest on a formal institutionalization and demand execution of ownership rights. Thus, governance mechanisms do not follow a hierarchical institutionalization, but require ecosystem coordination.		Governance mechanisms require coordination within the ecosystem	Requirements for Governance	Governance	NA	Design dimension
123	6	The IDS considers trustworthiness of participants and data sovereignty of data owners and data providers as key instruments regulating the adoption and use of the platform.	574	Regulatory instruments for adoption and use of platform: trustworthiness of participants and data sovereignty	Requirements for Data governance	Subdesign dimension of Data governance	Trustworthiness of participants Data sovereignty of data owners and providers	Subdesign dimension
126	6	The dual nature of data as both a social and a technical boundary resource requires data governance rules and shared data management processes, which need to be distributed between the different user groups (i.e. platform sides).		Data as social and technical boundary resource requires data governance rules and shared data management processes	Data as both technical and social boundary resource	Subdesign dimension of Boundary Resource	NA	Subdesign dimension
145	7	technological platforms have emerged as a new concept, resilient to the fast pace of changing technological trajectories	634	Emergence of Technological platforms resilient to changes	Technological platforms	Platforms	NA	Design dimension
146	7	The platform ensures stability through a modular architecture that can be extended with new technologies, referred to as stable flexibility	634	Technological platforms receive stability through modular architecture	Technological platforms	Platforms	NA	Design dimension
147	7	the MSP follows a design of interconnected modules that are connected via standardized interfaces.	634	Technological platforms are designed by interconnected modules through standardized interfaces	Technological platforms	Subdesign dimension of Architecture	Interconnected modules	Subdesign dimension
148	7	Second, the platform ensures composability, which refers to the resistance of modules to change	634	Technological platforms ensure composability that is resistant to change	Technological platforms	Subdesign dimension of Architecture	Composability	Subdesign dimension
149	7	The platform enables malleability, which refers to the adoption of evolving user needs by enabling a flexible reconfiguration or extension of existing modules	634	Technological platforms enable malleability that allows flexible reconfiguration	Technological platforms	Subdesign dimension of Architecture	Malleability	Subdesign dimension
150	7	four dominant technology push, three demand pull and one regulatory factor that led to the emergence of native platform companies.	637	Factors leading to the emergence of MSP's for companies: Web 2.0 technology, mobile devices or smartphone, cloud computing, big data analytics (push factors); social media, affordability of mobile devices and need for sustainability (pull factors); liberalization (regulatory factor).	Factors leading to the emergence of MSP's for companies.	Boundary Resource	NA	Design dimension
159	7	Phase II: Impact of native platforms on incumbents triggered one technological advancement and three market-driven effects during the phase of routinization.	638	During the routinization phase of native platforms one technological and three market-driven effects are triggered	Factors influencing the routinization of MSP's for companies.	Boundary Resource	NA	Design dimension
164	7	Phase III: Transformation of incumbents toward a platform two dominant technology push and demand pull factors that influenced the incumbent's decision toward adopting an MSP	640	Additional factors influencing incumbents to transition towards an MSP	Factors influencing the transformation of incumbents toward a platform	Boundary Resource	NA	Design dimension

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174	7	our research shows that native platforms routinize an architecture of servitization (MSPs) to create and satisfy the increasing demand for convenient services. This interplay of technology push and demand pull factors shows the emergence of MSPs as a new technological trajectory toward mass servitization.	644	Native platforms use technological trajectories towards mass servitization for MSP's	Technological trajectories influence the make up of MSP's and facilitate servitization	Architecture	NA	Design dimension
181	8	The modularity of a software-based platform makes it easier for both external complementors and the platform owner to substitute system components while retaining a stable core. In turn, upgradability enables both parties to work on already-established modules that preserve the platform's knowledge base	88	Modularity and upgradability of a software based platform are components that facilitate complementors and platform owner	Architectural Components that facilitate platform owner and complementors	Subdesign dimension of Architecture	Modularity Upgradability	Subdesign dimension
183	8	a crucial characteristic is the provision of digital affordances Digital affordances refer to "what an individual or organization with a particular purpose can do with a technology". The platform owner provides affordances via boundary resources, such as SDKs, that assist complementors in cultivating products or services on top of a software-based platform	89	Digital Affordances provide a crucial innovation capability that is usable.	Innovation capability	Subdesign dimension of Boundary Resource	Digital affordance	Subdesign dimension
184	8	A particular governance mechanism is the provision of boundary resources that takes the form of interfaces, such as APIs, or toolkits, such as SDKs, to integrate and enable an ecosystem of actors to co-create complementary products or services	89	Governance mechanisms as sociotechnical perspective that provides boundary resources	Provision of boundary resources as governance mechanism	Subdesign dimension of Governance	Provision of boundary resources	Subdesign dimension
186	8	The degree of openness also influences competition within and across ecosystems.	89	The degree of openness allows the owner to focus on internal advantages for platform use or external advantages (e.g. innovation through complementors).	Degree of openness influences competition	Subdesign dimension of Boundary Resource	Degee of Openness	Subdesign dimension
187	8	The ownership status influences the evolutionary dynamics of an ecosystem by changing how governance mechanisms such as input and output control, and decision rights are implemented	89	Ownership status changes governance mechanisms, like input- and output control and decision rights.	Platform ownership influences governance mechanisms	Subdesign dimension of Governance	Ownership status	Subdesign dimension
188	8	Economic components describe the type of complementaries of products or services provided by complementors.	89	Interdependencies between platform owners and complementors can be established by economic components	Economic components as complements to a platform provided by complementors	Subdesign dimension of Boundary Resource	Economic components	Subdesign dimension
190	8	The structural components in an ecosystem describe how actors interact with value proposition and value creation. Recent studies have focused on three structural elements of ecosystems: activities, actors, and architectures	90	Structural components in an ecosystem describe interaction with value proposition and value creation		Value creating mechanism	NA	Design dimension
191	8	Activities are discrete actions that determine how value is co-created in an ecosystem	90	Activities relate to developing new services or new applications	Co-creation of value	Subdimension of Value creating mechanism	Activities	Subdesign dimension
192	8	Actors are agents that can take the role of complementors and consumers who undertake activities and produce different offers	90	Actors as platform agents undertaking activities	Platform agents	Subdimension of Value creating mechanism	Actors	Subdesign dimension

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193	8	The architecture defines technological interactions that orchestrate the exchange between the supply and demand sides of an ecosystem.	90	Architecture prescribes technological interactions for exchange between supply and demand	Technological interactions are facilitated through architecture	Architecture	NA	Design dimension
202	8	value-creating mechanisms build on the efficient and convenient facilitation of transactions (Tiwana 2014) and the provision of affordances making the digital platform a breeding ground for innovation	91	Value-creation mechanisms facilitate the interplay between complementor and platform owner	Description of Value creating mechanisms	Value creating mechanism	NA	Design dimension
203	8	The efficient and convenient facilitation of transactions. With the first value-creating mechanism of transactions, digital platforms help complementors and consumers locate and interact with each other and exchange value in a mutually beneficial manner	91	Type of value-creating mechanism: interaction and location between complementors and consumers to exchange value	Interaction between and location between owner and complementor as Value creating mechanisms	Subdesign dimension of Value creating mechanism	Location and interaction of users and complementors and exchange of value	Subdesign dimension
204	8	the provision of affordances: The second value-creating mechanism refers to the innovation capabilities of digital platforms that enable complementors to create solutions complementary to the platform core	92	Type of value-creating mechanism: innovation capabilities that enable complementors to create complementary solutions	innovation capabilities of platform as Value creating mechanism	Subdesign dimension of Value creating mechanism	Innovation capabilities	Subdesign dimension
214	9	Platforms can be understood as evolving organizations or even meta-organizations (Gawer 2014). As such they need resources, rules and routines that enable them to follow the platform's strategic goals.	583	Platforms as evolving organizations in need of resources, rules and routines	Description of platforms Governance	Platforms	NA	Design dimension
215	9	Platform governance refers, first, to formal decision rights and rules of control (Tiwana et al. 2010). Additionally, governance can also include coordination and resource allocation	583	Platform governance is made up of formal decision rights and rules of control, coordination and resource allocation. It is the first of four areas to design and manage MSP.	Elements of platform governance	Subdesign dimension of Governance	Formal decision rights Rules of control Coordination Resource allocation	Subdesign dimension
	9	Engaging with the platform's ecosystem and wider environment includes forging alliances, which imply technology/ standard choices and entering into dialog with regulatory authorities	583	In order to engage with the ecosystem and the wider environment of the platform, forging alliances and dialogue with regulatory authorities is required.	Engagement with the ecosystem	Subdesign element ecosystem and the wider environment	Forging alliances Dialogue with regulatory authorities	Subdesign dimension
216	9	Provan and Kenis (2008) have identified three modes of network governance that also apply to platform governance: governance by a lead organization, shared governance, or the set-up of a governance body called network administrative organization (Provan and Kenis 2008; for proprietary and shared platform governance,	583	Network governance can be applied by a lead organization, through shared governance or by an administrative body.	Modes of network governance	Governance	NA	Design dimension
217	9	Second area of platform management: the management of the technical architecture. The technical architecture encompasses the selection, possibly creation and use of standards and "connectors", as well as a blueprint for the integration of the different technical components like reference architectures	584	Management of technical architecture addresses the technical integration for an MSP. It s a second area of platform management	Design and standardization of technical architecture	Subdesign dimension of Architecture	Technical architecture	Subdesign dimension
218	9	The architectural design thus has to address questions of modularity and openness in order to facilitate collaboration and third-party contributions... The technical architecture is also a governance mechanism.	584	Modularity and openness of architectural design facilitate collaboration and third party contributions.	Technical architecture governs access and collaboration	Subdesign dimension of Governance	Technical architecture	Subdesign dimension

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219	9	A third area of platform management concerns the facilitation of participation to enable platform growth. Platform management practices supporting the facilitation of participation aim for the enhancement of both a user and contributor base. Such a growing base can add to the creation of (cross-side) network effects	584	A third area of platform management addresses facilitating participation and community building to create network effects	Platform management requires participation facilitating mechanisms.	Subdesign dimensions of network effects	Facilitation of participation	Subdesign dimension
221	9	A fourth area of platform management concerns the platform's ecosystem and wider environment which includes "Industry coordination activities" (Gawer and Cusumano 2014, p. 429) that go beyond the platform boundaries, thereby touching for instance other platforms or even whole industries (e.g., during standard selection and standard setting).	584	A fourth area of platform management addresses the ecosystem and its wider environment, establishing connections with the environment.	The Ecosystem needs to interact with the wider environment	Subdesign dimension of Ecosystem and the wider environment	Industry coordination activities	Subdesign dimension
222	9	Practices of engaging with the wider environment do not only touch issues of standardization but also the management of regulatory issues: platform providers, especially in such highly regulated markets as health care, need to cope with regulations, laws and informal expectations regarding	584	Platform management includes management of regulatory issues that address ecosystem and wider environment	Platform management	Subdesign element ecosystem and the wider environment	Management of regulatory issues	Subdesign dimension
226	9	Results from case study: The governance decisions include the definition of distinct roles and related mandates (1) as well as levels of engagement (participation and collaboration), separating customer segments of the platform (2) and members of the ecosystem and wider environment (3).	590	Governance decisions address how participants to a platform are treated and the relation of the platform is developed.	Governance decisions	Governance	NA	Design dimension
227	9	Results from case study: the efforts of HSPC show how critically important it is to closely collaborate with other platform ecosystems and the wider environment (area 4) in order to avoid proprietary solutions and to gain legitimacy in the community. HSPC has directly profited from the rise of FHIR over the last years and has adapted its strategy and use cases	590	Close collaboration with other platforms in technical architecture is necessary	Platform collaboration	Architecture	NA	Design dimension
237	10	We use the term platform governance to refer to the fundamental decisions of owners with regards to the ecosystem of complementors. Platform governance encompasses decisions regarding the ownership of the platform (Boudreau, 2010), platform owner's entry into complementary markets (Gawer & Henderson, 2007), or community-building activities	121	Platform governance deals with decisions about ownership and entry to other markets	Platform ownership	Subdesign dimension of Governance	Ownership of the platform Owner's entry into complementary markets of community building activities	Subdesign dimension
270	15	A suitable solution for supporting a pluggable inter-organizational collaboration should therefore achieve the following goals: G1 Individual services can be adopted quickly (quickconnect). G2 Complex inter-organizational functionality can be handled through the use of appropriate collaboration services (quick complexity). G3 Disconnecting individual services or partners will not affect any remaining services or collaborations (quick disconnect).	600	Design goals for inter-organizational collaboration	Design goals for Architecture	Architecture	NA	Design dimension
271	15	The initial design task for the platform is to identify a domain model that is suitable for use as a CDM (canonical data model) to create a single information space for the business network	600	Initial Design Task for the platform	Design goals for Architecture	Architecture	NA	Design dimension

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273	15	The requirements for the architecture can be summarized as follows: R1 Achieve agility by separating the stable components from the evolving ones. R2 Provide a CDM that is suitable for data federation among services. R3 Reach a good balance between completeness and simplicity through extensibility in the domain model. R4 Allow intermediaries to offer collaborative services. R5 Allow business partners to discover new services and new business partners. R6 Provide a means of granting intermediaries access to shared information.	601	Architecture requirements for a platform based cooperation include 6 principles	Architecture requirements	Architecture	NA	Design dimension
274	15	Figure 3 shows that the high-level ecosystem of the architecture involves the three main roles: a Platform Provider, a (platform) Client that implements and offers platform-based business services, and a (service) User.	602	Ecosystem of the architecture involves a platform provider, a client and a user.	Architecture ecosystem	Architecture	NA	Design dimension
279	23	Network effects: the more users who adopt the platform, the more valuable the platform becomes to the owner and to the users because of growing access to the network of users and often to a growing set of complementary innovations.	417	Users influence the value of a platform through attracting other users and innovations	Platform incentives	Subdesign dimensions of network effects	Platform Users	Subdesign dimension
290	23	industry (external) platforms tend to facilitate and increase the degree of innovation on complementary products and services. The more innovation there is on complements, the more value it creates for the platform and its users via network effects, creating a cumulative advantage for existing platforms:	421	External platforms facilitate and increase the degree of innovation, creating more value.	Extern platforms create Network effects	Subdesign dimensions of network effects	Degree of innovation Complementary products and services Innovation on complements	Subdesign dimension
296	23	Perhaps the most critical distinguishing feature of an industry platform compared to an internal company platform or supply chain is the potential creation of network effects...These are positive feedback loops that can grow at exponentially increasing rates as adoption of the platform and the number of complements rise.	422	Network effects distinguish external from internal platforms. They are positive feedback loops	Positive feedback loops distinguishing feature between internal and external networks	Network effects	NA	Design dimension
315	20	The platform architecture focuses on problems of setting up the platform actors, the market, and the fundamental structure. The first issue is to determine the main purpose and core interaction, including main interactions that take place in the platform, and related mission and goals ...the second step includes identifying the relevant market structures and key actors representing different structures by identifying the set and the types of platform users and the minimum required stake holders for the system to be operated Further considerations include platform openness and possible restrictions for participation	882	Problem focus for Platform Architecture: 1. Main purpose; core interaction and main interactions; 2. Relevant market structures and key actors representing different structures and types of platform users; 3. Platform openness and restrictions for participation	Platform Architecture	Subdesign dimension of Architecture	Core interaction Market involvement Key actors Platform openness	Subdesign dimension
316	20	Creating value on platforms involves design choices related to the roles of the actors using or joining the platform, the value proposition(s) for those actors, value creating network effects, and the revenue model of the platform.	883	Value creation in platforms involves design choices for actors, their value propositions and the revenue model of the platform.	Value creation in platforms	Value creating mechanism	NA	Design dimension
317	20	First, the participants need to fill certain actor roles within the platform for value to be created ...Therefore, platform design needs to address the value creation mechanisms, benefits and value functions from each stakeholder's perspective to define value propositions for each ...it is important to consider how value is captured/appropriated. A key interest in platform studies has long been the optimal price structure and revenue model for the platform	883	Focus for Value creation on platforms: 1. Actor roles for participants a. Identification of beneficiaries of the platform b. Achieving commitment 2. Value propositions a. address value creation mechanisms, benefits and value	Value creation in platforms	Subdesign dimension of Value creating mechanism	Actor roles Value proposition Revenue model	Subdesign dimension

Number	Nr. Search	Description from article	Page nr.	E. Open coding	F. Grouping on content	G. Categorization	H. Subcategories from categorization if abstraction is design dimension	J. Abstraction
318	20	Network effects (where each user's value increases due to adoption by further users; constitute a fundamental mechanism of how platform value is created. Therefore, one of the most crucial design problems is how the direct and indirect network effects work, where they exist, and how they impact on the adoption and use of the platform	883	Network effects are a platform mechanism for value creation.	Network effects in platforms	Network effects	NA	Design dimension
319	20	Governance design choices include decisions on leadership and ownership, and the related management practices for the platform ...Designing the platform governance includes also consideration of platform rules: the common regulations, rules and 'laws' that are enforced by the platform leader or other instances for the participants	883	Governance design includes establishment of: (1) Leadership; (2) Ownership; (3) Platform rules and regulations.	Governance design	Subdesign dimension of Governance	(1) Leadership; (2) Ownership; (3) Platform rules	Subdesign dimension
350	29	As platforms bring together multiple user groups, they create the so-called network effects or network externalities. Network externalities imply that a technology's usefulness increases as its installed base of users increases	125	Network effects imply that usefulness of technology increases as the user base increases.	Network effects	Subdesign dimensions of network effects	Increasing No. of users in same or different user group leading to increase in usefulness of technology	Subdesign dimension
351	29	Typically, network externalities (Katz and Shapiro, 1985) are direct if the value of the platform depends on the number of users in the same user group,	125	Direct network effects: no. of users in the same user group influence the value of the platform	Direct Network effects	Network effects	NA	Design dimension
352	29	Externalities are indirect when the value of the platforms depends on the number of users in a different user group.	125	Indirect network effects depend on users numbers in a different group	Indirect Network effects	Network effects	NA	Design dimension
357	29	Henfridsson and Bygstad (2013) suggest that in order to better understand digital platform dynamics, the core unit of analysis should not be the core of the platform but its boundary resources. Boundary resources are made up of software tools and regulations facilitating the arms' length relationships between platform provider and app developers.	126	Understanding of platform dynamics through boundary resources.	Boundary resources	Subdesign dimension of Boundary Resource	Software resources (applications, services or systems for end-users) and regulations facilitating relationships between platform provider and app developers	Subdesign dimension
368	30	We define platform architecture as a conceptual blueprint that describes how the ecosystem is partitioned into a relatively stable platform and a complementary set of modules that are encouraged to vary, and the design rules binding on both	678	Definition Platform architecture: platform; complementary modules and design rules	Definition Architecture	Subdesign dimension of Architecture	A Relatively stable platform; complementary modules that are encouraged to vary and design rules	Subdesign dimension
369	30	A platform's architecture therefore partitions the ecosystem into the platform codebase that ideally exhibits low variety and high reusability and modules that exhibit high variety and low reusability within the ecosystem	679	Result of platform architecture; partitioning of ecosystem in codebase and modules	Result of architecture for platform	Architecture	NA	Design dimension
370	30	The challenge is that platform architectural choices —often irreversible—must accommodate changes unforeseen at the time that the platform was created	679	Challenge for architecture: architectural choices must accommodate changes unforeseen at the time the platform was created.	Challenge for architecture on a platform	Architecture	NA	Design dimension

371	30	<p>The properties of platform architecture can be studied from three distinctive perspectives: (a) decomposition, (b) modularity, and (c) design rules.</p> <p>Decomposition refers to how the form and function of a platform's ecosystem are broken down into constituent atomic subsystems. A platform ecosystem can be decomposed hierarchically into smaller subsystems until further decomposition no longer aids description and comprehension (this "atomic" level is subjective). The number of subsystems into which a platform or module can be partitioned represents its span</p> <p>Modularity refers to the degree to which changes within a subsystem do not create a ripple effect in the behavior of other parts of the ecosystem</p> <p>Design rules refers to the rules that platform owners expect module developers to obey to ensure interoperability with the rest of the ecosystem</p>	679	Study perspectives of platform architecture	Study perspectives	Subdesign dimension of Architecture	Decomposition Modularity Design rules	Subdesign dimension
372	30	We define platform governance as who makes what decisions about a platform.		Definition of platform governance	Definition of Governance	Subdesign dimension of Governance	Who makes decisions about what	Subdesign dimension
373	30	A central governance challenge is that a platform owner must retain sufficient control to ensure the integrity of the platform while relinquishing enough control to encourage innovation by the platform's module developers.		Governance challenge: 'Goldilocks governance problem': retain sufficient control ensuring integrity while relinquishing enough control to encourage innovation.	Challenge for Governance	Governance	NA	Design dimension

6.14. Appendix 14 Rating relevance for all subdesign dimensions

Table 8. Rating relevance for all subdesign dimensions

Design dimension	Subdesign dimension	Mean rating (1 = low relevance; 2 = partial relevance; 3 = high relevance)	Design dimension	Subdesign dimension	Mean rating (1 = low relevance; 2 = partial relevance; 3 = high relevance)
1. Network effects	1.1 Openness	2,6	5. Data governance	5.1 Trustworthiness of complementors	2,8
	1.2 Modularity	2,9		5.2 Data Sovereignty	2,5
	1.3 Quality	3,0		5.3 Interoperability of data	2,6
	1.4 Facilitation of participation	2,5		5.4 Secure exchange of data	3,0
	1.5 Degree of participation	2,4		5.5 Meta datamanagement	2,8
	1.6 User base	2,5		5.6 Data provenance	2,1
2. Governance	2.1 Pricing	2,4	6. Value creating mechanisms	6.1 The efficient and convenient facilitation of transactions	2,8
	2.2 Mechanisms to coordinate	2,4		6.2 The provision of affordances	2,0
	2.3 Decisions and policies	2,3		6.3 Actor roles within the platform	2,0
	2.4 Leadership and ownership status	2,6		6.4 Value creation and capture	2,4
3. Boundary resources	3.1 Technical boundary resources	2,5	7. Ecosystems and the wider environment	7.1 Management of regulatory issues and laws	2,8
	3.2 Social Boundary resources	2,4		7.2 Dialogue with regulatory authorities	2,0
4. Architecture	4.1 Technical architecture	2,5		7.3 Choice of partners	2,5
	4.2 Platform span	1,9		7.4 Forging alliances with other platforms or whole industry actors	1,9
	4.3 Modularity	2,8			
	4.4 Composability	1,9			
	4.5 Malleability	2,3			
	4.6 Design rules	2,3			

6.15. Appendix 15 Additions to the definitions of the subdesign dimensions

Table 9. Additions to the definitions of the subdesign dimensions

Subdesign dimension	Suggested addition (Pn) = Participant nr. which made the comment	Comment by researcher after consideration of suggested addition
1.1 Openness	And to combine information (P3)	To combine information' can be interpreted as a consequence of openness. There are more consequences possible.
1.3 Quality	Quality is a broad concept to summarize all aspects. It is a container-term (P3)	This applies to the features, but not to the conditions for these features; high availability, reliability and security.
1.4 Facilitation of participation	Stimulating coalitionbuilding (P2)	'Coalitionbuilding' is potentially a consequence of facilitation of participation, but not an element.
1.5 Degree of innovation on complementary products	Adjusting the definition of innovation with connections between products and services on the platform (P6)	The focus for the definition of innovation is on complements, which can be products or services, the platform and it's users.
1.6 User-base	Analysis of platform use (P6)	Analysis of platform use is a result of activities that apply to the user-base. The user base is however positioned as a sub-design dimension of network effects.
2.1 Pricing	Don't limit the definition to complementors, but also include care-organizations for example who use the platform (P3)	Pricing is considered as an incentive mechanism, applied to complementors. This in turn is likely to affect the end-users; as complementors are expected to apply pricing or subsidies to the price for end-users. Therefore applying pricing to both complementors and users will result in a doubling of costs for end-users.
2.4 Leadership and ownership status	And stakeholdergroup (P4)	The focus of the leadership is on the platform; the owner and complementors are the key actors that influence the actual design and use of the platform. Stakeholdergroups are better positioned in the designdimension ' Ecosystem and the wider environment'
4.2 Platform span	Defining functionality of subsystems (P8)	Platform span addresses the decomposition of a platform ecosystem in smaller subsystems. The decomposition limits interdependence and supports change and variation (Tiwana, 2010). Although subsystems will envelop a level of functionality, this is a characteristic of a subsystem.
4.3 Modularity	Modularity appears in two different subdesign dimensions (P6)	This concept is addressed differentiy in the perspective of two separate design dimensions
5.1 Trustworthiness of complementors	Addition/ clarification of the term "complementors" (P3)	Respondent interprets 'complementors' as a broader group then only ' developers' and questions whether this concept does not need a broader definition than only developers. The workpackage did not include a specific definition of complementors, platform owner or users. Neither does the thesis seem to provide such a definition. During the interview the term complementor is frequently used in the different design dimensions. It is therefore recommendable to provide definitions for each of the three actors on a DPE.

6.16. Appendix 16 Results Thematic Analysis per subdesign dimension

Coding example for design dimension Network Effects; for each subdesign dimension three examples for items of interest and their resulting codes from participants (P1-P8) are used. The themes represent the actual result for each subdesign dimension; they are based on the coding process for all participants P1-P8.

Design dimension Network Effects - Subdesign dimension 1. Openness		
<p>Items of Interest e.g.: "That 'open', that we should do this. Yes, because that was the basis of our platform." (P1). "Yes, in fact, to improve their own development actually and there it goes to develop in that area, and they have to find something for that and then this could be a nice tool for that." (P5). "Yes, the thing is with <Case-organization>, at the moment it is right that in this, this phase they often use open, other open ecosystems so. It is mainly a consumer of APIs and it is not really a publisher of APIs yet, but of course it could be. Ehm it does make it, but it makes use of that openness at its core, so." (P7).</p>	<p>Coding: "Openness as facilitator"; "Future perspective to use" (P1); "Development" (P5); "Stage of development determining the use of open ecosystems" (P7).</p>	<p>Themes:</p> <ol style="list-style-type: none"> 1. "Perspective on function of the platform" 2. "Stage of development of the platform"
Design dimension Network Effects - Subdesign dimension 2. Modularity		
<p>Items of Interest e.g.: "I can imagine that in the end such an appointment calendar can certainly be very important (in the explanation reference is made to an appointment calendar as an example of modularity), although I also want to make sure that you want to arrange everything via one platform that you immediately do the planning and communication with all providers that are there. I think that's a bridge too far for now, so I'd like to pinpoint it as average as I understand it now." (P3). "I think you always have to have that modularity built in to make progress and also to link with other systems. If we use another application at the organization that is affiliated with this, it is useful to link that." (P4). "But yes, high (relevance) again, but that's what those open APIs bring with them. So then you can then hang any service you want on it. Whether that's mobile or web? Whatever you want." (P8).</p>	<p>Coding: "Stage of development" (P3); "Condition for development" (P4); "Open API's facilitate modularity" (P8).</p>	<p>Theme:</p> <ol style="list-style-type: none"> 1. "Stage of development of the platform"
Design dimension Network Effects - Subdesign dimension 3. Quality		
<p>Items of Interest e.g.: "Closely, I think safety is of course very relevant and in fact that availability is also very relevant, because in principle you have to be able to use it at all times. And if someone just goes down and suddenly has, just can't walk anymore, then it is useful that you can also make it clear to your healthcare providers via the system: help, I have a problem now." (P2). "Quality is much more comprehensive than the definition" (P6). "Yes, or at least the quality of what you deliver must be high, so that might go a bit outside. it says 'features that enable high availability, reliability and security'." (P7).</p>	<p>Coding: "Safety" (P2); "Scope of quality is decisive" (P6); "Quality of functionality must be high" (P7).</p>	<p>Themes:</p> <ol style="list-style-type: none"> 1. "Characterization of social platform also determines the importance of quality" 2. "Scope of quality"
Design dimension Network Effects - Subdesign dimension 4. Facilitation of participation		
<p>Items of Interest e.g.: "We are set up from multisidedness, so all parties must be on board at the same time or should reinforce each other." (P1); "Hey, if <user-organization> not employ physiotherapists themselves, but they work together with a physiotherapy practice or with several, for example, that should be easy, they should be able to work together easily. So such a different physiotherapy practice should easily be able to go in. (P2); "So that means that you can deliver tailor-made solutions aimed at the target group, in order to make offers there. I think that's highly relevant." (P4).</p>	<p>Coding: "Relationship between platform parties" (P1); "Cooperation" (P2); "Target group-oriented" (P4).</p>	<p>Themes:</p> <ol style="list-style-type: none"> 1. "Interdependence between platform parties" 2. "Consistency with other subdesign dimensions"

Design dimension Network Effects - Subdesign dimension 5. Degree of innovation on complementary products

Items of Interest e.g.: "But ultimately, in the future, it is the idea that we are going to work with a lot of data, that you need AI to make meaningful links with it. And that is of course still a bit at the beginning of such an innovation process. So there are the developments, you will have to go along with that and we are not going to do that ourselves." (P3) "So yes, I think it's very important that there is a platform that gives you something and gives you the choice of: look, this is there, you can do something with it, but you don't have to do anything with it." (P4) "And that will also require some innovation, to define information exchange on a scale of the Netherlands, so to speak, and they are working on that. As far as I know, but before that happens, that has been going on for quite a long time, so I think that will take a while." (P6).

Coding: "Relationship with other subdesign dimensions" (P3); "Developmental perspective" (P4); "Stage of development" (P6).

Themes:
1. "Co-creation"
2. "Stage of development of the platform"

Design dimension Network Effects - Subdesign dimension 6. User base

Items of Interest e.g.: "People are not supposed to sit on site of <case-organization> all day, in fact they should only use it when they need it, but of course we do our utmost to achieve that retention." (P1) "So we have to look very carefully at that, how we can increase usefulness at an earlier stage, also for the clients, really the end users." (P3) "If we both use a platform and I do that because I have a dog and I have difficulty walking and I'm looking for a dog walking service, and you do that because of health problems, I know where, and you're talking about it, then that can reinforce each other, bring ideas, that could be." (P4).

Coding: "Reinforcing effect of the platform." (P1); "Chicken-or-egg dilemma; what is a prerequisite for development?" (P3); "Reinforcing effect" (P4).

Theme:
1. "Reinforcing effect of the platform"

Complete coding from all interviews for all subdesign dimensions of 'Network effects'

Subdesign Dimensie 1.1 Openness: the platform allows access to platform resources (e.g. API's) enabling ecosystem participants to develop their own use cases.			
Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	Want het is nu nog gewoon toekomstmuziek, "Because it is still something in the future"	Openness als facilitator "Openness as facilitator"	1. Perspectief op functie van het platform 1. "Perspective on function of the platform"
		Toekomstperspectief voor toepassing "Future perspective to use"	
	Dat we open dat moeten doen, ja, want dat was de basis van ons platform. " That 'open' , that we should do this. Yes, because that was the basis of our platform"	Co-creatie "Co-creation"	
		Basis/ kern van het platform "Basis/ core of the platform"	

2	<p>Omdat het heel belangrijk is in de huidige digitale wereld, dat je mensen gewoon de gelegenheid geeft om, en allerlei bedrijven, om makkelijker met elkaar te connecten op gewoon een platform.</p> <p>"Because it is very important in today's digital world that you just give people, and all kinds of companies, to connect more easily with each other on just one platform."</p>	<p>Verbinding "Connection"</p>
	<p>En ideaal, in het ideale geval heb je, want het is een medisch sociale omgeving dat je via zo'n platform niet alleen toegang hebt tot zeg maar medische informatie en alle, en de zorgers die er allemaal bijhoren. Maar ook het hele sociale gebeuren, wat relevant is voor prettig thuis kunnen wonen.</p> <p>"And ideally, ideally you have, because it is a medical social environment that through such a platform you not only have access to say medical information and all, and the caregivers who all belong to it. But also the whole social event, which is relevant for being able to live comfortably at home."</p>	<p>Integraliteit "Integrity"</p>
3	<p>Uiteindelijk moet het een soort hub zijn waar heel veel data die al verzameld wordt, op samen komt</p> <p>"Ultimately, it should be a kind of hub where a lot of data that is already being collected comes together."</p>	<p>Hub-functie "Hub-function"</p>
4	<p>Vanuit het perspectief van de medewerker als je gebruik maakt van de inhoud van bijvoorbeeld het digitale kluisje, dan is het relevant dat het open is en dat je het ook via één app kunt ontsluiten.</p> <p>"From the perspective of the employee if you use the content of, for example, the digital locker, then it is relevant that it is open and that you can also access it via one app."</p>	<p>Gebruikersperspectief "User-perspective"</p>
	<p>Maar dat vind ik hoog relevant, omdat dat ook een zekere betrouwbaarheid uitstraalt en dat heb ik minder met Facebook en Google."But I find that highly relevant, because that also radiates a certain reliability and I have less that with Facebook and Google."</p>	<p>Betrouwbaarheid "Reliability"</p>

5	<p>die is wel belangrijk voor <user-organization>, omdat daar gewoon men heeft ook een hele scala aan diensten, ook bij <user-organization> zelf, waarbij het op dit moment moeilijk is voor medewerkers om die diensten ook eh, laten we zeggen, in het hoofd te houden gedurende hun zorgtaken en dan zou het fijn zijn als daar bijvoorbeeld de mogelijkheden zijn om via het platform ook te kunnen zien van welke dienstverlening zij zelf ook nog in huis hebben en mogelijk kunnen inzetten in hun werkzaamheden.</p> <p>"that is important for <user-organization>, because there is also a whole range of services, also at <user-organization> itself, where it is currently difficult for employees to also keep those services eh, let's say, in mind during their care tasks and then it would be nice if, for example, there are the possibilities to also be able to see via the platform which services they also have in-house and possibly be able to use in their work."</p>	Beschikbaarheid "Availability"	
	<p>Ja, in feite, om hun eigen ontwikkeling te verbeteren eigenlijk en daar gaat het te ontwikkelen op dat gebied, en daar moeten ze iets voor vinden en dan zou dit een mooi middel voor kunnen zijn.</p> <p>"Yes, in fact, to improve their own development actually and there it goes to develop in that area, and they have to find something for that and then this could be a nice tool for that."</p>	Ontwikkeling "Development"	
6	<p>op dit moment ontwikkelen we nog hard zelf aan het platform en dan zeg ik we en dan bedoel ik eigenlijk zowel <complementor> als <complementor> . En is het de openheid naar anderen toe om iets met het platform te willen is nog niet zo belangrijk. Als ik kijk naar wat we in het begin aan architectuur bedacht hebben en dus waar we ook naartoe moeten, dan is het zeker wel relevant, maar het is nog niet uitgewerkt hoe we dat precies gaan doen.</p> <p>"at the moment we are still developing hard ourselves on the platform and then I say we and I actually mean both <complementor> and <complementor>. And is it the openness to others to want something with the platform is not that important. If I look at what we came</p>	Ontwikkelingsstadium van het platform "Stadium of development for the platform"	2. Ontwikkelings stadium van het platform 2. "Stage of development of the platform"

	<p>up with in the beginning in terms of architecture and therefore where we also have to go, then it is certainly relevant, but it has not yet been worked out how exactly we are going to do that."</p>	
	<p>ja ook, ja, dus onze capaciteit dus is beperkt, en het aantal mensen, het aantal partijen dat er op dit moment actief mee bezig is, is ook beperkt, en binnen het platform, zeg maar dus ja, dat dat is te overzien. Maar dingen al laten ontwikkelen door anderen of het zodanig maken dat anderen daar ook iets mee kunnen dat is nog iets voor de toekomst.</p> <p>"yes also, yes, so our capacity is limited, and the number of people, the number of parties that are actively working on it at the moment, is also limited, and within the platform, say yes, that is manageable. But having things already developed by others or making it in such a way that others can also do something with it is still something for the future."</p>	<p>Capaciteit die beschikbaar is "Available capacity"</p>
7	<p>Het is geen platform om, waar geld aan verdient moet worden. Het is een platform dat, waarbij patiënten, cliënten meer inzicht krijgen in hun, de vormen van zorg die ze van ons ontvangen. Dus daar, ja, het idee is dat dat dat dat met een hoge openheid kan verbinden met allerlei andere platformen, waardoor het als zichzelf openstelt het ook andere platformen kan binnenhalen kan koppelen.</p> <p>"It is not a platform to earn money from. It is a platform that, where patients, clients get more insight into their, the forms of care they receive from us. So there, yes, the idea is that that that can connect that with a high openness with all kinds of other platforms, so that it can also link other platforms if it opens itself up."</p>	<p>Functie van platform is bepalend "Platform function is decisive"</p>
	<p>ja, het ding is met <Case-organization>, op dit moment is het juist dat in deze, deze fase maken zij vaak gebruik van open, andere open ecosystemen dus. Het is vooral een consumer van API's en het is nog niet echt een publisher van API's, maar dat zou het wel kunnen zijn natuurlijk. Ehm het maakt het wel, maar het maakt in de kern gebruik van die openess, dus."yes, the thing is with <Case-organization>, at the moment it is right that in this, this phase they often use open, other open ecosystems</p>	<p>ontwikkelingsstadium bepalend voor gebruik van open ecosystemen"stage of development determining the use of open ecosystems"</p>

	so. It is mainly a consumer of APIs and it is not really a publisher of APIs yet, but of course it could be. Ehm it does make it, but it makes use of that openness at its core, so."		
8	<p><Case-organization> is een eindklant voor mij, dus die gaan niet het platform distribueren als een white label platform. Dat doe ik. I: Een white label platform. Wat betekent dat?</p> <p>"<Case-organization> is an end customer for me, so they're not going to distribute the platform as a white label platform. That's what I do. I: A white label platform. What does that mean?"</p> <p>Nou ja, dat ik zonder stempeltje, zonder merk dat platform uitlever. Dat doen we nu bij een tiental klanten. Dus Zo-Dichtbij mag beeldmerk en en logo erop zetten. Maar feitelijk is het niet hun platform. Dat bedoel ik met white label.</p>	<p>Functionaliteit is bepalend "Functionality is decisive"</p>	
	<p>Het moet ook gestructureerd zijn, met name in de medische tak van sport, is het structuur aanbrengen van die medische data en daar aanhangen van metadata is, natuurlijk van cruciaal belang.</p> <p>"It must also be structured, especially in the medical branch of sport, is the structure of that medical data and there attachment of metadata is of course crucial."</p>	<p>Structuur faciliteert data "Structure facilitates data"</p>	

Subdesign Dimensie			
1.2Modularity: enables different organizations to build complementary products or services.			
Participat nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"

1	<p>En natuurlijk hebben we aan de schaalbaarheid gedacht dus het moet ook op allerlei devices kunnen werken dus ook op een smartphone en dadelijk in de vorm van een app ondanks dat wij niet uitgaan van een app. Wij gaan uit van een webapplicatie</p> <p>"And of course we have thought about scalability so it must also be able to work on all kinds of devices, including on a smartphone and immediately in the form of an app despite the fact that we do not assume an app. We start from a web application"</p>	Schaalbaarheid "Scalability"	
2	<p>want het is heel erg handig als je gewoon met elkaar kan communiceren via het platform dat je niet daarnaast ook nog weer de telefoon nodig hebt of persé bij mensen langs hoeft te gaan, en ook gewoon om slim afspraken op elkaar te kunnen afstemmen.</p> <p>"because it is very useful if you can just communicate with each other via the platform that you do not also need the phone or necessarily have to visit people, and also just to be able to smartly coordinate agreements with each other."</p>	Uniformiteit "Uniformity"	1. Ontwikkelingsstadium van het platform 1. "Stage of development of the platform"
3	<p>Ik kan me wel voorstellen dat uiteindelijk zeker zo'n afsprakenkalender heel erg van belang kan zijn (in de toelichting wordt verwezen naar een afsprakenkalender als voorbeeld van modulariteit), hoewel ik er ook voor wil waken dat je álles wil gaan regelen via één platform dat je meteen de planning doet en de communicatie met alle aanbieders die d'r zijn. Ik denk dat dat voor nu wel naar een 'bridge too far' is, dus ik zou hem als gemiddeld willen pinpointen zoals ik hem nu begrijp.</p> <p>"I can imagine that in the end such an appointment calendar can certainly be very important (in the explanation reference is made to an appointment calendar as an example of modularity), although I also want to make sure that you want to arrange everything via one platform that you immediately do the planning and communication with all providers that are there. I think that's a bridge too far for now, so I'd like to pinpoint it as average as I understand it now."</p>	Ontwikkelingsstadium "Stage of development"	

4	<p>Ik denk dat je die modulariteit altijd moet laten inbouwen om progressie te maken en ook om te koppelen met andere systemen. Als we bij de organisatie gebruik maken van een andere applicatie die hieraan gelieerd is dan is het handig om dat te koppelen.</p> <p>"I think you always have to have that modularity built in to make progress and also to link with other systems. If we use another application at the organization that is affiliated with this, it is useful to link that."</p>	<p>Voorwaarde voor ontwikkeling "Condition for development"</p>	
5	<p>want in mijn beleving, is een systeem zo betrouwbaar als dat er problemen ontstaan. Maar je moet die problemen zien te voorkomen op allerlei wijzen. Dat geldt niet alleen voor veiligheid, maar ook inderdaad, je moet er in kunnen. Het moet niet zo zijn dat je elke keer ergens daaraan 'bugt' en zo. Dus wat mij aangaat zijn dit wel ontzettende belangrijke dingen. Het netwerk moet functioneren gewoon.</p> <p>"because in my experience, a system is as reliable as problems arise. But you have to avoid those problems in all kinds of ways. That applies not only to safety, but also indeed, you have to be able to get in. It should not be the case that you 'bug' and all that every time somewhere. So as far as I'm concerned, these are incredibly important things. The network just has to function."</p>	<p>Betrouwbaarheid "Reliability"</p>	
6	<p>Maar er zit achter elke module, dit moet ook modulair zijn om bijvoorbeeld verschillende partijen die kluisjes beheren aan te kunnen sluiten, en verschillende partijen die producten en diensten leveren aan te kunnen sluiten en verschillende informatiebronnen zeg maar, in te laden van verschillende kanten, ofzo dus.</p> <p>"But there is behind each module, this must also be modular to be able to connect, for example, different parties that manage lockers, and different parties that provide products and services to be able to connect and to load different sources of information, so to speak, from different sides, or something."</p>	<p>Samenwerking "Cooperation"</p>	

7	<p><Case-organization> is een zich ontwikkelend platform, maakt gebruik van andere partijen, en om die ontwikkeling te stimuleren is die mooi modulariteit dan ook wel belangrijk."<Case-organization> is a developing platform, makes use of other parties, and to stimulate that development, that beautiful modularity is therefore important."</p>	Functie van platform is bepalend "Function of platform is decisive"	
		ontwikkelingsstadium bepalend voor gebruik van open ecosystemen "stage of development determining the use of open ecosystems"	
8	<p>Maar ja, hoge (relevantie) wederom maar dat dat brengen die open API's juist ook met zich mee. Dus dan kun je daarna kun je elke dienst er aan hangen die je wil. Of dat nu mobiel is of web? Wat je maar zou willen.</p> <p>"But yes, high (relevance) again, but that's what those open APIs bring with them. So then you can then hang any service you want on it. Whether that's mobile or web? Whatever you want."</p>	Open API's faciliteren modulariteit "Open API's facilitate modularity"	
		<p>We hebben een Microservice architectuur neergezet.</p> <p>"We have created a Microservice architecture."</p>	

Subdesign Dimensie			
1.3Quality: features that enable high availability, reliability, and security, which can be highly valued by ecosystem participants.			
Participat nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	we hebben in eerste instantie ook alleen maar in beeld alle goedlopende lieden dus alle partijen die zich al hebben bewezen in de markt, c.q. die hebben zo'n goede basis en ondergrond dat zijn de partners waarmee we in eerste instantie praten om ze aan boord te trekken van het concept van <case-organization>	Belang van samenwerking "Importance of cooperation"	1. Typering sociaal platform mede bepalend voor belang kwaliteit

	<p>"in the first instance we only have in the picture all the successful people so all parties that have already proven themselves in the market, or they have such a good basis and foundation that are the partners with whom we initially talk to attract them to the concept of <case-organization>".</p>	<p>Kwaliteit van partners "Quality of partners"</p>	<p>1."Characterization of social platform also determines the importance of quality"</p>
	<p>eigenlijk ben ik, wat ik constant aan het doen ben is het jagen op stempeltjes. De 'Interrai' stempel voor de vraagverheldering. Mogelijk dadelijk Regelhulp inpassen dat is echt vanuit de overheid zelf. Laten we maar laten zien, de stichting als basisvehikel, geen commercieel, natuurlijk moet dit commercieel uitgenut blijven anders kunnen we niet levend blijven maar er zit een groot verschil tussen een sociale innovatie en een zicht op dollartekens in mijn ogen al.</p> <p>"actually I am, what I'm constantly doing is hunting for stamps. The 'Interrai' stamp for the question clarification. Possibly immediately fitting in Regelhulp that is really from the government itself. Let's just show, the foundation as a basic vehicle, not commercial, of course this must remain commercially exploited otherwise we cannot stay alive but there is a big difference between a social innovation and a view of dollar signs in my eyes already."</p>	<p>Aantoonbare (genormeerde) kwaliteit "Demonstrable (standardized) quality"</p> <p>Sociale innovatie "Social innovation"</p>	
	<p>Bij ons is het een voorwaarde en bij andere partijen zullen ze denken we voldoen aan de regeltjes waaraan we moeten voldoen en 'gaan met die banaan'.</p> <p>"With us it is a condition and with other parties they will think we comply with the rules that we have to comply with and 'go with that banana'."</p>	<p>Belang van kwaliteit voor een sociaal platform "Importance of quality for a social platform"</p>	
2	<p>Nauw, ik vind veiligheid natuurlijk heel erg relevant en in feite is die beschikbaarheid ook heel relevant, want je moet er in principe ten alle tijde gebruik van kunnen maken. En als iemand gewoon onderuit gaat en heeft opeens, kan gewoon niet meer lopen, dan is het handig dat je ook via het systeem aan jou zorgverleners duidelijk kan maken: help, ik heb nu een probleem.</p> <p>"Closely, I think safety is of course very relevant and in fact that availability is also very relevant,</p>	<p>Veiligheid "Safety"</p>	

	<p>because in principle you have to be able to use it at all times. And if someone just goes down and suddenly has, just can't walk anymore, then it is useful that you can also make it clear to your healthcare providers via the system: help, I have a problem now."</p>		
3	<p>Dus je moet alles aanpakken, al ben ik lang geen voorstander van al die certificaten. Ze hebben toch een bepaalde rol in de uitdrukking naar de samenleving toe dat je er in ieder geval enorm mee bezig bent en dat er een derde naar kijkt, en dat je dat ook op een goede manier doet. Dus dit is enorm belangrijk om dit heel goed voor elkaar te... en alle certificering aan te grijpen die die d'r zijn, om aan te tonen dat je met die zeer gevoelige data heel voorzichtig omgaat.</p> <p>"So you have to tackle everything, although I am not in favor of all those certificates for a long time. They do have a certain role in the expression towards society that you are at least very busy with it and that a third party is looking at it, and that you are doing it in a good way. So this is hugely important to get this done very well... and to use all the certification that they are, to show that you handle that very sensitive data very carefully."</p>	Waarborg "Guarantee"	
4	<p>Ja, die veiligheidsdimensie, die is heel hoog, omdat je anders ook niet de organisatie binnenkomt. Dan gewoon even heel simpel, een applicatie of een toepassing wordt altijd beoordeeld en dat gebeurt niet door mij maar dat gebeurt door allerlei security officers enzovoorts die tegenwoordig aan de organisaties verbonden zijn. "Yes, that safety dimension, it is very high, because otherwise you will not enter the organization. Then just very simple, an application or an application is always reviewed and that is not done by me but that happens by all kinds of security officers and so on who are connected to the organizations nowadays."</p>	Veiligheid "Safety"	2. Scope van kwaliteit 2. "Scope of quality"

5	<p>Als je systeem maar werkt, nee zo werkt het natuurlijk niet. Het moet gewoon beveiligd zijn. Dus <case-organization> heeft in dit geval <user-organization> aan de hand genomen om te zorgen dat die Medmij certificering ook inderdaad dan zijn handen en voeten krijgt. Ze zijn klaar.</p> <p>"As long as your system works, no, of course it doesn't work that way. It just has to be secured. So <case organization> in this case, has taken the hand of <user-organization> to ensure that the Medmij certification does indeed get its hands and feet. They're done."</p>	<p>Garantie "Guarantee"</p>
6	<p>Aard van de gegevens bepaald kwaliteit</p> <p>"Nature of the data determined quality"</p>	<p>Veiligheid "Safety"</p>
	<p>Kwaliteit is veel omvattender dan de definitie</p> <p>"Quality is much more comprehensive than the definition"</p>	<p>Scope van kwaliteit is bepalend "Scope of quality is decisive"</p>
	<p>Ja, of in ieder geval de kwaliteit van wat je levert moet hoog zijn, dus dat gaat misschien wel wat buiten.. er staat 'features that enable high availability, reliability and security'.</p> <p>"Yes, or at least the quality of what you deliver must be high, so that might go a bit outside. it says 'features that enable high availability, reliability and security'."</p>	<p>Kwaliteit van functionaliteit moet hoog zijn "Quality of functionality must be high"</p>
	<p>Jawel omdat je dus te maken hebt met echte real life. Ja, dus als je een pizza bestelt op op, op, op, op thuisbezorgd en die pizza komt niet aan, ja weet je wel alle, maar op het moment dat je dat er een, dat er een zorgmedewerker met de patiënt zit en ze zijn er iets invullen en dan moet iets relevants uitkomen, dan die kwaliteit van de informatie en de kwaliteit van de toepassing moet gewoon hoog zijn, want anders dan... dat maakt dat maakt het ook wel een lastig product om mee te testen, dus het is meteen en ook qua veiligheid en dat soort zaken.</p> <p>"Yes, because you are dealing with real real life. Yes, so if you order a pizza on, on, on, on 'thuisbezorgd' and that pizza doesn't arrive, yes</p>	<p>Aard van de cliënten vereist hoge kwaliteit "Nature of the clients requires high quality"</p>

	you know alla, but the moment you have that one, that there's a care worker with the patient and they fill in something and then something relevant has to come out, then that quality of the information and the quality of the application just has to be high, because other than... that makes it also a difficult product to test with, so it is immediately and also in terms of safety and things like that."		
8	Ja, ik benoem ze alle drie hoog, want ik zie, wij zijn gecertificeerd voor NEN7510, ISO27001 en Medmij, en dat heeft ons gebracht waar we nu zijn, maar dat, die ze alle drie ernstig met elkaar verbonden, natuurlijk. "Yes, I name all three highly, because I see, we are certified for NEN7510, ISO27001 and Medmij, and that has brought us to where we are now, but that, which all three of them are seriously connected, of course."	Standaarden zijn bepalend voor kwaliteit "Standards determine quality"	

Subdesign Dimensie			
1.4 Facilitation of participation: this aims for the enhancement of both a user and contributor base. Such a growing base can add to the creation of (cross-side) network effects.			
Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"-"Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	we zijn opgezet vanuit multisidedness, dus alle partijen moeten gelijktijdig aan boord c.q. zouden elkaar moeten versterken. "we are set up from multisidedness, so all parties must be on board at the same time or should reinforce each other."	Verhouding tussen platformpartijen "Relationship between platform parties"	1. Wederzijdse afhankelijkheid platformpartijen 1."Interdependence between platform parties"
	Toch hebben we geprobeerd om een link te leggen naar onze publiek-private samenwerking. Puur voorwerk, puur om te kijken kunnen we van	Relatie architectuur met facilitation of participation	

	<p>een referentie architectuur komen naar een solution architectuur. En wat heb je, welke stappen moet je dan maken en welke moet je dan niet vergeten.</p> <p>"Nevertheless, we have tried to make a link to our public-private partnership. Pure preliminary work, purely to look, we can go from a reference architecture to a solution architecture. And what do you have, which steps do you have to make and which ones should you not forget."</p>	<p>"Relationship architecture with facilitation of participation"</p>
2	<p>Hé, als <user-organization> niet zelf fysiotherapeuten in dienst hebben, maar die werken bijvoorbeeld samen met een fysiotherapie praktijk of met verschillende, dat moet makkelijk zijn, die moeten makkelijk met elkaar kunnen samenwerken. Dus zo'n andere fysiotherapiepraktijk moet er makkelijk gewoon in kunnen.</p> <p>"Hey, if <user-organization> not employ physiotherapists themselves, but they work together with a physiotherapy practice or with several, for example, that should be easy, they should be able to work together easily. So such a different physiotherapy practice should easily be able to go in.</p>	<p>Samenwerking "Cooperation"</p>
	<p>Gezien de fase waarin wij zitten, is dit denk ik 'gemiddeld', maar het moet 'hoog' worden</p> <p>"Given the phase we are in, I think this is 'average', but it has to be 'high'."</p>	<p>Ontwikkelingsfase "Stage of development"</p>
3	<p>En je hebt ook '<complementor2>' die nou ja, ik ben het nog steeds een beetje aan het ontpluizen wat '<complementor2>' nou precies doet en wat wij zelf met '<complementor 1>' doen. Dus ja, ik kan me voorstellen, als je zeker met 'Nedap' gaat werken en dat soort dingen, dat je daar, dat dat van hoog belang, ook zal gaan zijn als ik 'm nu begrijp.</p> <p>"And you also have '<complementor2>' that well, I'm still figuring out what '<complementor2>' does and what we do with '<complementor1>'. So yes, I can imagine, if you are definitely going to work with 'Nedap' and things like that, that you will also be there, that that is of great importance, if I understand it now.</p>	<p>Stapsgewijze ontwikkeling "Step-by-step development"</p>

	<p>Wat dat doet, vervolgens, met certificeringen gehaald en voor wat betreft privacy en dat soort dingen, en moet je dat dan eigenlijk niet zelf ontwikkelen om dat soort certificering en niet ... ja, vormt dat geen risico voor de certificeringen die je hebt.</p> <p>"What that does, then, with certifications and in terms of privacy and things like that, and then you don't actually have to develop that yourself to get that kind of certification and not... yes, that doesn't pose a risk to the certifications you have."</p>	<p>Relatie met andere subdesign dimensies "Relationship with other subdesign dimensions"</p>	<p>2. Samenhang met andere subdesign dimensies 2. "Consistency with other subdesign dimensions"</p>
4	<p>Dus dat betekent dat je gericht op de doelgroep maatwerk kunt leveren, om daar aanbiedingen te doen. Dat vind ik wel hoog relevant.</p> <p>"So that means that you can deliver tailor-made solutions aimed at the target group, in order to make offers there. I think that's highly relevant."</p>	<p>Doelgroepgericht "Target group-oriented"</p>	
5	<p>En dan is het belangrijk dat je daar gelijkgestemdheid en daardoor ook een stukje coalitievorming gaat organiseren om het geheel heen."And then it is important that you organize like-mindedness and therefore also a piece of coalition formation around the whole."</p>	<p>Coalitievorming "Coalitionbuilding"</p>	
6	<p>De bedoeling is, dat gebruikers er wat aan hebben en in de zin van netwerk effecten dat de verschillende partijen daar allemaal wat aan hebben</p> <p>"The intention is that users benefit from it and in the sense of network effects that the various parties all benefit from it."</p>	<p>Gezamenlijk belang van het platform "Common interest of the platform"</p>	
7	<p>Ja, en niet te veel andere partijen aan te trekken. Dus nu hebben ze een organisatie waar ze mee werken en een kleine groep mensen, en ik denk dat dat want je dat niet, dat je de eerst de kwaliteit van de applicaties goed wil krijgen voordat je de participatiegraad gaat verhogen</p> <p>"Yes, and not to attract too many other parties. So now they have an organization that they work with and a small group of people, and I think that because you don't, you want to get the quality of the applications right before you start increasing the participation rate."</p>	<p>Ontwikkelingsstadium is bepalend voor de mate van samenwerking. "Development stage determines the degree of cooperation."</p>	

8	<p>Ja, ik denk dat dat. Daar voeg ik wat minder groot aan toe. Dus dus daar zal ik twee aan geven. Ehm, omdat ik dat meer in het eindproduct vind zitten. Hé, ik zie <case-organization> als een eindproduct; B2B of B2B2C en daar is dat van belang, maar voor mij als platform minder.</p> <p>I: Ja, dan plaats je de, de betekenis of de essentie, de relevantie van de subdesign dimensie ook in het ontwikkel stadium van het platform, naar een kant en klaar product, en dan is die facilitation zeg je eigenlijk; die is, wanneer het klaar is, is een heel belangrijk of een heel relevant kenmerk. Ja, je marketinginstrument.</p> <p>"Yes, I think so. I'll add a little less big to that. So I'll give two to that. Um, because I think that's more in the final product. Hey, I see <case-organization> as a finished product; B2B or B2B2C and that's where that's important, but less so for me as a platform. I: Yes, then you place the, the meaning or the essence, the relevance of the subdesign dimension also in the development stage of the platform, to a ready-made product, and then that facilitation is what you actually say; which is, when it's done, is a very important or a very relevant feature. Yes, your marketing tool.</p>	<p>Belangrijk als toepassing door <case-organization>, maar niet voor platformbouwer</p> <p>"Important as an application by <case-organization>, but not for platform builder</p>	
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Subdesign Dimensie

1.5 Degree of innovation on complementary products: the more innovation there is on complements, the more value it creates for the platform and its users (via network effects), creating a cumulative advantage for existing platforms.

Participat nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- Quotes from interview addressing the relevance of the subdesign dimension.	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
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1	<p>R: 'Envelopment' heeft eigenlijk in de basis te maken dat er overal al goeie wielen zijn. Je kunt alles proberen zelf te ontwikkelen of je zegt hé. Ik noem een voorbeeld in onze branche. De Thuisarts.nl. Dat bestaat al dat is wordt verschrikkelijk goed bijgehouden. Daar zit al verschrikkelijk veel effort in. Als we dat kunnen aanbieden via <case-organization> dat mensen verwijzen naar thuisarts.nl dat ze eerst zelf al kijken voordat ze die huisarts bellen dan helpen we mee om die mensen in de regie te houden. Datzelfde geldt ook voor regelhulp. Natuurlijk kun je ook een linkje toewijzen maar in hoeverre is het mogelijk om meer op API niveau dit binnen te halen binnen <case-organization> . Het is nog niet klaar maar dit is juist de realiteit van <case-organization> . We hebben niet voor niets gekozen, misschien spring ik een beetje van de hak op de tak dus ik hoop dat je er chocolade van kunt maken, maar om onze Backbone vast volgens de PGO richtlijnen op te zetten, waardoor als we dadelijk informatie met anderen moeten uitwisselen dat we aan alle standaarden voldoen die daaraan vasthangen. Antwoord: Ja, hoog.</p> <p>"R: 'Envelopment' basically has to do with the fact that there are already good wheels everywhere. You can try to develop everything yourself or you say hey. Let me give you an example in our industry. The Thuisarts.nl. That already exists that is terribly well tracked. There is already an awful lot of effort in that. If we can offer that through <case-organization>that people refer to thuisarts.nl that they first look themselves before they call that doctor, then we help to keep those people in control. The same applies to control aid. Of course you can also assign a link, but to what extent is it possible to get more on an API level within <case-organization>.It is not finished yet, but this is the reality of <case-organization>. We didn't choose for nothing, maybe I'm jumping a bit off the hook so I hope you can make chocolate out of it, but to set up our Backbone according to the PGO guidelines, so that if we have to exchange information with others immediately that we meet all the standards that are attached to it. Answer: Yes, high."</p>	<p>Gebruik maken van mogelijkheden. "Making use of possibilities"</p>	<p>1.Co-creatie 1."Co-creation"</p>
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	<p>Zie ons als een podiumplaats. Dat ligt in lijn met die 'Envelopment'.</p> <p>"Think of us as a podium place. That is in line with that 'Envelopment'."</p>	<p>Centrale plaats van platform</p> <p>"Central location of the platform"</p>	
2	<p>Ja, eigenlijk is het ook gewoon, dat zal < CEO case organization> misschien ook wel gezegd hebben, uiteindelijk, met een co-creatie maak je gewoon veel meer en betere dingen.</p> <p>"Yes, actually it is also common, < CEO case organization> may also have said, in the end, with a co-creation you just make much more and better things.</p>	<p>Co-creatie</p> <p>"Co-creation"</p>	
3	<p>Maar uiteindelijk, in de toekomst, is het wel het idee dat we dus met héél veel data aan de slag gaan, dat je daar dus wel AI voor nodig om daar zinnig koppelingen mee te maken. En dat zit natuurlijk wel nog een beetje aan het begin van zo'n innovatie traject. Dus daar zijn de ontwikkelingen wel, daar zal je in mee moeten gaan en dat gaan we niet zelf doen.</p> <p>"But ultimately, in the future, it is the idea that we are going to work with a lot of data, that you need AI to make meaningful links with it. And that is of course still a bit at the beginning of such an innovation process. So there are the developments, you will have to go along with that and we are not going to do that ourselves."</p>	<p>Relatie met andere subdesign dimensies</p> <p>"Relationship with other subdesign dimensions"</p>	
4	<p>Ja goed, ik denk dat dat in de toekomst inderdaad heel erg belangrijk wordt dus dat wordt dan een drie, omdat iedere burger, ik ook, niet volledig op de hoogte zal zijn van alle nieuwe innovaties die mogelijk mij helpen om zelfstandiger enz te zijn. Dus ja, ik denk dat het heel belangrijk is dat daar een platform is die je wat aanreikt en de keuze geeft van: kijk eens, dit is er, je kunt er wat mee, maar je hoeft er niks mee.</p> <p>"Yes well, I think that in the future that will indeed be very important so that will be a three, because every citizen, including me, will not be fully aware of all the new innovations that may help me to be more independent etc. So yes, I think it's very important that there is a platform that gives you something and gives you the choice of: look, this is there, you can do something with it, but you don't have to do anything with it."</p>	<p>Ontwikkelingsperspectief</p> <p>"Developmental perspective"</p>	

5	<p>Wat kunnen wij toevoegen in zijn totaliteit? Nou dat zal <user-organization> niet helemaal op zitten te wachten, die zegt alleen: waar kan ik mijn verpleegkundige mee helpen? Dat is een hele andere insteek, zeg maar, dus die zit niet op al die rimram te wachten om het maar zo te zeggen. Die zal het zo zeggen: ons gaat het om, hoe kunnen wij onze medewerkers effectiever en efficiënter inzetten?"What can we add in its entirety? Well that will <user-organization> not all be waiting for, he just says: what can I help my nurse with? That is a completely different approach, so to speak, so it is not waiting for all that rimram, so to speak. He will put it this way: what matters to us is how can we use our employees more effectively and efficiently?</p>	<p>Relevantie"Relevance"</p>	
6	<p>Dus daar zit enige innovatie in. Maar dat zit, ja, ook niet zo heel veel, en dat zit niet bij de complementors... ja, dat zit bij ons. Ik weet niet of je ons een complementor noemt.</p> <p>"So there's some innovation in that. But that is, yes, not so much, and that is not with the complementors... yes, that's with us. I don't know if you call us a complementor."</p>	<p>Specifiek voor complementors "Specific for complementors"</p>	
	<p>En daar zal ook wel wat innovatie voor nodig zijn, om op schaal van Nederland, zeg maar, om informatie-uitwisseling te definiëren en dergelijke, en daar zijn ze wel mee bezig. Voor zover ik weet maar voordat dat zover is, dat is al vrij lang bezig, dus dat duurt denk ik nog wel even.</p> <p>"And that will also require some innovation, to define information exchange on a scale of the Netherlands, so to speak, and they are working on that. As far as I know, but before that happens, that has been going on for quite a long time, so I think that will take a while."</p>	<p>Ontwikkelingsstadium "Stage of development"</p>	<p>2. Ontwikkelingsstadium van het platform 2. "Stage of development of the platform"</p>
	<p>:Mmm ja de innovatie zit meer in het koppelen van die verschillende dienstverleningen in één platform dan dat het de verschillende producten en diensten zelf zijn, zeg maar, dus..</p> <p>":Mmm yes the innovation is more in linking those different services in one platform than that it is the different products and services themselves, so to speak."</p>	<p>Koppeling van dienstverleningen "Linking of services"</p>	

7	<p>ik ben zelf vaak ook geneigd om het om het simpel te houden, om niet te veel, want innovatie is ook vaak. Brengt ook vaak complexiteit met zich mee, zeg maar,</p> <p>"I myself am often inclined to keep it simple, not too much, because innovation is also often. Also often brings complexity, so to speak,"</p>	<p>Innovatie resulteert ook in complexiteit "Innovation also results in complexity"</p>
8	<p>Ik denk wel iets om in dat markt een interessante positie te krijgen, heeft het wel iets nodig, iets dus, een innovatieve manier van informatie laten zien of whatever? Dat heeft het, denk ik, wel nodig om, ja, om te kunnen slagen als platform.</p> <p>"I do think something to get an interesting position in that market, does it need something, something, an innovative way of showing information or whatever? I think it needs that to, yes, to be able to succeed as a platform."</p>	<p>Innovatie is ook nodig om te kunnen slagen als platform "Innovation is also needed to succeed as a platform Innovatie resulteert ook in complexiteit"</p>
	<p>Dus mijn platform is op dit moment helemaal niet zo innovatief. Het is gewoon een keurig netjes in elkaar gezet. Het is gebaseerd op de laatste technologieën, maar dat zie ik niet als innovatief... Maar dat komt ook omdat, kijk, wij focussen natuurlijk puur op techniek en dan is het ook slimmer om op met bewezen technologie aan de slag te gaan en als je innovatie aan wilt tonen, dan vind ik dat eerlijk gezegd meer aan de marketing kant zitten, net zoals de voorgaande, en daar zal het wel van belang zijn.</p> <p>"So my platform isn't that innovative at the moment. It's just a neatly put together. It's based on the latest technologies, but I don't see that as innovative... But that's also because, look, of course, we focus purely on technology and then it's also smarter to work with proven technology and if you want to demonstrate innovation, then I honestly think that's more on the marketing side, just like the previous ones, and that's where it will be important."</p>	<p>Innovatie is niet bepalend voor complementor als platformbouwer "Innovation does not determine complementor as a platform builder"</p>

Subdesign Dimensie

1.6 User-base: the usefulness of technology on a platform increases with the increase of the user-base.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- Quotes from interview addressing the relevance of the subdesign dimension.	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
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1	<p>dan heb je het inderdaad over van een soort bijna lock-in, ik vind niet leuk kom te zeggen dat we er wel naar streven. Het is niet de bedoeling dat de mensen de hele dag op site van <case-organization> zitten, sterker nog ze moeten het alleen gebruiken als ze het nodig hebben maar natuurlijk doen we ons uiterste best om die retentie voor elkaar te krijgen.</p> <p>"then you are indeed talking about a kind of almost lock-in, I do not like to say that we do strive for it. People are not supposed to sit on site of <case-organization> all day, in fact they should only use it when they need it, but of course we do our utmost to achieve that retention."</p> <p>"and then it is absolutely important that what is in the locker remains under the direction of the client, no one can access that. That data simply belongs to that client himself,"</p>	<p>Versterkend effect van het platform. "Reinforcing effect of the platform."</p> <p>Data-eigenaarschap "Data-ownership"</p>	
2	<p>naarmate er meer klanten in een systeem zitten, leren wij meer over wat het doet, wat het moet doen.</p> <p>"as more customers are in a system, we learn more about what it does, what it needs to do."</p>	<p>Feedback "Feedback"</p>	
3	<p>Dus we moeten daar heel erg goed naar gaan kijken, hoe we toch in een eerder stadium, ook voor de cliënten, echt de eindgebruikers, de usefulness kunnen gaan verhogen. Dus ik denk dat dit ook wel 'hoog' is, in de zin dat we er nog niet goed in zijn, met waar we nu mee bezig zijn, maar dat we daar wel mee aan de slag moeten want anders gaat niemand het gebruiken in de beginfase en komen ze pas op het allerlaatste, en dat gaan we financieel ook weer niet rond te krijgen.</p> <p>"So we have to look very carefully at that, how we can increase usefulness at an earlier stage, also for the clients, really the end users. So I think this is also 'high', in the sense that we are not yet good at it, with what we are doing now, but that we have to work with it because otherwise nobody will use it in the initial phase and they will only come at the very last, and we will not be able to get that done financially."</p>	<p>Kip-of-ei dilemma; wat is een voorwaarde voor de ontwikkeling? "Chicken-or-egg dilemma; what is a prerequisite for development?"</p>	<p>1. Versterkend effect van het platform. 1. "Reinforcing effect of the platform"</p>

4	<p>Als wij allebei gebruik maken van een platform en ik doe dat omdat ik een hond heb en ik ben slecht ter been en ik zoek een honden uitlaatservice, en jij doet dat vanwege gezondheidsklachten, weet ik het waar, en je hebt het erover, dan kan dat elkaar versterken, op ideeën brengen, dat zou kunnen.</p> <p>"If we both use a platform and I do that because I have a dog and I have difficulty walking and I'm looking for a dog walking service, and you do that because of health problems, I know where, and you're talking about it, then that can reinforce each other, bring ideas, that could be."</p>	<p>Versterkend effect "Reinforcing effect"</p>
5	<p>Maar daar moet je natuurlijk wel uitkijken dat je wel zorgt dat het een toegankelijk platform blijft en dat dat ook inderdaad een structuur biedt, die jou niet door allerlei lijsten werkt want daar worden die mensen helemaal gek van, en zeker die ouderen, die kunnen dat zelf helemaal niet handelen</p> <p>"But of course you have to be careful that you make sure that it remains an accessible platform and that that does indeed offer a structure that does not work through all kinds of lists because that makes those people completely crazy, and certainly those elderly people, who can not act that themselves at all."</p>	<p>Toegankelijkheid "Accessibility"</p>
6	<p>Dus sowieso de gebruiker is belangrijk en wordt ook zeer betrokken in de ontwikkeling van het platform. En er zijn een aantal aspecten waarbij je echt veel gebruikers moet hebben om daar nut van te hebben,"So anyway the user is important and is also very involved in the development of the platform. And there are a number of aspects where you really have to have a lot of users to benefit from that,"</p>	<p>Vergelijkbare gebruikers definiëren"Define similar users"</p>
	<p>en een andere is, is bijvoorbeeld beoordeling ofzo, van producten of van dienstverleners. Als je genoeg gebruikers hebt, dan heeft het nut om beoordelingen van dienstverleners erin te doen, waardoor gebruikers geholpen zijn, om te weten dat is een goed iemand of die is niet zo goed of zo.</p> <p>"and another is, for example, assessment or something, of products or of service providers. If you have enough users, then it makes sense to put reviews from service providers in it, which helps users, to know that is a good person or who is not so good or something."</p>	<p>Ervaringen van gebruikers "User experiences"</p>

7	<p>En dat is heeft vooral onder andere te maken met status van ontwikkeling van het platform</p> <p>"And that is mainly due to the status of development of the platform."</p>	<p>Ontwikkelingsstadium is bepalend voor de mate van samenwerking.</p> <p>"Ontwikkelingsstadium is bepalend voor de mate van samenwerking."</p>
8	<p>Nee maar goed, die, die is natuurlijk van cruciaal belang, dus dat geef ik een drie, want daarmee ga je je product ook formeren.</p> <p>"Nee maar goed, die, die is natuurlijk van cruciaal belang, dus dat geef ik een drie, want daarmee ga je je product ook formeren."</p>	<p>Bepalend voor product</p> <p>"Determinant for product"</p>

Coding example for design dimension Governance; for each subdesign dimension three examples for items of interest and their resulting codes from participants (P1-P8) are used. The themes represent the actual result for each subdesign dimension; they are based on the coding process for all participants P1-P8.

Design dimension Governance - Subdesign dimension 1. Pricing		
<p>Items of Interest e.g.: "Or will we become a utility company?" (P3). ""and the best thing would be if <case-organization> a facility is provided by municipalities or by health insurers. Even the most logical sentence, You can't expect the individual to pay money for this, even though that might make sense, but you can't expect that." (P4). "So then it is true that the more people you, the more services you can offer, the better you can retain the customer, but on the other hand you can also ask for more money because you have more customers." (P8)</p>	<p>Coding: "Platform revenue model determines pricing" (P3); "Platform financing from a societal role" (P4); "For complementor, the technique counts; for platform owner counts service offering" (P8).</p>	<p>Themes: 1. "Financing model" 2. "Interpretation of ownership"</p>
Design dimension Governance - Subdesign dimension 2. Mechanisms to coordinate and control platform participants		
<p>Items of Interest e.g.: "Because we want to fight for it. We do want to make sure that we would not also be forced by outside parties." (P1). "You want the quality of the healthcare providers, you do want to have control over it, so you have to set up a controlling function in which you, yes, preferably let the market determine who is or is not good." (P3) "Yes, that's again, then I have to make a bit of a distinction between... Look, we have made a very strong choice to adhere to open standards and the certification on them. That's an easier process than <case-organization> has to do. Because then you will have to set up a user, organization and they will have to decide other things. Because they will look much less at technology, whether that has APIs, or not that does not interest the user at all, and so that does not matter. It is about supply and how does that come about?" (P8)</p>	<p>Coding: "Autonomy of participants" (P1); "Consistency with quality" (P3); "For complementor, the technique counts (e.g. open standards); for platform owner, the way it will be used counts" (P8)</p>	<p>Themes: 1. "Determining for autonomy" 2. "Consistency with other subdesign dimensions"</p>
Design dimension Governance - Subdesign dimension 3. Decisions and policies about the platform's self-development, facilitation of collaboration and third party contributions		
<p>Items of Interest e.g.: "So I think it's really an important role here for the board of the foundation. And of course we now have a private limited company and a foundation, and the foundation's purpose is simply to ensure that <case-organization> continues to do what it was intended to do, and that you also just have to be careful to say which parties you actually work with, are they not malafide parties. I think that is really our role to make sure that this is done carefully." (P2) "Well they actually never expressed exactly what their role is going to be in that whole story, in the story of <case-organization>, they actually made it happen, by almost giving the trust in this case to <CEO case-organization> to organize this" (P5). "That's important to us, because we need to know where we stand, and that you also know how many people to put on a project, or how to. No, it's high, high relevance." (P7).</p>	<p>Coding: "Governance" (P2); "Role taking" (P5); "Importance to complementor and it's development" (P7).</p>	<p>Theme: 1. "Role and responsibility development"</p>
Design dimension Governance - Subdesign dimension 4. Leadership and ownership status and related decisions with regard to the ecosystem/ platform and it's complementors		
<p>Items of Interest e.g.: "because as the owner of a platform, have a responsibility towards <user organization>" (P5). "Because I don't know who that owner is or where that ... I think the board is the owner in the sense that they manage the cash flows. But I think <CEO case-organization> does have a kind of Mark Zuckerberg function, or a Steve Jobs function in the sense of intellectual leadership" (P6). "But that you are already involved in the development of that question and the decision of which questions, on which functionality do we go now, is now relevant to work out, to give attention to." (P7)</p>	<p>Coding: "Responsibility towards the user" (P5); "Knowledge about owner structure" (P6); "Form of leadership and ownership" (P7).</p>	<p>Themes: 1. "Interdependence of participants on the platform" 2. "Platform ownership / autonomy"</p>

Complete coding from all interviews for all subdesign dimensions of 'Governance'

Subdesign Dimensie 2.1 Pricing: decisions to subsidize and price complementors. E.g. complementor apps on software platforms can be priced or subsidized as an incentive mechanism to influence interaction.			
Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	Alle complementors hebben hun eigen businessmodel. En daar gaan we lekker niet op zitten. Dat mogen ze zelf doen. Maar wat wij doen is we bieden ze een podiumplaats om beter en meer gebruikt kunnen worden. "All complementors have their own business model. And we're not going to sit on that. They can do that themselves. But what we do is we offer them a podium place to be used better and more."	Autonomie complementors "Autonomy complementors"	
	Dus zolang we uit de hele pricing strategie kunnen blijven dan zeggen wij top. Maar dat heeft te maken met onze sociale innovatie. "So as long as we can stay out of the whole pricing strategy, we say top. But that has to do with our social innovation."	Voor platform als sociale innovatie is pricing niet belangrijk. "For platform as a social innovation, pricing is not important."	
2	Om enige verantwoordelijkheid te voelen, en dat moet gewoon een klein bedrag zijn, want ook de armste mensen moeten er gebruik van kunnen maken. "To feel some responsibility, and that should just be a small amount, because even the poorest people should be able to use it."	Toegankelijkheid "Accessibility"	

	Prijstelling"Pricing"
3	Pricing van verdienmodel complementors"Pricing of revenue model complementors"

Want, als je het te duur maakt willen mensen er niet aan en als je het te goedkoop maakt, dan kun je allerlei innovaties in de toekomst wel vergeten, want dan vliegen.., dus je moet er iets aan verdienen. Het hoeft niet gewoon een miljoenen business te worden, in de zin van dat je dat geld dan gewoon wil gebruiken om een luxe zeiljacht aan de Cote d'Azur neer te leggen (lach), maar om altijd voldoende reserves hebben om te kunnen innoveren....niet zozeer de commerciële doelstelling belangrijk, maar om het platform, dat het zichzelf kan bedruipen maar daar zit ook een kleine drempel in om te zorgen dat mensen toch wel serieus als het ware gebruik van gaan maken."Because, if you make it too expensive, people don't want to do it and if you make it too cheap, then you can forget about all kinds of innovations in the future, because then flying.., so you have to earn something from it. It doesn't just have to be a multimillion-dollar business, in the sense that you just want to use that money to put down a luxury sailing yacht on the Cote d'Azur (laughter), but to always have enough reserves to be able to innovate.... not so much the commercial objective is important, but because of the platform, that it can support itself, but there is also a small threshold to ensure that people will seriously use it, as it were."

ik denk niet echt dat het relevant is in de zin dat we geld kunnen gaan vragen aan complementors om op onze website of op ons platform te komen, want er zullen geen technologische features bijkomen waar, maken ze daarvan en wat dan hebben we? Daar hebben we onze eindgebruikers dan wat aan.Ga je uiteindelijk de aanbieders en misschien kan je die ook wel onder de complementors scharen. Maar ga je die geld vragen op het moment dat ze een toewijzing krijgen van een cliënt die ze via ons platform hebben gevonden...De belangrijke andere optie is natuurlijk live betaald door de verzekeraar, die is het meest overzicht hebbende, en heeft dus ook het meest baat bij, dat de voordelen van het gebruik van dit platform, "I don't really think it's relevant in the sense that we can start charging money from complementers to get on our website or on our platform, because there won't be any technological features where they come, do they make of that and then what do we have? That is useful to our end users. Do you eventually go the providers and maybe you can also include them

	<p>among the complementors. But are you going to ask for that money the moment they get an assignment from a client they found through our platform... The important other option is of course paid live by the insurer, which is the most comprehensive, and therefore also benefits the most from, that the benefits of using this platform,"</p>		
	<p>Of worden we een nutsbedrijf? Dat is de grote droom van <CEO case-organization>.</p> <p>"Or will we become a utility company? That is the big dream of <CEO case-organization>".</p>	<p>Platform verdienmodel bepaald pricing "Platform revenuemodel determines pricing"</p>	
4	<p>en het mooiste zou zijn als <case-organization> een voorziening wordt door gemeentes of door zorgverzekeraars verstrekt. Ook het meest logische zin, Je kunt niet te verwachten, van het individu dat die hier geld voor gaat betalen, ook al zou dat misschien logisch zijn, maar dat kun je niet verwachten.</p> <p>"and the best thing would be if <case-organization> a facility is provided by municipalities or by health insurers. Even the most logical sentence, You can't expect the individual to pay money for this, even though that might make sense, but you can't expect that."</p>	<p>Platform financiering vanuit maatschappelijke rol "Platform financing from a societal role"</p>	
5	<p>Als het gaat om pricing, zeg maar, wie betaalt nou dit systeem eigenlijk hè? Want daar gaat het ook voor deel om. En wie koopt zich in de om content aan te bieden. Want dat is de andere kant van het verhaal."When it comes to pricing, who actually pays for this system, right? Because that's what it's all about in part. And who buys into the to offer content. Because that's the other side of the story."</p>	<p>Financieringssysteem iek"Financing system"</p>	1. Financiering smodel1. "Financing model"
	<p>Dat het lastig is dat de organisatie zelf, als het dan gaat om innovatie, toch wel zeer terughoudend is. En ik zou bijna zeggen voor een dubbeltje op de eerste rang wil gaan zitten. Maar aan de andere kant, als ze het goed organiseren en DSW zit zelf nota bene in dat hele project.</p> <p>"That it is difficult that the organization itself, when it comes to innovation, is very reluctant. And I would almost say for a dime in the first rank</p>	<p>Innovatiegerichtheid "Innovation orientation"</p>	

	wants to sit. But on the other hand, if they organize it well and DSW is in that whole project."		
	<p>Als jij jouw zorgmensen beter kan equiperen waardoor zij beter kunnen functioneren, waardoor zij de zorg sneller kunnen leveren en adequater kunnen leveren, efficiënt en effectief, dan moet je daar niet over zeuren, want dan verdient het zichzelf terug. Als jij meer klanten kan doen omdat je meer tijd over houdt dan haal je daar meer opbrengsten uit. Maar dat moet je wel zien, het is een mindset.</p> <p>"If you can equip your care people better so that they can function better, so that they can deliver care faster and deliver it more adequately, efficiently and effectively, then you should not whine about that, because then it will pay for itself. If you can do more customers because you have more time left, you get more revenue from that. But you have to see that, it's a mindset."</p>	Terugverdientijd "Payback time"	
6	<p>Dat is meer iets waar <CEO case-organization> overgaat denk ik. Hoe <CEO> de verschillende partijen wil laten betalen. Aan <CEO> wil laten betalen voor het gebruik van het platform.</p> <p>"That's more something <CEO case-organization> deals with I think. How she wants the various parties to pay. She wants others to pay for the use of the platform."</p>	"Platform owner determines"	2. Invulling van eigenaarschap 2. "Interpretation of ownership"
		Rol complementor is bepalend "Role of complementor is decisive"	
	Maar ja, dus misschien dat het MVO, Maatschappelijk Verantwoord Ondernemen, is voor een deel, maar voor een deel is het ook, zeg maar uitzicht op toekomstige rendement,"But yes, so maybe it is CSR, Corporate Social Responsibility, in part, but in part it is also, say, the prospect of future returns,"	MVO , maatschappelijke rol van het platform kan meespelen."CSR, the social role of the platform can play a role."	

7	<p>Volgens mij zit <CEO case-organization> nu in het op het punt om te kijken van gaat ze een bedrag per maand of gebruiker of iets, vragen aan de in dit geval de afnemer van het platform, <user-organization>? Ik denk dat dat eh, ik denk dat dat een goed idee is. Om dat dan, omdat dan <user-organization> zich eigenaar voelt en zich betrokken voelt bij de kwaliteit en de realisatie van het platform.</p> <p>"I think <CEO case-organization> is now in the verge of looking at is she going to pay an amount per month or user or something, ask the in this case the customer of the platform, <user-organization>? I think that's uh, I think that's a good idea. Because then feels ownership and <user-organization>feels involved in the quality and realization of the platform."</p>	<p>Beprijzen van deelname aan het platform creëert eigenaarschap "Beprijzen van deelname aan het platform creëert eigenaarschap"</p>	
8	<p>Nou ja, kijk ik, ik wederom ik focus natuurlijk op de techniek en daarbij heb ik een klant nodig, zoals <case-organization> en en en dan ben ik met tien, twintig klanten, schiet ik al een aardig eind op, en dan kijk ik naar een complement, naar de diensten die sec die die daarin complementair zijn. Maar dat zijn niet bijzonder veel. In het concept van <case-organization> ga je naar een grote gebruikers gemeenschap die iets nodig hebben en hoe meer je dat sluitend aan kunt bieden, want als als die meneer of mevrouw voor een rolstoel naar ergens anders naartoe moet dan ben je die klant kwijt. Dus dan is het wel zo dat hoe meer mensen je, hoe meer diensten je aan kunnen bieden, hoe beter je de klant kunt behouden, maar aan de andere kant kun je ook meer geld vragen omdat je meer klanten hebt.</p> <p>"Well, I look, I again I focus on the technology of course and I need a customer, like <case-organization> and then I'm with ten, twenty customers, I'm already going a long way, and then I look at a complement, at the services that are complementary in that. But that's not particularly many. In the concept of <case-organization> you go to a large user community that needs something and the more you can offer that conclusively, because if that mr or mrs has to go somewhere else for a wheelchair, then you have lost that customer. So then it is true that the more people you, the more services you can offer, the better you can retain the customer, but on the</p>	<p>Voor complementor telt de techniek; voor platform eigenaar telt dienstenaanbod "For complementor, the technique counts; for platform owner counts service offering"</p>	

	other hand you can also ask for more money because you have more customers."		
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Subdesign Dimensie

2.2 Mechanisms to coordinate and control platform participants; such as specification of decision-making rights and rules of control with regard to using the platform, services offering, and defining platform access rights.

Partici pant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	omdat we dat willen bevechten. We willen er wel voor zorgen dat we er niet ook niet door geforceerd zouden worden door partijen van buitenaf. "because we want to fight for it. We do want to make sure that we would not also be forced by outside parties."	Autonomie deelnemers "Autonomy of participants"	1. Bepalend voor autonomie 1. "Determinin g for autonomy"
	Voor ons is het niet aan de orde. En ik denk ook niet dat het ooit aan de orde...nee dat is niet waar. Op de middellange termijn zie ik het zeker nog niet aan de orde komen. "For us, it is not an issue. And I don't think it ever comes up... no that's not true. In the medium term, I certainly do not see it being discussed."	Toekomstperspectief "Perspective on the future"	
	Je kan het twee kanten op zien. Je kan hem zien als laag bij ons, omdat we daar nog verre van willen blijven. Maar je kan ook zien als hoog, omdat wij het belangrijk vinden dat het niet gebeurt. "You can see it both ways. You can see him as low with us, because we still want to stay far from that. But you can also see it as high, because we think it's important that it doesn't happen."	Autonomie van het platform "Autonomy of the platform"	
2	en dat je de controle erover houdt heeft ook weer te maken met punt één drie, namelijk je wilt de kwaliteit handhaven. "and that you keep control over it also has to do with point one three, namely you want to maintain the quality."	Kwaliteit "Quality"	

3	<p>Je wilt de kwaliteit van de zorgaanbieders, wil je wel controle op hebben, dus je moet daar een controlerende functie gaan opzetten waarin je, ja, het liefst door de markt laat bepalen wie wel of niet goed is. Maar dat is misschien nog zelfs wel wat te beperkt om dat een aantal oplichters of zorgcowboys die misbruik maken, de hele tooling, het hele vertrouwen over boord kunnen gooien. Dus het is wel een heel belangrijk punt, ook voor het vertrouwen."You want the quality of the healthcare providers, you do want to have control over it, so you have to set up a controlling function in which you, yes, preferably let the market determine who is or is not good. But that is perhaps even a bit too limited because a number of scammers or care cowboys who abuse, the whole tooling, can throw the whole trust overboard. So it is a very important point, also for confidence."</p>	<p>Samenhang met kwaliteit"Consistency with quality"</p>	
4	<p>Geen relevante quote "No relevant quote"</p>	<p>Geen relevante code "No relevant code"</p>	
5	<p>ik denk dat die eerste subdesign dimensie, pricing, heel erg samenhangt ook met de derde, decisions and policies, "I think that the first subdesign dimension, pricing, is also very much related to the third, decisions and policies,"</p>	<p>Samenhang met decisions and policies "Consistency with decisions and policies"</p>	<p>2. Samenhang met andere subdesign dimensies 2. "Consistency with other subdesign dimensions"</p>
6	<p>ik denk hierzo, dat is wel verschil tussen mij als architect en de directie van <complementor>, die ook wel volgens mij actief met de <case-organization> meedenkt. "I think here, that is a difference between me as an architect and the management of <complementor>, who also, I think, actively works with the <case-organization>."</p>	<p>Positie respondent is bepalend "Respondent position is decisive"</p>	
	<p>En wellicht ga je dan ook dingen zeggen waarvan, ja ook niet duidelijk is of dat wel werkelijk zo de gedachte is van jouw directeur, bij wijze van spreken. "And perhaps you will also say things of which, yes, it is not clear whether that is really the thought of your director, so to speak."</p>	<p>Belangrijk voor directie complementor "Important for management complementor"</p>	

7	<p>Ja, want als je een lat te hoog legt in zo'n beginfase dan ben je eigenlijk vooral bezig met wat het, hoe het allemaal, dan ben je ook wel heel veel barricades op aan het gooien en dat moet je langzaam, een beetje, moet dat ook weer shiften maar het is wel, om het, om het een soort van snelle start te kunnen geven, moet je dat wat meer, als platform kan je daar daarvan leren, van een andere, maar uiteindelijk moet je, dat is dat wel een kwaliteit die je als platform moet bezitten, ja."Yes, because if you set a bar too high in such an initial phase then you are actually mainly concerned with what it, how it all, then you are also throwing up a lot of barricades and you have to slowly, a little, have to shift that again but it is, to be able to give it a kind of quick start, you have to do that a bit more, as a platform you can learn from that, from another, but in the end you have to, that is a quality that you have to possess as a platform, yes."</p>	<p>Ontwikkelingsstadium is bepalend voor de uitvoering van controle en coordinatie"Development stage is decisive for the implementation of control and coordination"</p>
8	<p>Ja, dat is wederom, dan moet ik een beetje onderscheid maken tussen... Kijk wij hebben er heel sterk voor gekozen om open standaarden aan te houden en de certificering daarop. Dat is een makkelijker proces dan dat <case-organization> straks te doen heeft. Want dan zul je een gebruikers, organisatie in moeten richten en die zullen andere zaken moeten gaan besluiten. Want die zullen veel minder naar techniek kijken, of dat nu API's heeft, of niet dat interesseert de gebruiker helemaal niks, en dus dat doet niet ter zake. Het gaat er wel om aanbod en en hoe komt dat tot stand?</p> <p>"Yes, that's again, then I have to make a bit of a distinction between... Look, we have made a very strong choice to adhere to open standards and the certification on them. That's an easier process than <case-organization> has to do. Because then you will have to set up a user, organization and they will have to decide other things. Because they will look much less at technology, whether that has APIs, or not that does not interest the user at all, and so that does not matter. It is about supply and how does that come about?"</p>	<p>Voor complementor telt de techniek (bijv. open standaarden); voor platform eigenaar telt de manier waarop het gebruikt zal worden "For complementor, the technique counts (e.g. open standards); for platform owner, the way it will be used counts"</p>

Subdesign Dimensie

2.3 Decisions and policies about the platform's self-development, facilitation of collaboration and third party contributions.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>Hij staat wel hoog op onze agenda. Op de middellange termijn gaan we hem niet invullen. Op de lange termijn is dit zeg maar toekomstmuziek.</p> <p>"It is high on our agenda though. In the medium term we are not going to fill it. In the long term, this is, say, future music."</p>	<p>Situationele besluiten; Toekomstperspectief "Situational decisions; Future perspective."</p>	
	<p>Ja, als het kan is natuurlijk geweldig, maar het staat zeker niet op ons priolistje.</p> <p>"Yes, if it can be done is of course great, but it is certainly not on our priority list."</p>	<p>Prioritering van acties "Prioritization of actions"</p>	
	<p>Ja, je moet eerst zorgen dat je die markt dan al zo groot zijn dat je dan vandaar uit denkt: als we nou zo doen dan krijg je een soort actie-reactie verhaal. Dat heb je nu, is nog niet aan de orde.</p> <p>"Yes, you first have to make sure that the market is already so big that you then think: if we do this, you get a kind of action-reaction story. You have that now, is not yet the case"</p>	<p>Marktperspectief; Positionering op markt "Market perspective; Positioning on market"</p>	
2	<p>ik vind het hier dus echt wel een belangrijke rol weggelegd voor het bestuur van stichting. En we hebben natuurlijk nu een BV en een stichting en de stichting heeft toch gewoon als doel om ervoor te zorgen dat <case-organization> wel blijft doen waar het voor bedoeld was, en dat je ook gewoon oplet zeg maar met welke partijen ga je eigenlijk in zee hè, zijn dat geen malafide partijen. Dat vind ik ook echt gewoon onze rol om erop toe te zien dat zorgvuldig gebeurt.</p> <p>"So I think it's really an important role here for the board of the foundation. And of course we now have a private limited company and a foundation, and the foundation's purpose is simply to ensure that <case-organization> continues to do what it was intended to do, and that you also just have to be</p>	<p>Governance</p>	

	careful to say which parties you actually work with, are they not malafide parties. I think that is really our role to make sure that this is done carefully."		
3	<p>het is meer afhankelijk van hoe je <case-organization> ziet; is het de stichting en de B.V. samen, of zie je het als twee aparte entiteiten waarin de één eigenlijk de ontwikkelingen en de samenwerking faciliteert, een beetje probeert te planten.</p> <p>"it depends more on how you see <case-organization>; is it the foundation and the B.V. together, or do you see it as two separate entities in which one is actually facilitating the developments and the cooperation, trying to plant a little bit."</p>	Afhankelijk van doelen van de rechtspersoon "Depending on goals of the legal entity"	1. Rol- en verantwoordelijkheidso ntwikkeling 1. "Role and responsibility development"
4	Als wij... als <user-organization> dit platform gaat stimuleren, te gebruiken, en dat kan via onze zorgmedewerkers bijvoorbeeld, die zowel bij de cliënten, de lichte cliënten, maar ook bij mantelzorgers binnenkomen, dan zou je dat platform mee kunnen nemen als advies."If we... as <user-organization> are going to encourage this platform, to use it, and we can do that through our care staff, for example, who come in to both the clients, the light clients, but also to family caregivers, then you could take that platform as advice."	Verantwoordelijkheid naar gebruikers"Responsibility to users"	
5	<p>Nou ze hebben eigenlijk nooit uitgesproken wat hun rol nou precies gaat worden in dat hele verhaal, in het verhaal van<case-organization>, ze hebben het eigenlijk laten gebeuren, door bijna het vertrouwen in dit geval aan <CEO case-organization>te geven om dit te organiseren.</p> <p>"Well they actually never expressed exactly what their role is going to be in that whole story, in the story of<case-organization>, they actually made it happen, by almost giving the trust in this case to <CEO case-organization> to organize this"</p>	Roletaking	

	<p>Ik kan me voorstellen dat we straks vanuit de business control of wat dan ook of vanuit financial control en business control toch geroepen gaat worden " Ja, maar wacht even, wie is nou de eigenaar? Wie is nou de facilitator enzovoort, enzovoort? Dat zij eindgebruiker zijn, da' s prima, dat zullen ze ongetwijfeld herkennen.</p> <p>"I can imagine that later on, from business control or whatever or from financial control and business control, we're going to be called " Yes, but wait a minute, who is the owner? Who is the facilitator and so on and so forth? That they are end users is fine, they will undoubtedly recognize that"</p>	<p>Eigenaarschap van het platform "Ownership of platform"</p>
6	<p>ook vanuit mij als architect stuur ik daar niet zo heel erg direct in mee. Dus het is bij mij laag,</p> <p>"also from me as an architect I don't steer into that very directly. So it's low with me,"</p>	<p>Positie respondent is bepalend "Position of respondent is decisive"</p>
	<p>voor de directie van <complementor> zal dat wat hoger zijn, denk ik, omdat die ja daar wel in meedenken.</p> <p>"for the management of <complementor>, that will be a little higher, I think, because that yes, they will think about that"</p>	<p>Belangrijk voor directie complementor "Important for board complementor"</p>
	<p>ik ga daar niet over, over het wel beslissen en besluiten en het beleid, Daar gaat duidelijk <CEO case-organization> over en wij worden een beetje gestuurd en geleid door wat zij toevallig, of niet toevallig eigenlijk, wat zij aan mogelijkheden vindt, aan financieringen vindt en aan partijen vindt</p> <p>"I don't go into that, into the well decided and decisions and policies, That's clearly what <CEO case-organization> is about and we're kind of steered and led by what she happens to, or not happen to actually, what she finds in terms of opportunities, finds in terms of funding and finds in terms of parties"</p>	<p>Rol integrator verschilt van rol complementor "Role integrator differs from role complementor"</p>
	<p>wij worden een beetje gestuurd en geleid door wat zij toevallig, of niet toevallig eigenlijk, wat zij aan mogelijkheden vindt, aan financieringen vindt en aan partijen vindt. En daar is zij heel goed in, om zoveel mogelijk partijen aan zich te binden.</p> <p>"we are kind of steered and led by what she</p>	<p>Financiering bepalend voor ontwikkeling "Funding determines development"</p>

	happens to, or not happen to actually, what she finds in terms of opportunities, finds in terms of funding and finds in terms of parties. And she's very good at that, at getting as many parties as possible to join her"		
7	dat is voor ons belangrijk, omdat wij moeten weten waar we aan toe zijn en dat je ook weet hoeveel mensen je op een project moet zetten, of hoe je. Nee, het is hoog, hoge relevantie. "that's important to us, because we need to know where we stand, and that you also know how many people to put on a project, or how to. No, it's high, high relevance."	Belang voor complementor en ontwikkeling ervan "Importance to complementor and it's development"	
8	Want <case-organization> is geen volledig betalende klant. Er moet constant moet er naar projecten gekeken worden, dus dan schipper je tussen wat kan ik doen. Wat is interessant voor ons, voor mij als bedrijf en niet zozeer altijd voor<case-organization> als klant. "Because <case-organization> is not a full-paying client. There is a constant need to look at projects, so then you skim between what can I do. What is interesting for us, for me as a company and not so much always for<case-organization> as a customer."	Ontwikkelingsperspectief van klant is bepalend "Development perspective of client is decisive"	

Subdesign Dimensie

2.4 Leadership and ownership status and related decisions with regard to the ecosystem/ platform and it's complementors.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	Want, nu ben ik dat nog alleen. Ik wil er zo snel mogelijk af. Dit is veel te groot om sowieso in mijn eentje te dragen, maar ook het zit de ontwikkeling in de weg, als ik hier in mijn eentje de scepter ga en blijf zwaaien. Dus dat is zeker als je het hebt over sociale innovatie en mijn droom nog steeds van <case-organization> een nutsvoorzieningen zouden kunnen maken, dat ik daar enorm voor pleitten dat dit onder overheidswege teruggaat naar de stichting. "Because, now that's just me. I want to get rid of it	Doelstelling bepaald eigenaarsvorm "Objective determines the specific type of owner"	1. Wederzijdse afhankelijkheid van deelnemers op het platform 1. "Interdependence of participants

	<p>as soon as possible. This is way too big to carry by myself anyway, but also it gets in the way of development, if I go and continue to sway the scepter here by myself. So that's certainly when you talk about social innovation and my dream still of <case-organization> could make a utility, that I would advocate enormously for this to go back to the foundation under governmental authority"</p>		on the platform"
2	<p>En waarom moet het bestuur wel in worden meegenomen? Weet je dat? Dat is inderdaad ook dat hoort natuurlijk gewoon bij die governance. Want de functie van zo'n bestuur is om te zorgen dat het niet uit de hand loopt. Terwijl als je een business hebt, je kan niet voor iedere beslissing die <CEO case-organization> moet nemen, van nou, dan moet je aan ons voorleggen. Dat vinden wij ook niet.</p> <p>"And why does the board have to be included? Do you know? That's indeed also that's just part of that governance, of course. Because the function of such aboard is to make sure that things don't get out of hand. Whereas if you have a business, you can't for every decision that <CEO case-organization> has to take, of well, you have to submit it to us. We don't think so either."</p>	Feedback	
3	<p>waar ik in geloof is dat de stichting hè, die altijd stond voor eigenlijk dit, wat ik net benoem, het shared decision making, dat het idee daarvan nog steeds heel mooi is.</p> <p>"what I believe in is that the foundation, that always stood for actually this, what I just appoint, the shared decisionmaking, that the idea of that is still very beautiful."</p>	<p>Kunnen inspelen op marktontwikkelingen</p> <p>"Being able to respond to market developments"</p>	
4	<p>Een gebruikersgroep zou wel al heel erg interessant zijn. Dus om input te kunnen leveren wat je mist, wat je wat beter kan of wat goed gaat en wat met andere gebruikers sparren en dat de ontwikkelaars daar mee doen"</p> <p>A user group would be very interesting though. So to be able to provide input on what you're missing, what you can do better or what's going well and some sparring with other users and that the developers participate with that"</p>	<p>Toegevoegde waarde van een gebruikersgroep"</p> <p>Added value of a user group"</p>	

5	<p>omdat wij als eigenaar van een platform wel een verantwoordelijkheid hebt richting <user organization></p> <p>"because as the owner of a platform, have a responsibility towards <user organization>"</p>	<p>Verantwoordelijkheid t.o.v.gebruiker "Responsibility towards the user"</p>		
	<p>, vandaar dat ik belangrijk vindt, dat daar dus overeenkomsten onder komen te liggen zodat we van elkaar over en weer weten wat je van elkaar mag verwachten.</p> <p>"That's why I think it's important that there are agreements underneath so that we know from each other what to expect from each other"</p>	<p>Overeenkomst "Contract"</p>		
6	<p>Want ik weet niet wie die eigenaar is of waar die ... Ik denk dat het bestuur de eigenaar is in de zin van dat zij de kasstromen beheren. Maar ik denk dat <CEO case-organization> wel een soort Mark Zuckerberg-functie heeft, of een Steve Jobs-functie heeft in de zin van intellectueel leiderschap</p> <p>"Because I don't know who that owner is or where that ... I think the board is the owner in the sense that they manage the cash flows. But I think <CEO case-organization> does have a kind of Mark Zuckerberg function, or a Steve Jobs function in the sense of intellectual leadership"</p>	<p>Kennis over eigenaarstructuur "Knowledge about owner structure"</p>	<p>2. Platform eigenaarschap / autonomie 2."Platform ownership / autonomy"</p>	
	<p>Dus het bestuur kan haar niet inwisselen voor iemand anders, want dan werkt het gewoon niet zeg maar. Zij is een centrale spil in het geheel die de contacten heeft en de contacten kan leggen en maken. En als dat er niet is, dan is er niks, zeg, maar dan bloedt het dood.</p> <p>"So the board can't exchange her for someone else, because then it just doesn't work so to speak. She's a central hub in the whole thing who has the contacts and can initiate the contacts and make the contacts. And if that is not there, then there is nothing, say, but then it bleeds to death"</p>	<p>Belang van leiderschap "Importance of leadership"</p>		
7	<p>in dit stadium als dit vooral visie vanuit de platform eigenaar van hier willen we heen en dat we dan, dat er iemand beslissingen neemt om überhaupt op een gegeven moment in de lucht te kunnen en echt op te schalen,"at this stage like this especially vision from the platform owner of here's where we want to go and that we then, that someone makes decisions to be able to go on the air at all at some point and really scale up,"</p>	<p>Belang van visie "Importance of vision"</p>		

<p>over de ontwikkeling van technologie juist wel, dus zo veel mogelijk, al bij de conceptie van ideeën daar al een visie op techniek kunnen geven in plaats van het enkel vraag... jij vraagt, wij bouwen. Maar dat je bij de ontwikkeling van die vraag al betrokken bent en de beslissing van welke vragen, op welke functionaliteit gaan we nu, is nu relevant om uit te werken, om aandacht aan te geven.</p> <p>"about the development of technology, on the contrary, so as much as possible, already at the conception of ideas there already a vision of technology can give instead of the mere question... you ask, we build. But that you are already involved in the development of that question and the decision of which questions, on which functionality do we go now, is now relevant to work out, to give attention to.</p>	<p>Toegevoegde waarde complementor "Added value complementor"</p>
<p>ook weer kijken hoe je dat kan herinrichten naar een meer een samenwerking tussen partijen die gebruik maken van platform, dus de vorm van leiderschap en eigenaarschap is, is zeer relevant</p> <p>"also look again at how you can redesign that to be more of a collaboration between parties that use platform, so the form of leadership and ownership is, is very relevant"</p>	<p>Vorm van leiderschap en eigenaarschap "Form of leadership and ownership"</p>
<p>Ja, kijk. Ik voor mijzelf als bedrijf kies ervoor om één eigenaar te zijn. Dat ben ik zelf en ik ben de enige die daar over gaat, want ik ik, ik ga er niet op wachten totdat een hele gebruikersvereniging daar iets op heeft gevonden. Maar ja, ook hier zal dat voor <case-organization> er echt anders aan toe gaan. En zul je daar denk ik wel juist naar een gebruikersraad toe moeten die daar ideeën over gaat hebben. Maar of dat heel handig is voor je bedrijfsvoering, dat weet ik nog zo net niet....Maar ik denk dat met name in het begin, in het begin, in het eerste jaar ontwikkeling van <case-organization> denk ik dat het belangrijk is dat de eigenaar wel de knopen doorhakt en zorgt dat dat in ieder geval goed neergezet wordt. Daarna kun je gaan finetunen en dat is het moment dat de deelnemers inspraak kunnen hebben."Yes, look. I for one as a company choose to be one owner. That's me and I'm the only one who's going to be in charge of that, because I I, I'm not going to wait for a whole user association to find something on that. But yes, again, that will be for things will be really different. And I think you'll have to go to a</p>	<p>Complementor als eigenaar van een autonoom platform in 'tegenstelling' tot een sociaal platform waarin wederzijdse afhankelijkheid bestaat.Eigenaar hakt vooral in het begin knopen door"Complementor as the owner of an autonomous platform in 'contrast' to a social platform in which there is mutual dependence.Owner makes decisions especially in the beginning"</p>

<p>user council that will have ideas about that. But whether that's very useful for your business operations, I don't know yet...But I think that especially in the beginning, in the first year of development of I think it's important that the owner does make the decisions and makes sure that it's set down properly in any case. Then you can start fine-tuning and that's when the participants can have their say."</p>		
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Coding example for design dimension Boundary resources; for each subdesign dimension three examples for items of interest and their resulting codes from participants (P1-P8) are used. The themes represent the actual result for each subdesign dimension; they are based on the coding process for all participants P1-P8.

Design dimension Boundary resources - Subdesign dimension 1. Technical boundary resources

Items of Interest e.g.: "Making sure that you just keep what is yours that you are in control of what is yours and that you have to make very good agreements when you make something new that makes it better." (P2). "Do you need those collaborations and improvements and how are hospital staff or patients? Should they be served the same as with home care organizations and how does it all work together? So you have to find a lot of cooperation in that to get that well organized." (P3). "So we work with two parties <complementor2> and <complementor1>, and there we have very clearly drawn a dividing line. They make an API and we make frontend on it ourselves, I'll just say." (P6).

Coding: "Feedback"(P2);
"Importance of cooperation" (P3);
"Interdependence"(P6).

Theme:
1. "Interdependence of players on the platform"

Design dimension Boundary resources - Subdesign dimension 2. Social boundary resources

Items of Interest e.g.: "These social boundary resources are essential to be able to execute the technical boundary resources and perhaps vice versa. That reinforces each other or influences each other." (P1). "They want a good, working system and they assume that they have chosen parties that are able to determine whether IPRs are good or security is well organized, etc."(P5). "Well, for me on the medical side... <case-organization> does not yet have medical data, but on the medical side it is also high, because I cannot exist without certifications and without a well-documented platform."(P8).

Coding: "Reinforcing effect of the platform."(P1); "Relevance" (P5);
"Determining product in relation to this type of platform" (P8).

Theme:
1. "Interdependence of players on the platform"

Complete coding from all interviews for all subdesign dimensions of 'Boundary resources'

Subdesign Dimensie 3.1 Technical boundary resources: resources through which different agents/ complementors create relationships and interact with each other in order to co-create value. E.g. API's, SDK's, applications for end-users.			
Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	Wij moeten ons als groep afhouden van niet doen, niet doen, niet doen, niet doen. Eerst wachten dat het een goed is afgerond en dan pas door naar de volgende stap. Dus de focus is belangrijk. "We as a group must refrain from not doing, not doing, not doing, not doing. First wait that it is well completed and only then move on to the next step. So the focus is important."	De focus is belangrijk. "Focus is important"	1. Wederzijdse afhankelijkheid van spelers op het platform 1. "Interdependence of players on the platform"
		Data-eigenaarschap "Data ownership"	
2	Zorgen dat je gewoon houdt wat van jou is dat je de regie hebt over wat van jou is en dat je hele goede afspraken moet maken als je iets nieuws maakt waardoor het beter wordt. "Making sure that you just keep what is yours that you are in control of what is yours and that you have to make very good agreements when you make something new that makes it better."	Feedback	
3	Moet je die samenwerkingen en verbeteringen en hoe zijn ziekenhuismedewerkers of patiënten? Moeten die hetzelfde bediend worden als bij thuiszorgorganisaties en hoe werkt het allemaal samen? Dus je moet heel veel daar samenwerking in vinden om dat goed georganiseerd te krijgen. "Do you need those collaborations and improvements and how are hospital staff or patients? Should they be served the same as with home care organizations and how does it all work together? So you have to find a lot of cooperation in that to get that well organized."	Belang van samenwerking "Importance of cooperation"	

4	<p>je moet op een gegeven moment zorgen dat alle data om welk platform, applicatie dan ook, dat die ergens in een datalake komen, bij de zorgorganisatie of bij de cliënt die deze ter ontsluiting kan aanbieden. Maar iemand moet de eigenaar worden van dat datalake en daar moeten dus alle data in komen. Dus eigenlijk is het een beetje open deur dus in basis: Ja, het moet open zijn om te 'connecten' en er zijn nu al een aantal applicaties te bedenken waar dat al heel handig mee zou zijn."at some point you have to make sure that all data around any platform, application, that it ends up somewhere in a data lake, at the healthcare organization or at the client who can offer it for access. But someone has to become the owner of that data lake and that's where all the data has to come in. So actually it is a bit open door so basically: Yes, it must be open to 'connect' and there are already a number of applications to think of where that would already be very useful."</p>	<p>Openheid t.b.v. ontsluiting"Openness to provide access"</p>	
5	<p>Ze hebben een vraag en die moeten wij <case-organization> beantwoorden.</p> <p>"They have a question and we have to answer it."</p>	<p>Belang van informatie "Importance of information"</p>	
6	<p>we werken dus met twee partijen, <complementor2> en <complementor1> en daar hebben we heel duidelijk een scheidslijn leggen. Zij maken een API en wij maken daar frontend op zelf zal ik maar zeggen.</p> <p>"so we work with two parties <complementor2> and <complementor1>, and there we have very clearly drawn a dividing line. They make an API and we make frontend on it ourselves, I'll just say."</p>	<p>Onderlinge afhankelijkheid "Interdependence"</p>	
	<p>Daar is sowieso een afhankelijkheid inderdaad, maar ook een duidelijke scheiding van wie doet wat zeg maar.</p> <p>"There is a dependency there anyway, but also a clear separation of who does what."</p>	<p>Duidelijke scheidslijnen "Clear dividing lines"</p>	

	<p>Als je kan zeggen: nou ja, onze persoonsgegevens, die worden door een goede partij verwerkt en als je het zelf moet doen, dan moet je ook nog een keertje al die al, door zo'n hele molen heen, zeg maar, en dat zullen we misschien toch wel moeten op termijn. Maar om sneller te kunnen schakelen helpt dat nu zeker.</p> <p>"If you can say: well, our personal data, which is processed by a proper party and if you have to do it yourself, then you also have to go through such a whole mill, so to speak, and we may have to do that in the long term. But to be able to switch faster, that certainly helps now."</p>	<p>Faciliteert optimalisering van oplossingen "Facilitates optimization of solutions"</p>	
	<p>Dan is het ook zo dat die partner waarmee je samenwerkt op dat technische stuk, om die technische zaken te ontwikkelen, dat die ook betrouwbaar moet zijn en bijvoorbeeld weer moet voldoen aan die kwaliteitseisen waar we het net bijvoorbeeld over hadden."Then it is also the case that the partner with whom you work together on that technical piece, in order to develop those technical matters, that it must also be reliable and, for example, must meet those quality requirements that we just talked about, for example."</p>	<p>Noodzaak standaarden en certificering" Need for standards and certification"</p>	
7	<p>en als je eerst gewoon één product goed bouwt, gewoon een bijna monolithisch monolithische applicatie die goed werkt en die ja, die doet wat je moet doen. Dus dat die de functionaliteiten levert die gevraagd worden, en dat je daarna pas, ja, dat omdraait en dat modulair maakt, en API's en SDK's (Software Development Kits) en zo, gaan ontwikkelen.</p> <p>"and if you first just build one product well, just an almost monolithic monolithic application that works well and that yes, that does what you have to do. So that it delivers the functionalities that are requested, and that you only then, yes, turn that around and make that modular, and start developing APIs and SDKs (Software Development Kits) and so on."</p>	<p>Ontwikkelstadium van platform bepaald toepassing "Development stage of platform determines application"</p>	
8	<p>Ja die vind ik hoog, want als die niet goed zijn, heb ik geen klant. Dus da's makkelijk.</p> <p>"Yes, I think they are high, because if they are not good, I do not have a customer. So that's easy."</p>	<p>Bepalend voor product "Product determinant"</p>	

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- Quotes from interview addressing the relevance of the subdesign dimension.	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
<p>Subdesign Dimensie</p> <p>3.2 Social boundary resources: regulations and policies facilitating the relationship between platform provider and complementors, such as app developers. E.g. Intellectual Property Rights (IPR), documentation for software services and support services for complementors.</p>			
1	<p>Ik hoor jou zeggen van die kennisoverdracht is essentieel. Die sociale boundary resources zijn essentieel om de technische boundary resources te kunnen uitvoeren en misschien ook wel omgekeerd. Dat versterkt elkaar of beïnvloedt elkaar.</p> <p>"I hear you say that knowledge transfer is essential. These social boundary resources are essential to be able to execute the technical boundary resources and perhaps vice versa. That reinforces each other or influences each other."</p>	<p>Versterkend effect van het platform. "Reinforcing effect of the platform."</p>	<p>1. Wederzijdse afhankelijkheid van spelers op het platform 1. "Interdependence of players on the platform"</p>
2	<p>Nou nieuwe zaken ontwikkelen moet natuurlijk altijd gewoon kunnen. Dat is ook gewoon eigenlijk gewoon de kern van een digitaal platform. Dat moet mee-ontwikkelen in de tijd. Je kan niet, je hebt niet zelf de wijsheid in pacht, dus je moet je ook altijd gewoon on the lookout zijn voor interessante andere partijen, met wie je gewoon iets samen kan gaan doen.</p> <p>"Well, of course, it should always be possible to develop new things. That's really just the core of a digital platform. That has to develop over time. You can't, you don't have the wisdom yourself, so you always have to be on the lookout for interesting other parties, with whom you can just do something together."</p>	<p>Samenwerking "Cooperation"</p>	
3	<p>ik denk niet dat wij dermate ontwikkelingen gaan doen waar andere softwareleveranciers zich op gaan aanpassen.</p> <p>"I don't think we're going to do such developments that other software vendors are going to adapt to."</p>	<p>Impact op complementors "Impact on complementors"</p>	

	<p>Misschien in de verre toekomst, waarin wij, wanneer we wat in de melk te brokkelen hebben. Maar voorlopig ze zullen wij met die API's en weet ik veel wat naar de pijpen moeten dansen, van de partijen die nu, vol in die markt zitten, want wij willen iets van hun en zij niet iets van ons, en het is, dat wij zo iets gaan organiseren, of regelen, of, ik denk niet, dat we daar voorlopig nog niet zijn."Perhaps in the distant future, when we have something to crumble in the milk. But for the time being, with those APIs and I know a lot, we will have to dance to the tune of the parties that are now, full in that market, because we want something from them and they do not want something from us, and it is, that we are going to organize something like that, or arrange it, or, I do not think, that we are not there yet."</p>	<p>Positionering t.o.v. complementors"Positioning in relation to complementors"Toegang voor gebruikersgroepen"Access for user groups"</p>	
4	<p>Geen relevante quote "No relevant quote"</p>	<p>Geen relevante code "No relevant code"</p>	
5	<p>Zij willen een goed, werkend het systeem en zij gaan ervan uit dat zij partijen hebben gekozen die in staat zijn om te bepalen of IPR's goed liggen of de beveiliging goed geregeld is enz..</p> <p>"They want a good, working system and they assume that they have chosen parties that are able to determine whether IPRs are good or security is well organized, etc."</p>	<p>Relevantie "Relevance"</p>	
6	<p>voor het succes van het platform het nodig is dat wij heel goed samenwerken en zowel met <CEO case-organization> als met elkaar als technische partijen.</p> <p>"for the success of the platform it is necessary that we work very well together and both with <CEO case-organization> and with each other as technical parties."</p>	<p>Samenwerking "Cooperation"</p>	
	<p>dan kijk ik ook weer zeg maar hoe wij met <complementor2> samenwerken en dat werkt zeg maar één team, dus, nou niet helemaal als een team, maar wel met heel veel overleg, zeg maar. Wekelijks en zo niet dagelijks overleg.</p> <p>"then I also look again say how we work with <complementor2> and that works say one team, so, well not quite as a team, but with a lot of consultation, so to speak. Weekly and if not daily consultation."</p>	<p>Delen van informatie tussen complementors "Sharing information between complementors"</p>	

7	<p>omdat je dan een soort van community...je hebt ook gewoon communities rondom, niet open platformen, of in ieder geval...</p> <p>"because then you have a kind of community... you also just have communities around, not open platforms, or at least..."</p>	<p>Belang van communities "Importance of communities"</p>	
8	<p>Nou ja, voor mij aan de medische kant... <case-organization> heeft nu nog geen medische data maar aan medische kant is die ook hoog, want ik kan niet bestaan zonder zonder certificeringen en zonder zonder een goed gedocumenteerd platform."Well, for me on the medical side... <case-organization> does not yet have medical data, but on the medical side it is also high, because I cannot exist without certifications and without a well-documented platform."</p>	<p>Bepalend voor product in relatie tot dit type platform"Determining product in relation to this type of platform"</p>	

Coding example for design dimension Architecture; for each subdesign dimension three examples for items of interest and their resulting codes from participants (P1-P8) are used. The themes represent the actual result for each subdesign dimension; they are based on the coding process for all participants P1-P8.

Design dimension Architecture - Subdesign dimension 1. Technical architecture

Items of Interest e.g.: "In retrospect, we only use the NORA reference architecture that is really written on public organizations as a manual. That has become our conclusion. Far too complicated, far too silly if you have a large organization. But how on earth do you want people to keep track of this? But we did use a lot of standards." (P1). "We are talking about yes, personal data and, so in the architecture, we also think about how we can ensure that that data is and remains as much as possible of the user and that we do not get away with it, like Google, they do that, so to speak." (P6). "Yes, look, with technical architecture, and with software, you really have to think three steps ahead, always, because if you build something now, you have to think ahead." (P7).

Coding: "Technical standards"(P1); "Platform functionality"(P6); "Predictive insight necessary"(P7).

Theme:
1. "Functionality"

Design dimension Architecture - Subdesign dimension 2. Platform span

Items of Interest e.g.: "And actually I would say: well, you should actually have as few subsystems as possible, but you should have an overall platform." (P2). "For us it is important if changes take place within the Platform <case-organization>, with all those links, yes, that it should not interfere with the systems."(P4). "Well, I don't see any subsystems. We say: yo, we all use one identification and authorization service, hey on servers and then we can put unlimited services next to it, those are not subservices but they are just services next to each other." (P8)

Coding: "Relevance"(P2); "Influence of subsystems"(P4); "Choosing the type of architecture determines the underlying functionality and principles of the platform"(P8).

Theme:
1. "Criteria for subsystems"

Design dimension Architecture - Subdesign dimension 3. Modularity

Items of Interest e.g.: "So let me put it this way Modularity is very much related here to the, dependency the interdependence in this case." (P3). "I think we should demand the, let's say, from <user-organization> that the cogs that we want, that they run well together, that if we are going to change something, let's say from <case-organization> we are also informed about what that means if you want to change that, and what that means for other modules for example." (P5). " And that is about exactly that phase that you are in as a platform. I think you have to be able to be flexible in the beginning you have to be able to say: okay, we really have to do this differently and then you have to... 'Kill your darlings' should not be too afraid of."(P7).

Coding: "Coherence with other subdesign dimensions"(P3); "User participation"(P5); "Platform development stage" (P7).

Themes:
1. "Customer stability"
2. "Stage of development of the platform"

Design dimension Architecture - Subdesign dimension 4. Composability

Items of Interest e.g.: "As much as possible, it is necessary to think in advance about how that module should work. And that it should not interfere with the other modules, because otherwise we will not even start with installation. And then again prefer less."(P1). "As a user, again, it is important that it does not cause unacceptable disturbances." (P4). "A composable system is modular and allows components to be selected and assembled in various configurations" (P6).

Coding: "Interdependence of modules" (P1); "Stability" (P4); "Relationship with subdesign dimensions of design dimension architecture"(P6);

Theme:
1. "Consistency with other subdesign dimensions"

Design dimension Architecture - Subdesign dimension 5. Malleability

Items of Interest e.g.: "So then that is constantly in a kind of ping pong story with the architects with developers of what things... and then I would also like to hear back from well, how many hours would you spend on it? Is this something that still fits into our timeline? Does it provide a very great convenience? Then I am willing to make a different choice within us, our design sprints." (P1). "We have already thought about this in architecture, in the past. And also in the choices we make, we are already trying to make choices that make it possible to use other reconfigurations in the future. So if you design that well, you can later reuse the same components for other things, for example." (P6).

Coding: "Customer and architecture dependency" (P1); "Architecture platform determines importance subdesign dimensions." (P6).

Themes:
1. "Dependence on architecture"
2. "Positioning of the customer"

Design dimension Architecture - Subdesign dimension 6. Design rules

Items of Interest e.g.: "Of course, we only have two partners; the Backbone and the GUI. Well, they understand each other's world. They keep each other on their toes. So then life is always very simple (laughter). Will we get more? Then I don't know how to answer." (P1). "I mean the person you're going to work with just have to agree to your rules, unless you make something new together that you also say in the program. Then, of course, it's something else. Then you own it together. When people make something for the platform that is really just part of the platform; yes, and then there are just agreements that everyone has to adhere to." (P2). "Yes, there is certain idea around the module I think, always. So first there's an idea of what it should do and then you have a technical implementation and that technical implementation that you have to be able to do quickly: 'we use this technique or that technique, or this technical library and approach it differently. But the idea of how it, how it should be used, what the function is, that must be a definition in terms of design, in terms of functionality.'" (P7).

Coding: "Interdependence" (P1); "Agree to draft rules" (P2); "Idea sets the rules" (P7).

Theme:
1. "Positioning of complementors vis-à-vis platform owners"

Complete coding from all interviews for all subdesign dimensions of 'Architecture'

Subdesign Dimensie 4.1 Technical architecture: the selection, possibly creation and use of standards and "connectors", as well as a blueprint for the integration of the different technical components like reference architectures.			
Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>Achteraf gezien gebruiken we de NORA referentiele architectuur die echt geschreven is op publieke organisaties alleen maar als handleiding. Dat is onze conclusie geworden. Veel te ingewikkeld, veel te sneu als je een grote organisatie hebt. Maar hoe wil je in vredesnaam dat mensen dit gaan bijhouden? Maar we hebben wel van heel veel standaarden gebruik gemaakt.</p> <p>"In retrospect, we only use the NORA reference architecture that is really written on public organizations as a manual. That has become our conclusion. Far too complicated, far too silly if you have a large organization. But how on earth do you want people to keep track of this? But we did use a lot of standards."</p>	Technische standaarden "Technical standards"	
2	<p>Dus dat is gewoon de architectuur moet zodanig zijn dat je eigenlijk gewoon maximale toegankelijkheid hebt voor de cliënten voor wat er in hun directe omgeving gebeurt, en wat ik daaromheen, wat er ook relevant voor hun zou kunnen zijn.</p> <p>"So that's just the architecture has to be such that you really just have maximum accessibility for the clients for what's happening in their immediate environment, and what I'm around around it, whatever might be relevant to them."</p>	Faciliteren maximale toegang "Facilitating maximum access"	
3	<p>Weet je, ook toen ik het de eerste keer, toen ik deze doornam, het wordt steeds technischer hè...en dat vind ik dus steeds moeilijker te beoordelen.</p> <p>"You know, even when I went through it the first time, when I went through this one, it's getting more and more technical, isn't it? and so I find that increasingly difficult to assess."</p>	Noodzakelijke kennis voor beoordeling technische aspecten "Necessary knowledge for assessment of technical aspects"	

4	<p>ik vind die technische architectuur van belang indien (ik) als organisatie, ook met die techniek daadwerkelijk te maken krijgen. Dan bedoel ik bijvoorbeeld onze afdeling ICT als ondersteuning voor klanten, dus dan vind ik hem relevant.</p> <p>"I think that technical architecture is important if (I) as an organization, actually have to deal with that technology. I mean, for example, our ICT department as support for customers, so then I find it relevant."</p>	<p>Noodzaak voor functioneren platform "Need for platform functioning"</p>	
5	<p>Het moet werken, en het moet gaan en het moet doen wat zij willen en ik denk dat dat het is en wij proberen daar zoveel mogelijk in mee te doen.</p> <p>"It has to work, and it has to go and it has to do what they want and I think that's it and we're trying to get involved in that as much as possible."</p>	<p>Noodzaak voor functioneren platform "Need for platform functioning"</p>	<p>1. Functionaliteit 1. Functionality</p>
6	<p>We hebben het over ja, persoonsgegevens en, dus in de architectuur denken we met name ook na over hoe we kunnen zorgen dat die gegevens zoveel mogelijk van de gebruiker zijn en blijven en dat we daar niet mee aan de haal gaan, zoals Google ,ze, dat doen zeg maar.</p> <p>"We are talking about yes, personal data and, so in the architecture, we also think about how we can ensure that that data is and remains as much as possible of the user and that we do not get away with it, like Google, they do that, so to speak."</p>	<p>Functionaliteit van het platform "Platform functionality"</p>	
	<p>Aan andere kant willen we in het platform ook, zeg maar, gebruik maken, gebruik maken van informatie om relevante producten en diensten aan te bieden en relevante artikelen en dergelijke. Dus hoe je dat doet, dat is wel een belangrijk iets in de architectuur, zeg maar, waar we over nadenken, hoe je dat doet, zonder dat je dus persoonsgegevens gaan zitten verwerken,</p> <p>"On the other hand, in the platform we also want to, say, use, use information to offer relevant products and services and relevant articles and the like. So how you do that, that's an important thing in architecture, say, what we think about, how you do that, without you having to process personal data,"</p>	<p>Gebruik van gegevens uit het platform "Data usage from the platform"</p>	

7	<p>ja, kijk, met technische architectuur, en met software, moet je echt drie stappen vooruitdenken, altijd, want als je nu iets bouwt, moet je alvast denken. Hoe heeft dat relatie met iets wat we nog niet hebben gebouwd en hoe, als je nu een database gaat inrichten moet je nu gaan bedenken. Ja, maar wat voor velden moesten we daar allemaal in gaan meenemen? Waarvan we nu nog niet weten dat we nodig hebt. Ja, architectuur, staat wel centraal.</p> <p>"yes, look, with technical architecture, and with software, you really have to think three steps ahead, always, because if you build something now, you have to think ahead. How does that relate to something we haven't built yet and how, if you're going to set up a database now, you have to start thinking about it now. Yes, but what kind of fields did we have to take with us? Which we don't know we need yet. Yes, architecture is central."</p>	<p>Voorspellend inzicht noodzakelijk "Predictive insight necessary"</p>	
8	<p>Ja, zo'n whitelabel oplossing. Kijk, wij sturen, ik stuur vanaf dag één heel sterk op die referentie architectuur, hé, De referentie. We kijken niet per se naar een overheidsreferentie architectuur. He, maar we hebben zelf een heel sterk plaatje over hoe dat eruit moet komen te zien. Dus het moet schaalbaar zijn, het moeten losse microservices zijn die allemaal aan elkaar geconnect worden. Ja, dus dat, dat staat bij mij met stip op één. Nou ja, dat zijn meer dingen, maar ik zet hem ook hoog.</p> <p>"Yes, such a white label solution. Look, we steer, I steer very strongly from day one on that reference architecture, hey, The reference. We don't necessarily look at a government reference architecture. Hey, but we have a very strong picture of what that should look like. So it has to be scalable, it has to be separate microservices that are all connected to each other. Yes, so that, that's number one for me. Well, that's more things, but I also put it high."</p>	<p>Keuze voor type architectuur is bepalend voor onderliggende functionaliteit en uitgangspunten van het platform "Choosing the type of architecture determines the underlying functionality and principles of the platform"</p>	

Subdesign Dimensie

4.2Platform span: the number of subsystems into which a platform or module can be partitioned.

Participat nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>We hebben nu nog twee externe modules en er zitten er nog meer in de pijplijn, maar dit is goed te behappen. Het wordt natuurlijk ingewikkeld, als dadelijk veel meer mensen aankomen en dan moeten we aan de bak.</p> <p>"We now have two external modules and there are more in the pipeline, but this is easy to handle. Of course it gets complicated, when a lot more people arrive and then we have to get to work."</p>	<p>Managen van complexiteit "Managing complexity"</p>	
2	<p>En eigenlijk zou ik zeggen van: nou, je moet eigenlijk zo weinig mogelijk subsystemen hebben, maar je moet een overall platform hebben. Ja, want als ik, ik lees dit gewoon als de technische, als de architectuur van het platform en dan denk ik van nou ja, dus de span an sich is niet relevant.</p> <p>"And actually I would say: well, you should actually have as few subsystems as possible, but you should have an overall platform. Yes, because if I, I just read this as the technical, as the architecture of the platform and then I think well, so the span in itself is not relevant."</p>	<p>Relevantie "Relevance"</p>	
3	<p>Dat vind ik ook heel moeilijk te beantwoorden hoeveel er mogelijk zijn, want wanneer wordt het een subsysteem?</p> <p>"I also find that very difficult to answer how many are possible, because when will it become a subsystem?"</p>	<p>Vaststellen criteria voor subsystemen "Establishing criteria for subsystems"</p>	
4	<p>voor ons is van belang als binnen het platform <case-organization> veranderingen plaatsvinden, met al die koppelingen, ja, dat het niet de systemen moet interfereren.</p> <p>"for us it is important if changes take place within the Platform <case-organization>, with all those links, yes, that it should not interfere with the systems."</p>	<p>Invloed van subsystemen "Influence of subsystems"</p>	

5	<p>En dat heeft er denk ik, ook mee te maken dat in de ontwikkelingsfase van het platform, dat je nog niet zit naar de fase van volwassenheid</p> <p>"And I think that also has to do with the fact that in the development phase of the platform, that you are not yet to the stage of maturity."</p>	<p>Ontwikkelingsfase gebruikers "User development phase"</p>	<p>1. Criteria voor subsystemen 1. "Criteria for subsystems"</p>
6	<p>Dus ik zou bij platformspan eerder denken aan, welke systemen horen er bij het platform of niet? Dus als je het hebt over welke subsystemen dus uit welke subsystemen bestaat het platform of als je het, als je het aan het maken bent, in welke subsystemen verdeel jij het platform, zodat verschillende partijen verschillende subsystemen kunnen maken of iets dergelijks.</p> <p>"So I would rather think of platform span, which systems belong to the platform or not? So if you're talking about which subsystems are the platform or if you're making it, in which subsystems do you divide the platform so that different parties can make different subsystems or something like that."</p>	<p>Functionaliteit van de verschillende subsystemen "Functionality of the different subsystems"</p>	
7	<p>dan heb je het over dat als je je wil dat je wilt, in principe iets opzetten en dus als je het echt super, super allemaal, superkleine sub systeempjes gaat maken, dan wordt het misschien wat al onoverzichtelijk, dus je kan er ook te ver gaan.</p> <p>"then you are talking about that if you want to, basically set something up and so if you are really going to make it super, super all, super small subsystems, then it may become a bit confusing, so you can also go too far."</p>	<p>Omvang bepaald relevantie "Scope of determined relevance"</p>	
8	<p>Nou ja, ik zie geen subsystemen. Wij zeggen: joh, wij gebruiken allemaal één identificatie- en autorisatiedienst, he op servers en daarna kunnen we ongelimiteerd diensten daarnaast zetten, dat zijn geen subdiensten maar dat zijn gewoon diensten naast elkaar. Dat is een microservice architectuur.</p> <p>Ik heb een beetje het idee dat in alle alle vier (subdesign dimensies), ja, hetzelfde gesteld wordt wat ik oplos met zo'n microservice architectuur. En als dat dan andere platformen ja anders kunnen doen dat interesseert me eigenlijk niet zo heel veel.</p> <p>"Well, I don't see any subsystems. We say: yo, we all use one identification and authorization</p>	<p>Keuze voor type architectuur is bepalend voor onderliggende functionaliteit en uitgangspunten van het platform "Choosing the type of architecture determines the underlying functionality and principles of the platform"</p>	

<p>service, hey on servers and then we can put unlimited services next to it, those are not subservices but they are just services next to each other. That's a microservice architecture.</p> <p>I have a bit of the idea that in all four (subdesign dimensions), yes, the same thing is stated what I solve with such a microservice architecture. And if other platforms can do that differently, that doesn't really interest me that much."</p>		
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Subdesign Dimensie 4.3Modularity: the degree to which changes within a subsystem do not create a ripple effect in the behavior of other parts of the ecosystem.			
Partici pant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>We hebben ons type klant, die is er ook nog eens eentje die heel slecht met die verandering om kan gaan en al blij is dat hij weet hoe die binnen kan komen binnen het systeem.</p> <p>"We have our type of customer, who is also one who can handle that change very badly and is already happy that he knows how to get in within the system."</p>	<p>Stabiliteit. "Stability"</p>	<p>1. Stabiliteit van de klant 1. "Customer stability"</p>
	<p>We gaan niets naar binnenschuiven waar niet al in allerlei testen naar voren zijn gekomen dat is dat dit ook is waar ze naar op zoek zijn.</p> <p>"We're not going to slide anything in where we haven't already come up in all kinds of tests, that is that this is also what they're looking for."</p>	<p>Betrouwbaarheid "Reliability"</p>	
2	<p>ik denk dat een techneut deze als heel hoog zou beoordelen. Ik denk dat voor mij persoonlijk zou dat gemiddeld zijn. Je moet natuurlijk niet hebben dat je op één plek iets veranderd, dat dan opeens op een andere plek er allemaal last van hebt. Weet, het moet eigenlijk altijd gewoon functioneren.</p> <p>"I think a techie would rate this as very high. I think for me personally that would be average. Of course, you should not have that you change something in one place, that then suddenly in another place you all suffer from it. You know, it should always just function."</p>	<p>Relevantie voor bestuurders "Relevance for directors"</p>	

	<p>dus stel je voor dat je in het beginstadium misschien wat veranderingen ziet, omdat het bijvoorbeeld een experimentele toevoeging is. Maar op het moment dat ie in productie genomen en je bent een jaar verder dan zul je zeggen van "dan is die modulariteit heel belangrijk"</p> <p>"so imagine that you might see some changes in the early stages, because it's an experimental addition, for example. But the moment it goes into production and you're a year further, you'll say "then that modularity is very important."</p>	<p>Ontwikkelstadium van platform "Platform development stage"</p>	
3	<p>En wat je nu dan, wat je volgens mij dus nu al een beetje ziet en aan de ene kant kom je dus af en toe lager op de prioriteitenlijst om dingen snel gedaan te krijgen. Dat is wel vervelend, maar aan de andere kant zie je ook dat sommige wensen die wij hebben we niet mogelijk zijn, omdat het dan niet past in zo'n bouwstenen en de verkoopbaarheid van die bouwsteen.</p> <p>"And what you see now, what I think you already see a little bit and on the one hand you occasionally come lower on the priority list to get things done quickly. That is annoying, but on the other hand you also see that some wishes that we have are not possible, because it does not fit into such building blocks and the marketability of that building block."</p>	<p>Bouw sluit aan bij eisen platform "Construction meets platform requirements"</p>	
	<p>dus dat laat ik het zo zeggen Modulariteit hangt hier heel erg samen met de, afhankelijkheid de onderlinge afhankelijkheid in dit geval.</p> <p>"so let me put it this way Modularity is very much related here to the, dependency the interdependence in this case."</p>	<p>Samenhang met ander subdesign dimensies "Coherence with other subdesign dimensions"</p>	
4	<p>Geen relevante quote "No relevant quote"</p>	<p>Geen relevante code "No relevant code"</p>	<p>2. Ontwikkelingsstadium van het platform 2. "Stage of development of the platform"</p>

5	<p>ik denk dat wij de, laten we zeggen, vanuit <user-organization> moet eisen dat de radertjes die wij graag willen, dat die goed in elkaar lopen, dat we, als we iets gaan wijzigen, laten we zeggen vanuit <case-organization> ook geïnformeerd worden over wat dat betekent als je dat wil wijzigen, en wat dat betekent voor andere modules bijvoorbeeld.</p> <p>"I think we should demand the, let's say, from <user-organization> that the cogs that we want, that they run well together, that if we are going to change something, let's say from <case-organization> we are also informed about what that means if you want to change that, and what that means for other modules for example."</p>	<p>Participatie van gebruikers "User participation"</p>
6	<p>vanuit de architectuur is het belangrijk om je systeem in modules op te delen. Anders is het minder goed beheersbaar dus ik vind het iets wat hoog scoort.</p> <p>"from the architecture it is important to divide your system into modules. Otherwise it is less manageable so I think it is something that scores high."</p>	<p>Beheersbaarheid "Manageability"</p>
	<p>als je, als je een goeie scheiding in de modules maakt, dan kan je de modules ook onafhankelijk van elkaar, voor een groot gedeelte maken zeg maar.</p> <p>"if you, if you make a good separation in the modules, then you can also make the modules independently of each other, for a large part, so to speak."</p>	<p>Onafhankelijkheid "Independence"</p>
7	<p>maar ik denk wel dat dat, je moet niet bang zijn om dingen te veranderen, omdat het anders een ripple effect geeft. Je moet wel open zijn voor dat modules kunnen veranderen, of dat je modules dus aanpast als iets van buiten anders wordt ingericht.</p> <p>"but I do think that, you shouldn't be afraid to change things, because otherwise it gives a ripple effect. You have to be open to the fact that modules can change, or that you adjust modules if something is arranged differently from the outside."</p>	<p>Omgang met veranderingen is medebepalend "Dealing with changes is partly decisive"</p>

	<p>en dat gaat weer over precies die fase waar je in zit als platform. Ik denk dat je juist in het, je moet juist flexibel kunnen zijn in het begin je moet kunnen zeggen van: oké, dit moeten we echt anders gaan doen en dan moet je... 'Kill your darlings' moet je niet te bang voor zijn.</p> <p>" and that is about exactly that phase that you are in as a platform. I think you have to be able to be flexible in the beginning you have to be able to say: okay, we really have to do this differently and then you have to... 'Kill your darlings' should not be too afraid of."</p>	<p>Ontwikkelstadium van platform "Platform development stage"</p>	
8	<p>Dat komt bij ons niet , dat komt bij de opzet van de microservice architectuur gewoon niet voor, dus dus dat is per definitie modulair dus maar dan weet ik niet zo goed of je hem als één van de drie moet beoordelen.</p> <p>Dus je kunt er voor voor kiezen om een monolithisch platform te maken, waar alles in mekaar gebouwd zit. En dan moet je inderdaad subdiensten gaan maken en als je dan wat er aan toe moet voegen, dan heb je een uitdaging, want dan moet je eigenlijk hele systeem aan gaan passen. Wij doen dat niet, wij hebben gezegd dat het modulair systeem, waarbij je gewoon bouwblokken naast elkaar kunnen zetten en die die die bouwen we op hè naast elkaar, die kun je apart deployen. Die kun je ook ergens anders inzetten omdat ik het belangrijk dat je dat zo naast elkaar kunt doen.</p> <p>"That doesn't happen to us, that just doesn't happen in the design of the microservice architecture, so that's by definition modular so but then I'm not sure if you should rate it as one of the three.</p> <p>So you can choose to create a monolithic platform, where everything is built together. And then you do have to make subservices and if you have to add something to them, then you have a challenge, because then you actually have to adjust the entire system. We don't do that, we've said that the modular system, where you can just put building blocks next to each other and those that we build on side by side, you can deploy them separately. You can also use them elsewhere because it is important that you can do that side by side."</p>	<p>Keuze voor type architectuur is bepalend voor onderliggende functionaliteit en uitgangspunten van het platform "Choosing the type of architecture determines the underlying functionality and principles of the platform"</p>	

Subdesign Dimensie

4.4 Composability: the resistance of modules to change.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>er moet zoveel mogelijk vooraf al nagedacht worden over hoe die module moet gaan werken. En dat ie dus ook niet mag interfereren met de andere modules, want anders gaan we niet eens beginnen met inbouwen. En dan wederom liever minder.</p> <p>"as much as possible, it is necessary to think in advance about how that module should work. And that it should not interfere with the other modules, because otherwise we will not even start with installation. And then again prefer less."</p>	<p>Onderlinge afhankelijkheid van modules "Interdependence of modules"</p>	
2	<p>wij mikken er natuurlijk op dat alle ouderen in Nederland en daarna gewoon er buiten, van dit platform gebruik kunnen maken, dus die, dat soort veranderingen moet het gewoon aan kunnen, het moet om kunnen gaan met massa.</p> <p>"of course we aim for all elderly people in the Netherlands and then just outside of it, to be able to use this platform, so that kind of change just has to be able to handle it, it has to be able to deal with mass."</p>	<p>Gebruikersgroep "User-group"</p>	
3	<p>ik denk dat als er eenmaal iets staat, dat het dan ook wel staat, dat is ieder geval de hoop die ik heb, want anders ben je helemaal ver weg.</p> <p>"I think that once something is there, that it is there, that is at least the hope I have, because otherwise you are completely far away."</p>	<p>Stabiliteit "Stability"</p>	
4	<p>Technisch gezien weet ik daar te weinig van. Als gebruiker, nogmaals, is het van belang dat het niet onacceptabele verstoringen geeft.</p> <p>"Technically, I don't know enough about that. As a user, again, it is important that it does not cause unacceptable disturbances."</p>	<p>Stabiliteit "Stability"</p>	

5	<p>dat de zorgverzekeraars of die zorgverleners niet elke dag weer met een andere functionaliteit geconfronteerd willen worden. Dus in dat kader moet er een bepaalde consistentie in dat geheel gebouwd worden.</p> <p>"that the health insurers or those care providers do not want to be confronted with a different functionality every day. So in that context, a certain consistency has to be built into that whole."</p>	<p>Relatie stabiliteit platform en modules "Relationship stability platform and modules"</p>	
6	<p>"A composable system is modular and allows components to be selected and assembled in various configurations"</p>	<p>Relatie met subdesign dimensies van design dimensie architectuur "Relationship with subdesign dimensions of design dimension architecture"</p>	<p>1. Samenhang met andere subdesign dimensies 1. "Consistency with other subdesign dimensions"</p>
	<p>Omdat we op dit moment het systeem op één manier aan elkaar knopen en in elkaar zetten.</p> <p>"Because at the moment we are tying the system together and putting it together in one way."</p>	<p>Inrichting architectuur bepaald belang van composability. "Design architecture determines the importance of composability." Architectuurplatform bepaald belang subdesign dimensies. "Architecture platform determines importance subdesign dimensions."</p>	
7	<p>Ja, dat gaat er eigenlijk over he, 'resistance of modules to change', ja, maar het gaat over de resistance maar je moet je het misschien juist de flexibiliteit van een module.</p> <p>"Yes, that's actually about hey, 'resistance of modules to change', yes, but it's about the resistance but you might have to tell the flexibility of a module."</p>	<p>Flexibiliteit van module "Flexibility of module"</p>	

8	<p><Geen verdere toevoeging></p> <p>"<No further addition>"</p>	<p>Keuze voor type architectuur is bepalend voor onderliggende functionaliteit en uitgangspunten van het platform</p> <p>"Choosing the type of architecture determines the underlying functionality and principles of the platform"</p>	
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Subdesign Dimensie 4.5 Malleability: the adoption of evolving user needs by enabling a flexible reconfiguration or extension of existing modules.			
Participatant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- Quotes from interview addressing the relevance of the subdesign dimension.	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>Moskou lijst is de 'Must have', de 'Should have' de 'Could have' en de 'Won't have'. En door constant informatie op te halen vanuit een eindklant, de gebruiker in dit geval, de 55- tot 75-jarige, de mantelzorger, de typering van onze klant, kom je er heel snel achter, welke dingen meteen nu kunnen, moeten we echt doen want anders dan gaan er andere dingen fout.</p> <p>"Moscow's list is the 'Must have', the 'Should have' the 'Could have' and the 'Won't have'. And by constantly retrieving information from an end customer, the user in this case, the 55 to 75-year-old, the informal caregiver, the characterization of our customer, you find out very quickly, what things can be done right now, we really have to do because otherwise other things will go wrong."</p>	<p>Strategische afweging van keuzes</p> <p>"Strategic consideration of choices"</p>	<p>1. Afhankelijkheid van architectuur</p> <p>1. "Dependence on architecture"</p>
	<p>Ja precies, dus dan is dat constant in een soort pingpong verhaal met de architecten met developers van welke dingen... en dan wil ik ook graag terug horen van nou ja, hoeveel uur zou je ermee bezig zijn? Is dit iets wat past het nog in onze tijdpad? Of het een heel groot gemak oplevert? Dan ben ik bereid om binnen ons, onze design sprints toch een andere keuze te maken.</p> <p>"Yes exactly, so then that is constantly in a kind of ping pong story with the architects with</p>	<p>Afhankelijkheid klant en architectuur</p> <p>"Customer and architecture dependency"</p>	

	<p>developers of what things... and then I would also like to hear back from well, how many hours would you spend on it? Is this something that still fits into our timeline? Does it provide a very great convenience? Then I am willing to make a different choice within us, our design sprints."</p>		
2	<p>Je met de tijd meegaan en als er gewoon weer slimme nieuwe dingen bedacht worden, dan moet je in principe dat ook gewoon kunnen incorporeren. Dus die vind ik wel belangrijk.</p> <p>"Moving with the times and if smart new things are just coming up with again, then in principle you should also be able to incorporate that. So I think that's important."</p>	<p>Geen code</p> <p>"No code"</p>	
3	<p>Het is van belang, maar we zijn er niet goed in (lacht) in het huidige construct, de Malleability.</p> <p>"It matters, but we're not good at it (laughs) in the current construct, the Malleability."</p>	<p>Geen code</p> <p>"No code"</p>	
4	<p>omdat het natuurlijk wel van belang is dat je niet te veel delay hebt of niet te veel ruis hebt, zeg maar. Laat ik maar in het algemeen zeggen. Maar de ontwikkeling op zich: ja, dat is niet iets wat wij aan prioriteiten stellen.</p> <p>"because it is of course important that you do not have too much delay or do not have too much noise, so to speak. Let me just say in general. But the development itself: yes, that is not something we set priorities for."</p>	<p>Geen prioriteit</p> <p>"No priority"</p>	
5	<p><user-organization> is wel één van de voorlopers als het gaat om innovatie. Ze zijn betrokken bij het LUMC (academisch ziekenhuis) Ze zijn betrokken, bij hoe heet dat, de site van TU Delft (technisch universiteit). Erasmus (universiteit) is aangesloten, hè daar hebben ze goede connecties mee. En ze zien dat er innovaties zijn waar ze iets mee kunnen.</p> <p>"<user-organization> is one of the forerunners when it comes to innovation. They are involved in the LUMC (academic hospital) They are involved,</p>	<p>Aansluiting bij technologische platformen</p> <p>"Connection to technological platforms"</p>	<p>2. Positionering van de klant</p> <p>2."Positioning of the customer"</p>

	<p>what is that called, the site of TU Delft (technical university). Erasmus (university) is affiliated, they have good connections with them. And they see that there are innovations that they can do something with."</p>	
6	<p>we hebben daar ook al in de architectuur, in het verleden over nagedacht. En ook in de keuzes die we maken proberen we al keuzes te maken die het mogelijk maken om in de toekomst andere reconfiguraties te gebruiken. Dus als je dat goed ontwerpt, dan kun je later ook daar weer dezelfde componenten hergebruiken voor andere dingen, bijvoorbeeld.</p> <p>""We have already thought about this in architecture, in the past. And also in the choices we make, we are already trying to make choices that make it possible to use other reconfigurations in the future. So if you design that well, you can later reuse the same components for other things, for example.""</p>	<p>Architectuurplatform bepaald belang subdesign dimensies. "Architecture platform determines importance subdesign dimensions."</p>
7	<p>Ik merk dat ik meer als software engineer begin te denken en net iets minder als leverancier van, in ieder geval als actor binnen <case-organization>.</p> <p>"I notice that I start to think more as a software engineer and just a little less as a supplier of, at least as an actor within <case-organization>"</p>	<p>Deelnemersrol is bepalend "Participant role is decisive"</p>
8	<p><Geen verdere toevoeging> "<No further addition>"</p>	<p>Keuze voor type architectuur is bepalend voor onderliggende functionaliteit en uitgangspunten van het platform "Choosing the type of architecture determines the underlying functionality and principles of the platform"</p>

Subdesign Dimensie

4.6 Design rules: the rules that platform owners expect module developers to obey to ensure interoperability with the rest of the ecosystem.

Participatant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- Quotes from interview addressing the relevance of the subdesign dimension.	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>we hebben natuurlijk nog maar twee partners; de Backbone en de GUI. Nou ja, ze snappen elkaars wereld. Ze houden elkaar scherp. Dus dan is het leven ook altijd heel erg eenvoudig (lach). Krijgen we dan meer? Dan weet ik niet hoe ik dan antwoord.</p> <p>"of course, we only have two partners; the Backbone and the GUI. Well, they understand each other's world. They keep each other on their toes. So then life is always very simple (laughter). Will we get more? Then I don't know how to answer."</p>	Onderlinge afhankelijkheid "Interdependence"	
	<p>het is een partij die zelf al heel erg ruim en groot over nagedacht heeft. En dan kan ik wel weer met nieuwe design rules komen, maar dan heb ik liever dat ik wat ga aanpassen of wij ons wat gaan aanpassen dan dat ze... soms motiveer ik ze wel om een tweak hier of daar te doen. Maar ik ga niet aan hun eigen ondergrond sleutelen.</p> <p>"it is a party that has already thought about it very broadly and large. And then I can come up with new design rules, but then I'd rather I make some adjustments or we'll adapt a bit than have them... sometimes I do motivate them to do a tweak here or there. But I'm not going to tinker with their own surface."</p>	Autonomie complementors "Autonomy complementors"	1. Positionering van complementors t.o.v. platform eigenaren 1. "Positioning of complementors vis-à-vis platform owners"
2	<p>Ik bedoel degene met wie je in zee gaat moeten gewoon akkoord gaan met jouw regels, tenzij je samen iets nieuws maakt wat je ook in het programma zegt. Dan ligt het natuurlijk weer iets anders. Dan ben je er samen eigenaar van. Als mensen iets maken voor het platform wat echt gewoon onderdeel is van het platform; ja, en dan zijn er gewoon afspraken waar iedereen zich aan moeten.</p> <p>"I mean the person you're going to work with just have to agree to your rules, unless you make something new together that you also say in the program. Then, of course, it's something else. Then you own it together. When people make something for the platform that is really just part</p>	Akkoord gaan met ontwerp regels "Agree to draft rules"	

	of the platform; yes, and then there are just agreements that everyone has to adhere to."		
3	<p>Ja, dat vind ik dus nog moeilijk in te schatten want zo ver zijn we nog niet.</p> <p>"Yes, I find that difficult to estimate because we are not that far yet."</p>	<p>Ontwikkelstadium van het platform</p> <p>"Development stage of the platform"</p>	
4	<p>want daar gaat het om, dat je vanuit het perspectief van de organisatie ook geen beperkingen wil hebben in het binnenhalen van allerlei data op een gegeven moment, nu is het nog niet zo ver maar ik weet zeker in het in de nabije toekomst heel erg belangrijk gaat worden dus dat zijn wel dingen die we denk ik nu al belangrijk vinden, dat dat eh, dat dat een voorwaardelijkheid is.</p> <p>"because that's what it's all about, that from the perspective of the organization you don't want to have any limitations in bringing in all kinds of data at a certain moment, now it's not that far yet but I'm sure it's going to be very important in the near future so those are things that I think are already important, that that eh, that that is a conditionality."</p>	<p>Toekomstperspectief</p> <p>"Future perspective"</p>	
5	<p>Daar zit natuurlijk een, daar zit een deel zit daar natuurlijk al die certificering achter.</p> <p>"There is of course one, there is a part of it of course all that certification behind it."</p>	<p>Certificering</p> <p>"Certification"</p>	

6	<p>Als wij zeggen wij gebruiken 'Angular' en als wij, waar wij bijvoorbeeld in het verleden over gehad hebben, andere modules van anderen willen gebruiken die anderen hebben ontwikkeld, dan heb je twee keuzes. De ene is, ze moeten het ook in 'Angular' maken, ze moeten het aan ons geven....Een andere mogelijkheid zou zijn, dat je het platform zo maakt dat, dat die modules dus ergens anders vandaan komen, dat een externe bouwer, die daarin kan configureren of iets dergelijks of misschien zelfs wel eens zonder dat wij daarvan op de hoogte hoeven zijn, dat zij onze API's kunnen gebruiken of iets dergelijks.</p> <p>"If we say we use 'Angular' and if we want to use other modules from others that others have developed, for example, which we have talked about in the past, then you have two choices. One is, they have to make it in 'Angular', they have to give it to us.... Another possibility would be that you make the platform in such a way that, that those modules come from somewhere else, that an external builder, who can configure something in it or something like that or maybe even without us having to be aware of it, that they can use our APIs or something like that."</p>	<p>Architectuurplatform bepaald belang subdesign dimensies. "Architecture platform determines importance subdesign dimensions."</p>
7	<p>Ja, er is bepaald idee rondom de module denk ik, altijd. Dus er is eerst een idee van wat moet het doen en vervolgens heb je een technische implementatie en die technische implementatie die moet je snel kunnen: ' wij gebruiken deze techniek of die techniek, of deze technische library en het anders aanpakken. Maar het idee van hoe het, hoe het gebruikt moet worden, wat de functie is, daar moet wel een definitie van zijn qua design, qua functionaliteit.</p> <p>"Yes, there is certain idea around the module I think, always. So first there's an idea of what it should do and then you have a technical implementation and that technical implementation that you have to be able to do quickly: 'we use this technique or that technique, or this technical library and approach it differently. But the idea of how it, how it should be used, what the function is, that must be a definition in terms of design, in terms of functionality."</p>	<p>Idee bepaalt de regels "Idea sets the rules"</p>

8

<Geen verdere toevoeging>

"<No further addition>"

Keuze voor type
architectuur is
bepalend voor
onderliggende
functionaliteit en
uitgangspunten van
het platform
"Choosing the type of
architecture
determines the
underlying
functionality and
principles of the
platform"

Coding example for design dimension Data governance; for each subdesign dimension three examples for items of interest and their resulting codes from participants (P1-P8) are used. The themes represent the actual result for each subdesign dimension; they are based on the coding process for all participants P1-P8.

Design dimension Data governance - Subdesign dimension 1. Trustworthiness of complementors		
<p>Items of Interest e.g.: "But if I didn't have so much faith in what about the two partners we're working with now, I wouldn't even have been able to take on the whole adventure."(P1). "Well, yes, let's start at point one "Trustworthiness of complementors: when data are exchanged these are key instruments regulating the adoption and use of the platform"... yes, it is very naturally super important" (P3). "Yes, so it's 'garbage in is garbage out' if you, yes, you have to be able to assume that yes is there, is so <complementor2> involved that those they have built up that status of reliable data owner." (P7).</p>	<p>Coding: "Trust" (P1); "Nature of the complementor determines trust" (P3); "'Garbage in is garbage out" (P7).</p>	<p>Themes: 1. "Trust" 2. "Interdependence"</p>
Design dimension Data governance - Subdesign dimension 2. Data sovereignty		
<p>Items of Interest e.g.: "It's about whether you want to be able to control who gets what data?"(P2). "It all has to be very clear who owns data, and then you also have to have a vision of it, and I think that's the basis...so that as an organization you construct a vision on how to handle data from who owns it? Is that the organization? Or is that the client, isn't it, for example? And how do you deal with that? And then you really have to have a pad for it." (P4). "The idea behind <case-organization> is, is that we try to look at it from the point of view of the user, so also try that the user is as much as possible about his own data." (P6).</p>	<p>Coding: "Ownership" (P2); "Vision on data ownership" (P4); "The user's point of view is decisive"(P6).</p>	<p>Theme: 1. "Vision on ownership"</p>
Design dimension Data governance - Subdesign dimension 3. Interoperability of data		
<p>Items of Interest e.g.: "You just want to work towards one profile, in one system, across the entire chain. And you only achieve that about that you, if it is interoperable." (P3). "What we want is that the user only has to fill in his data once, but that different parties who want to use it to varying degrees, so a hospital nurse, a home care organization nurse, WMO counter employee. That they can all access that information and for that there must be something, that that information can be exchanged, so to speak."(P6). "We make the technology available and <case-organization> figure it out with the data."(P8).</p>	<p>Coding: "Cooperation" (P3); "Data exchange" (P6); "Technical angle determines complementor" (P8).</p>	<p>Theme: 1. "Cooperation"</p>
Design dimension Data governance - Subdesign dimension 4. Secure exchange of data		
<p>Items of Interest e.g.: "That's not all that bad. If that doesn't happen, then you hang." (P2). "for the time being there are still enough standards whether that will remain the case, I do not know, but we are still coming out, so to speak."(P4). "I think it's almost self-evident" (P7)</p>	<p>Coding: "Standard"(P2); "Knowledge about standards"(P4); "Self-evident" (P7).</p>	<p>Theme: 1. "Standards"</p>

Design dimension Data governance - Subdesign dimension 5. Meta datamanagement

Items of Interest e.g.: "No data exchange without the permission of the client can happen, nothing can happen, not in the direction and that (the client) is the owner of the data. So 'no way' that you immediately praise and hang on, that people can do something fun with it." (P1). "In the sense that I can't really see what the importance is of pointing out who owns the data. So if it's, if you don't say, the end user owns it, but I feel from everything that it's important." (P3). "And as far as I'm concerned, the meta data is also the key to the success of <case-organization>... So that in that way you can, say, make the relationship: well, someone who falls into certain characteristics or certain categories in the taxonomy that he certain products belong to it." (P6)

Coding: "Self-determination" (P1); "Ownership" (P3); "Analysis capabilities." (P6)

Themes:
1. "Ownership"
2. "Analysis capabilities"

Design dimension Data governance - Subdesign dimension 6. Data provenance

Items of Interest e.g.: "For example, if it is about information, doctor's information or something, then you want the users, they also get certain information that is 'authoritative', I do not know if the Dutch word is even, so it comes from a certain authority, so to speak. So there will be important to say: well, for example, this comes from doctors site or I know a lot of what, so that you can see the user: okay, this is not just something, this is important or something." (P6). "I think that's it: accountability. And then combine on the core of <case-organization> that yes, you have to, you have to be accountable to such a. If you, if you're working on medical data and then that's really relevant." (P7). We say: we make the technology available and <case-organization> figure it out with the data." (P8).

Coding: "Authority of the data is decisive" (P6); "Information and accountability about the movement of data through the platform" (P7). "Technical angle determines complementor" (P8)

Theme:
1. "Accountability for data"

Complete coding from all interviews for all subdesign dimensions of 'Data governance'

<p>Subdesign Dimensie</p> <p>5.1 Trustworthiness of complementors: when data are exchanged these are key instruments regulating the adoption and use of the platform, sovereignty of data owners and data providers and trustworthiness are essential.</p>			
<p>Participant nr.</p>	<p>Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch)</p> <p>"Items of interest" - "Quotes from interview addressing the relevance of the subdesign dimension."</p>	<p>Codering (in Dutch)</p> <p>"Coding"</p>	<p>Thema (in Dutch)</p> <p>"Theme"</p>
1	<p>Maar als ik niet zoveel vertrouwen had in wat aan de twee partners waar we nu samen mee werken dan had ik het hele avontuur niet eens aan kunnen gaan.</p> <p>"But if I didn't have so much faith in what about the two partners we're working with now, I wouldn't even have been able to take on the whole adventure."</p>	<p>Vertrouwen</p> <p>"Trust"</p>	
	<p>Ik zie dit toch wel als een soort gelijkwaardige ontwikkeling zonder dat we mekaar's business modellen daaraan torren.</p> <p>"I see this as a kind of equal development without changing each other's business models."</p>	<p>Gelijkwaardigheid</p> <p>"Equality"</p>	
	<p>zij zijn met building blocks bezig om ook andere partners, andere partijen, te kunnen helpen. Prima, doe dat en sommige dingen worden door ons aangepast en aangescherpt kunnen andere weer profijt van hebben dat het zo is.</p> <p>"they are working with building blocks to be able to help other partners, other parties. Fine, do that and some things are adjusted by us and tightened up, others can benefit from the fact that it is so."</p>	<p>Verantwoordelijkheid</p> <p>"Responsibility"</p>	
	<p>Je noemt twee dingen, denk ik, die publiek-private samenwerking en ik hoor je d'r. ook een beetje tussen de lijnen door noemen, de ontwikkelingsstadium van je platform en eigenlijk de grote onderlinge afhankelijkheid.</p> <p>"You mention two things, I think, that public-private partnership and I hear you there. also mention a bit between the lines, the</p>	<p>Onderlinge afhankelijkheid</p> <p>"Interdependence"</p>	

	development stage of your platform and actually the great interdependence."		
	<p>We hebben een keus gemaakt, dus we zullen met elkaar de wedstrijd moeten uitlopen. En, nou ja, dat levert ook wel eens wat wrevel op en wat onbegrip naar elkaar toe, maar we komen er steeds weer. Ik denk ook omdat wij allemaal het grote plaatje voor ogen hebben.</p> <p>"We have made a choice, so we will have to finish the game together. And, well, that sometimes causes some resentment and some misunderstanding towards each other, but we get there again and again. I think also because we all have the big picture in mind."</p>	Solidariteit "Solidarity"	
2	<p>Je gaat ervan uit dat jij gewoon als partner betrouwbaar bent, en dat betekent dat datgene wat jij zegt, dat je dat ook doet. En dat als je zegt: "we hebben de gegevens beveiligd", dat dat ook zo is. Of als je zegt: "wij werken alleen maar met mensen, of in ieder geval we streven ernaar, die het goeie, met jullie voor hebben, weet je, je moet betrouwbaar zijn.</p> <p>"You assume that you are simply trustworthy as a partner, and that means that what you say, that you do. And that if you say: "we have secured the data", that is also the case. Or if you say, "we only work with people, or at least we strive for it, who have the right thing for you, you know, you have to be reliable."</p>	Samenhang subdesign dimensies – vertrouwen en vertrouwen data "Coherence subdesign dimensions – trust and trust data"	1. Vertrouwen 1. "Trust"
3	<p>Nou, ja, laten we bij punt één beginnen "Trustworthiness of complementors: when data are exchanged these are key instruments regulating the adoption and use of the platform"... ja, het is heel natuurlijk superbelangrijk</p> <p>"Well, yes, let's start at point one "Trustworthiness of complementors: when data are exchanged these are key instruments regulating the adoption and use of the platform"... yes, it is very naturally super important"</p>	Aard van de complementor is bepalend voor vertrouwen "Nature of the complementor determines trust"	2. Onderlinge afhankelijkheid 2. "Interdependence"

4	<p>Oké, dus je bent in feite bezig met het "vetten" om het zo maar eens te zeggen met het beoordelen van de betrouwbaarheid van de medegebruikers van die data en ook aan het kijken van welke data gaan er dan doorheen...Daar zitten ook van die overeenkomsten, enzovoorts die zitten er allemaal vast, dus.</p> <p>"Okay, so you're basically "assessing" so to speak, assessing the reliability of the co-users of that data and also looking at what data goes through it... There are also those similarities, and so on, they are all stuck, so."</p>	<p>Identificatie van betrouwbare partners n.a.v. toepassingen "Identification of reliable partners in connection with applications"</p>
5	<p>Het enige wat wij wel doen, vanuit de <case-organization> kant, maar dan zit ik effe die andere pet op, is natuurlijk om te kijken van wat houdt MedMij certificering in? Zitten wij op het spoor waar wij willen zitten? Want wij hebben er veel meer belang bij nog dan hun eigenlijk. Ja, tuurlijk het zijn hun gegevens, dat snap ik maar wij hebben er veel meer belang bij omdat wij ook analyse willen gaan toepassen en dat soort zaken en dan moet je wel van betrouwbare data kunnen uitgaan en dan moet je daar wel partijen hebben achterzitten die dat ook kunnen.</p> <p>"The only thing we do, from the <case-organization> side, but then I'm wearing the other hat, is of course to see what does MedMij certification mean? Are we on the track where we want to be? Because we have much more interest in it than they actually do. Yes, of course it is their data, I understand that, but we have a much greater interest in it because we also want to apply analysis and things like that and then you have to be able to rely on reliable data and then you have to have parties behind it that can also do that."</p>	<p>Certificering "Certification"</p>
6	<p>maar dat vind ik zeker hoog scoren, Maar om dezelfde redenen als eerder, we verwerken persoonsgegevens is dus een complementor als <complementor2> die moeten we wel hoog hebben zitten en vertrouwen om in het platform ook te kunnen integreren.</p> <p>"but I think that certainly scores high, But for the same reasons as before, we process personal data is therefore a complementor like <complementor2> that we have to have high and trust to be able to integrate into the platform."</p>	<p>Aard van de gegevensverwerking "Nature of data processing"</p>

7	<p>Ja, dus het is 'garbage in is garbage out' als je, ja wel, je moet er van uit kunnen gaan dat ja daarbij bij daarom is, is <complementor2> zo betrokken dat zij die zij hebben die status opgebouwd van betrouwbare data eigenaar.</p> <p>"Yes, so it's 'garbage in is garbage out' if you, yes, you have to be able to assume that yes is there, is so <complementor2> involved that those they have built up that status of reliable data owner."</p>	garbage in is garbage out	
8	<p>I: ik heb niet het idee, maar je moet mij daarin misschien even corrigeren dat op dit moment jij als complementor betrokken bent bij de de data verwerking, dataverwerking op zich?</p> <p>Nee, dat klopt dus wij zeggen: wij stellen de techniek ter beschikking en <case-organization> zoekt het maar uit met de data.</p> <p>"I: I don't have the idea, but you might have to correct me in that at the moment you as a complementor are involved in the data processing, data processing in itself?</p> <p>No, that's right, so we say: we make the technology available and <case-organization> figure it out with the data."</p>	Technische invalshoek is bepalend voor complementor "Technical angle determines complementor"	

Subdesign Dimensie

5.2 Data sovereignty: the corporate entity's capability of being entirely self-determined with regard to its data.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>De klant heeft de regie over de eigen data, dus geanonimiseerd; ik kan, kunnen alleen de resultaten gebruikt worden voor onderzoek, sterker nog, in principe kunnen wij, en dan noem ik het even <case-organization>, zo nergens bij. Dus als wij willen gebruiken, dan zijn er wel de eerste die het mogen gebruiken, maar dan geanonimiseerd en wederom ook alleen de resultaten. Dus daar blijven en willen we ons aan blijven houden.</p> <p>"The customer is in control of their own</p>	Zelfbeschikking "Self-determination"	1. Visie op eigenaarschap 1. "Vision on ownership"

	<p>data, i.e. anonymised; I can, can only the results be used for research, in fact, in principle we can, and I refer to <case-organization>, we not access anything. So if we want to use it, then there are the first ones who are allowed to use it, but then anonymized and again only the results. So we stay there and we want to stick to it."</p>	
2	<p>Ik vind dit 'gemiddeld' en alles staat en valt hier ook weer bij dat je, je hebt hier als voorbeeld bijstaan dat je privacy instellingen kan, ja ik lees het eigenlijk verkeerd. Het gaat erom van wil jij zelf kunnen regelen wie welke gegevens krijgt?</p> <p>"I find this 'average' and everything stands and falls here again that you, you have here as an example that you can privacy settings, yes I actually read it wrong. It's about whether you want to be able to control who gets what data?"</p>	Eigenaarschap "Ownership"
3	<p>Dus in die zin hebben we nooit totale soevereiniteit want als zij zeggen, ik wil het eraf, dan moet het ook in een zwarte beerput verdwijnen, zeg maar, en in die zin hebben we dus niet totale soevereiniteit over die data.</p> <p>"So in that sense we never have total sovereignty because if they say, I want it off, then it must also disappear into a black cesspool, so to speak, and in that sense we do not have total sovereignty over that data."</p>	Typering gebruikers bepaald soevereiniteit "Characterization of users determines sovereignty"
	<p>Ik bedoel we moeten wel wat met die data kunnen. Ja, dan is de vraag of dat totale soevereiniteit is.</p> <p>"I mean we have to be able to do something with that data. Yes, then the question is whether that is total sovereignty."</p>	Gebruikswaarde van data "Use value of data"

4	<p>Het moet allemaal heel duidelijk zijn wie data eigenaar is, en dan moet je ook een visie op hebben, en ik denk dat dat de basis is. Ik weet niet of dat hier in staat, moet ik eerlijk zeggen, maar dat is een, wat mij betreft het allereerste begin, dus dat je als organisatie een visie construeert op het omgaan met data van wie is de eigenaar? Is dat de organisatie? Of is dat de cliënt, hè, bijvoorbeeld? En hoe ga je daarmee om? En dan moet je echt onderlegger voor hebben.</p> <p>"It all has to be very clear who owns data, and then you also have to have a vision of it, and I think that's the basis. I don't know if that's in here, I have to be honest, but that's a, as far as I'm concerned, the very beginning, so that as an organization you construct a vision on how to handle data from who owns it? Is that the organization? Or is that the client, isn't it, for example? And how do you deal with that? And then you really have to have a pad for it."</p>	<p>Visie op data eigenaarschap "Vision on data ownership"</p>	
5	<p>Er is nog geen behoefte vanuit <user-organization> op dit moment. Maar ik kan me voorstellen dat als we verder zijn dat die behoefte wel komt. Dus op dit moment ligt ie op een laag niveau, maar dan zal dat altijd een laag niveau zijn, denk ik. Da's altijd over een aantal algemene gebruiksregels, denk ik, en niet zozeer over gebruiksdata.</p> <p>"There is no need from <user-organization> at the moment. But I can imagine that as we move forward that need will come. So at the moment it's at a low level, but then that will always be a low level, I think. That's always about some general usage rules, I think, and not so much about usage data."</p>	<p>Niveau van ontwikkeling "Level of development"</p>	
6	<p>Het idee achter <case-organization> is, is wel erg dat dat wij het proberen te bekijken vanuit het oogpunt van de gebruiker, dus ook proberen dat de gebruiker zo veel mogelijk over zijn eigen gegevens gaat.</p> <p>"The idea behind <case-organization> is, is that we try to look at it from the point of view of the user, so also try that the user is as much as possible about his own data."</p>	<p>Oogpunt van de gebruiker is bepalend "The user's point of view is decisive"</p>	

7	<p>het is misschien een beetje, omdat ik ook vaak zie dat op het moment dat je dat het een heel hoog, als je dat hele hoge waarde geeft, wat nu heel veel gebeurt met de privacyregels, dan kom je ook heel erg in de knel met ontwikkeling</p> <p>"it's maybe a little bit, because I also often see that the moment you give it a very high, if you give that very high value, which happens a lot now with the privacy rules, then you also get very much in trouble with development."</p>	<p>Ontwikkelingsniveau "Level of development"</p>	
8	<p>I: ik heb niet het idee, maar je moet mij daarin misschien even corrigeren dat op dit moment jij als complementor betrokken bent bij de de data verwerking, dataverwerking op zich?</p> <p>Nee, dat klopt dus wij zeggen: wij stellen de techniek ter beschikking en <case-organization> zoekt het maar uit met de data.</p> <p>""I: I don't have the idea, but you might have to correct me in that at the moment you as a complementor are involved in the data processing, data processing in itself?</p> <p>No, that's right, so we say: we make the technology available and <case-organization> figure it out with the data.""</p>	<p>Technische invalshoek is bepalend voor complementor "Technical angle determines complementor"</p>	

Subdesign Dimensie

5.3 Interoperability of data: is needed for standardized interaction of ecosystem actors (vocabularies play a key role in this task, as they facilitate the mapping of different data sources and the integration through linked-data presentations.

<p>Participant nr.</p>	<p>Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"-Quotes from interview addressing the relevance of the subdesign dimension.</p>	<p>Codering (in Dutch) "Coding"</p>	<p>Thema (in Dutch) "Theme"</p>
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1	<p>Ja, ik wil hem graag op 'middel' zetten, omdat ik weet dat het moet gebeuren, maar er nog eigenlijk te weinig aan gebeurt. Ja, wederom kleine groepen. Dan kun je redelijk snel met elkaar overleggen wat oké dit is.</p> <p>"Yes, I would like to put it on 'medium', because I know it has to be done, but there is actually too little happening about it. Yes, again small groups. Then you can discuss with each other fairly quickly what okay this is."</p>	<p>Geen code</p> <p>"No code"</p>	<p>1. Samenwerking 1. "Cooperation"</p>
2	<p>je moet ten alle tijden, alles moet gewoon met elkaar kloppen.</p> <p>"you have to be right at all times, everything just has to be right with each other."</p>	<p>Uniformiteit</p> <p>"Uniformity"</p>	
3	<p>je wil gewoon werken naar één profiel, in één systeem, over de hele keten heen. En dat bereik je alleen maar over dat je, als het interoperabel is.</p> <p>"you just want to work towards one profile, in one system, across the entire chain. And you only achieve that about that you, if it is interoperable."</p>	<p>Samenwerking</p> <p>"Cooperation"</p>	
4	<p>via een ander netwerk doen we een, hebben we een soort digitaal kluisje maar dan voor klinimetrie dus alle testgegevens van de GRZ (revalidatie zorg) komen daarin terecht en dan kun je dan jezelf benchmarken. En je kunt onderzoek doen met die data die daar uitkomen zeggen, geanonimiseerd is, dus die hier komen vanuit verschillende organisaties komen daar in dus ook de klinimetrische gegevens. Ja, die zou je op een gegeven moment aan <case-organization> kunnen linken om meer power te hebben.</p> <p>"through another network we do one, we have a kind of digital locker but then for klinimetry so all test data from the GRZ (rehabilitation care) end up in it and then you can then benchmark yourself. And you can do research with that data that comes out of that, is anonymized, so those that</p>	<p>Gebruikswaarde</p> <p>"Utility"</p>	

	<p>come here from different organizations come in there so also the clinimetric data. Yes, you could link it to <case-organization> at some point to have more power."</p>	
5	<p>Wij leggen het op een bepaalde manier vast en wij zeggen tegen de klant, althans <case-organization>, dan wel in dit geval de zorgaanbieder; die zeggen tegen de klant ze worden vastgelegd en je kan ze modulair ter beschikking stellen aan derde partijen. Eventueel. Dat kan je zelf doen met vinkjes dingen, zeg maar om te zeggen, die mogen wel door en die mogen niet door.</p> <p>"We record it in a certain way and we say to the customer, at least <case-organization>, or in this case the healthcare provider; they say to the customer they are recorded and you can make them modularly available to third parties. Possibly. You can do that yourself with ticks of things, just to say, they are allowed to continue and they are not allowed to continue."</p>	<p>Standaarden "Standards"</p>
6	<p>Wat we willen daarmee is dat de gebruiker zijn gegevens maar één keer hoeft in te vullen, maar dat verschillende partijen die daar in verschillende mate gebruik van willen maken, dus een ziekenhuisverpleegkundige, een thuiszorgorganisatie verpleegkundige, WMO-loketmedewerker. Dat die allemaal bij die informatie kunnen en daarvoor moeten moet er wel iets zijn, dat die informatie uitgewisseld kan worden, zeg maar.</p> <p>"What we want is that the user only has to fill in his data once, but that different parties who want to use it to varying degrees, so a hospital nurse, a home care organization nurse, WMO counter employee. That they can all access that information and for that there must be</p>	<p>Uitwisseling van data "Data exchange"</p>

	<p>something, that that information can be exchanged, so to speak."</p>	
	<p>Het is wel heel belangrijk om daar, hoe we dat gaan oplossen zeg maar. Er zijn ontwikkelingen, standaard-ontwikkelingen, je hebt zelf SNOMED er bijgezet. We gebruiken ook...Interrai.</p> <p>"It is very important to know how we are going to solve that, so to speak. There are developments, standard developments, you have added SNOMED yourself. We also use... Interrai."</p>	<p>Standaarden "Standards"</p>
7	<p>standaarden, gewoon die FHIR en ja, je moet er niet allemaal je eigen standaard gaan zitten?</p> <p>"standards, just that FHIR and yes, you shouldn't all sit there your own standard?"</p>	<p>Belang van standaarden "Importance of standards"</p>
8	<p>I: ik heb niet het idee, maar je moet mij daarin misschien even corrigeren dat op dit moment jij als complementor betrokken bent bij de de data verwerking, dataverwerking op zich?</p> <p>Nee, dat klopt dus wij zeggen: wij stellen de techniek ter beschikking en <case-organization>zoekt het maar uit met de data.</p> <p>""I: I don't have the idea, but you might have to correct me in that at the moment you as a complementor are involved in the data processing, data processing in itself?</p> <p>No, that's right, so we say: we make the technology available and <case-organization> figure it out with the data.""</p>	<p>Technische invalshoek is bepalend voor complementor 'Technical angle determines complementor"</p>

Subdesign Dimensie

5.4 Secure exchange of data.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- Quotes from interview addressing the relevance of the subdesign dimension.	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>We hebben het hier wel over de zorg dus ho!! Certificaties, Medmij4, de NEN7510, de ISO 7051. Allemaal in het snotje bij ons en de Backbone voldoet dus ook aan al deze certificaties.</p> <p>"We are talking about healthcare here so ho!! Certifications, Medmij4, the NEN7510, the ISO 7051. All in focus and the Backbone therefore also meets all these certifications."</p>	<p>Normen "Standards"</p>	
2	<p>Daar staat valt alles mee. Als dat niet gebeurt, dan hang je.</p> <p>"That's not all that bad. If that doesn't happen, then you hang."</p>	<p>Norm "Standard"</p>	
3	<p>Ja, je moet gewoon, ik bedoel, het is overall gevoelig, privacy, maar in de zorg helemaal. Dus dit moet heel erg veilig gebeuren.</p> <p>"Yes, you just have to, I mean, it's sensitive everywhere, privacy, but in healthcare all the way. So this has to be done very, very safely."</p>	<p>Contextafhankelijk "Context dependent"</p>	
4	<p>voorlopig zijn er nog voldoende standaarden of dat zo zal blijven, weet ik niet, maar we komen nu nog uit, zeg maar.</p> <p>"for the time being there are still enough standards whether that will remain the case, I do not know, but we are still coming out, so to speak."</p>	<p>Kennis over standaarden "Knowledge about standards"</p>	
5	<p>De data die uitgewisseld wordt, daar moet je van op aan kunnen, dus daar moet een bepaalde kwaliteit achter zitten natuurlijk om dat omdat voor elkaar te krijgen, dus ik vind dat wel belangrijk, eerlijk gezegd.</p> <p>"The data that is exchanged, you have to be able to rely on that, so there has to be a certain quality behind that of course to get</p>	<p>Kwaliteit "Quality"</p>	<p>1. Normen 1. "Standards"</p>

	that done, so I think that's important, to be honest."		
6	Omdat we met persoonsgegevens werken "Because we work with personal data"	Verwerking van type data is bepalend voor het belang "Processing of type of data determines the importance"	
7	Ik denk dat het bijna vanzelfsprekend is "I think it's almost self-evident"	Vanzelfsprekend "Self-evident"	
8	I: ik heb niet het idee, maar je moet mij daarin misschien even corrigeren dat op dit moment jij als complementor betrokken bent bij de de data verwerking, dataverwerking op zich? Nee, dat klopt dus wij zeggen: wij stellen de techniek ter beschikking en <case-organization>zoekt het maar uit met de data. ""I: I don't have the idea, but you might have to correct me in that at the moment you as a complementor are involved in the data processing, data processing in itself? No, that's right, so we say: we make the technology available and <case-organization> figure it out with the data.""	Technische invalshoek is bepalend voor complementor 'Technical angle determines complementor"	

Subdesign Dimensie

5.5 Meta datamanagement: information about the data owner, data usage conditions and financial aspects (e.g. price of data).

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"

1	<p>Geen data uitwisseling zonder toestemming van de cliënt kan er, niks gebeuren, niet in de regie en die (de cliënt) is eigenaar van de data. Dus 'no way' dat je dadelijk prijzen en vasthangen, dat mensen daar gezellig mee iets leuks kunnen doen.</p> <p>"No data exchange without the permission of the client can happen, nothing can happen, not in the direction and that (the client) is the owner of the data. So 'no way' that you immediately praise and hang on, that people can do something fun with it."</p>	<p>Zelfbeschikking "Self-determination"</p>	
2	<p>het is hier ook een kwestie van 'give and take', je geeft niet gewoon de data helemaal voor niks, er moet ook iets voor terugkomen.</p> <p>"it is also a matter of 'give and take', you do not just give the data for nothing, something has to come back for it."</p>	<p>Wederkerigheid "Mutuality"</p>	1. Eigenaarschap
3	<p>In de zin dat ik niet heel goed kan overzien wat het belang is om aan te wijzen wie de eigenaar van de data is. Als het dus, als je niet zegt, de eindgebruiker is de eigenaar erover, maar ik voel aan alles dat het wel belangrijk is.</p> <p>"In the sense that I can't really see what the importance is of pointing out who owns the data. So if it's, if you don't say, the end user owns it, but I feel from everything that it's important."</p>	<p>Eigenaarschap "Ownership"</p>	1. "Ownership"
4	<p>Nou ja, de uniformiteit sowieso is wel van belang, wil je daar iets goeds mee gaan doen Een 'drie' van begin af aan moet je zorgen dat de structuur goed ingericht wordt.</p> <p>"Well, the uniformity anyway is important, if you want to do something good with it A 'three' from the start you have to make sure that the structure is properly arranged."</p>	<p>Uniformiteit "Uniformity"</p>	

5	<p>op dit moment denk ik dat dat niet zo heel erg aan de orde is. Ik zit even te zoeken naar hoe je dat dan even op <case-organization> kan betrekken en op het systeem, het platform. Daar is nu nog niet echt een.. vanuit allerlei stromen een toevoer op dat gebied. Dat hebben we nog niet.</p> <p>"at the moment, I don't think that's really the case. I'm just looking for how you can involve that in <case-organization> and on the system, the platform. There's not really one yet.. from all kinds of streams a supply in that area. We don't have that yet."</p>	<p>Ontwikkelingsniveau van het platform "Level of development of the platform"</p>	
6	<p>En wat mij betreft is de meta data ook wel de sleutel tot het succes van <case-organization>...Dus dat je op die manier, zeg maar, de relatie kan leggen: nou, iemand die in bepaalde kenmerken of bepaalde categorieën valt in de taxonomie dat ie bepaalde producten erbij horen.</p> <p>"And as far as I'm concerned, the meta data is also the key to the success of <case-organization>... So that in that way you can, say, make the relationship: well, someone who falls into certain characteristics or certain categories in the taxonomy that he certain products belong to it."</p>	<p>Analysemogelijkheden. "Analysis capabilities."</p>	<p>2. Analysemogelijkheden 2. "Analysis capabilities"</p>
7	<p>Nou ja, ik hoorde laatst dat de grootste, dat dat dat wat er nu met metadata dat daar een hele goede voorspellingen worden gedaan, van hoe de markt eruit ziet. Dus dat mensen echt, dat daar goud geld in zit in. Niet hoeveel, ja, omdat die die die die die voorbeelden te staan. Het maakt niet uit hoeveel, wie wat heeft gekocht. Maar als je weet dat er 10.000 Hawaii pizza's zijn verkocht, ja, dan kan een ananas importeur en die ziet dat omhoog gaan. Die kan dat opeens. Dan is dat relevante informatie, dus het gaat vaak zelfs meer over metadata dan de echte data ja.</p> <p>"Well, I heard the other day that the biggest one, that that what there is now with metadata that there are very good predictions being made there, of what the market looks like. So that people really, that there's gold money in there. Not how much,</p>	<p>Informatiebron "Source of information"</p>	

	yes, because those those those examples to stand. It doesn't matter how much, who bought what. But if you know that 10,000 Hawaiian pizzas have been sold, yes, then a pineapple importer and he sees that go up. He can suddenly do that. Then that is relevant information, so it is often even more about metadata than the real data yes."	
8	<p>I: ik heb niet het idee, maar je moet mij daarin misschien even corrigeren dat op dit moment jij als complementor betrokken bent bij de de data verwerking, dataverwerking op zich?</p> <p>Nee, dat klopt dus wij zeggen: wij stellen de techniek ter beschikking en <case-organization> zoekt het maar uit met de data.</p> <p>""I: I don't have the idea, but you might have to correct me in that at the moment you as a complementor are involved in the data processing, data processing in itself?</p> <p>No, that's right, so we say: we make the technology available and <case-organization> figure it out with the data.""</p>	<p>Technische invalshoek is bepalend voor complementor</p> <p>'Technical angle determines complementor'</p>

Subdesign Dimensie

5.6 Data provenance: tracking the dataflow across multiple nodes of the network.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>Bron- en eindpunt ligt bij de cliënt zelf. Dus daar, alleen datgene wat er uit gaat, is resultaten van datgene wat mensen hebben ingevuld, dus niet de info... Het is een brokje van...Nee, het is, dus het is een, een samenwerking algoritme van het van hetgene wat mensen hebben ingevuld.</p> <p>"Source and end point lies with the client himself. So there, only what goes out is results of what people have filled in, so not the info... It's a piece of... No, it's, so it's a, a</p>	<p>Geen code</p> <p>"No code"</p>	

	collaboration algorithm of what people have filled in."		
2	<p>Ja, dat is natuurlijk gewoon voor mijzelf vind ik dat niet zo belangrijk, maar voor de mensen die achter de hele techniek zitten, die moeten dat wel weten....Die moeten precies weten waar welke data op welk moment zijn en waar ze aan gekoppeld worden enzovoort.</p> <p>"Yes, that is of course just for myself I don't think that's that important, but for the people who are behind the whole technique, they need to know that.... They need to know exactly where which data is at what time and what they are linked to and so on."</p>	<p>Geen code</p> <p>"No code"</p>	
3	<p><Geen relevant citaat></p> <p><"No relevant quote"></p>	<p>Geen code</p> <p>"No code"</p>	
4	<p>Ja, dat is zit nu nog niet 'top of mind'. Misschien is het ook een groeimodel.</p> <p>"Yes, that is not yet 'top of mind'. Maybe it's also a growth model."</p>	<p>Ontwikkelingsperspectief</p> <p>"Development perspective"</p>	
5	<p>Ik denk dat zij gewoon straks bepaalde informatie willen hebben. Ja, en hoe dat dan tot stand komt en waar dat dan precies zit. En ja, is er een eindpunt. Ja, in eerste instantie is er geen eindpunt, anders dan dat je op een gegeven moment over een bepaalde periode wil ik dit weten.</p> <p>"I think they just want to have certain information later on. Yes, and how that comes about and where exactly that is. And yes, there is an end point. Yes, at first there is no end point, other than that at some point over a certain period of time I want to know this."</p>	<p>Gebruik van informatie</p> <p>"Use of information"</p>	<p>1. Verantwoording voor data</p> <p>1. "Accountability for data"</p>
6			

	<p>Als het bijvoorbeeld over informatie gaat, doktersinformatie ofzo, dan wil je dat de gebruikers, ze ook bepaalde informatie krijgen die 'authoritative' is, ik weet niet of het Nederlandse woord even is, dus die van een bepaalde autoriteit afkomstig is zeg maar. Dus daar zal belangrijk zijn om te zeggen: nou, dit komt bijvoorbeeld van artsensite of weet ik veel wat, waardoor je de gebruiker kan zien: oké, dit is niet zomaar wat, dit is belangrijk of zo.</p> <p>"For example, if it is about information, doctor's information or something, then you want the users, they also get certain information that is 'authoritative', I do not know if the Dutch word is even, so it comes from a certain authority, so to speak. So there will be important to say: well, for example, this comes from doctors site or I know a lot of what, so that you can see the user: okay, this is not just something, this is important or something."</p>	<p>Autoriteit van de gegevens is bepalend "Authority of the data is decisive"</p>
7	<p>Ik denk dat dat het is: verantwoording. En dan combineren op de kern van <case-organization> dat je ja, je moet, je moet verantwoording kunnen afleggen naar bij zo'n. Als je, als je bezig bent met medische gegevens en dan is dat echt relevant.</p> <p>"I think that's it: accountability. And then combine on the core of <case-organization> that yes, you have to, you have to be accountable to such a. If you, if you're working on medical data and then that's really relevant."</p>	<p>Informatie en verantwoording over verplaatsing van data door het platform "Information and accountability about the movement of data through the platform"</p>
8	<p>I: ik heb niet het idee, maar je moet mij daarin misschien even corrigeren dat op dit moment jij als complementor betrokken bent bij de de data verwerking, dataverwerking op zich?</p> <p>Nee, dat klopt dus wij zeggen: wij stellen de techniek ter beschikking en <case-organization> zoekt het maar uit met de data.</p> <p>""I: I don't have the idea, but you might have to correct me in that at the moment you as a complementor are involved in the data processing, data processing in itself?</p>	<p>Technische invalshoek is bepalend voor complementor "Technical angle determines complementor"</p>

	No, that's right, so we say: we make the technology available and <case-organization> figure it out with the data."		
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Coding example for design dimension Value-creating mechanisms; for each subdesign dimension three examples for items of interest and their resulting codes from participants (P1-P8) are used. The themes represent the actual result for each subdesign dimension; they are based on the coding process for all participants P1-P8.

Design dimension Value-creating mechanisms - Subdesign dimension 1. The efficient and convenient facilitation of transactions

Items of Interest e.g.: "At the end of the day, you just want people to give their information only once, everyone for whom that is relevant, that he can access it, that that information is just connected to a calculation program, so that people can just see things, that matches can be made to what kind of people or organizations they can have something." (P2). "That is exclusively the goal of course, isn't it, if you look from the organization, right, because look at the older ones, so the target group can play with it, but specifically for the data, towards the organization yes, that is certainly important." (P4). "The environment that's on <case-organization> should actually be the endpoint and that you can start exchanging the data from there, because I think that also gives a much better central picture of all possible data sources." (P8).

Coding: "Information";
Relevance" (P2);
"Importance of
transactions" (P4);
"Facilitating transactions via
the platform"(P8).

Theme:
1. "Platform as
Intermediary between
actor "

Design dimension Value-creating mechanisms - Subdesign dimension 2. The provision of affordances

Items of Interest e.g.: "The collaboration and co-creation must lead to a win-win. So as far as we are concerned, everyone has their own business model and everyone is also allowed to make money, but not on the platform, but because of the platform, so that is actually an unwritten rule in the design of <case-organization>." (P1). "We are still really in the creative phase in which we want to keep a bit of a grip ourselves, which we want to do in consultation with end users." (P3). "if you say: I actually want to keep the user inside, then you actually have to do the entire service of products and services supplier again, or something, or integrate or well, whatever." (P6).

Coding: "Co-creation" (P1);
"Development" (P3); "Future
vision for the design of the
platform" (P6).

Theme:
1. "Development
perspective"

Design dimension Value-creating mechanisms - Subdesign dimension 3. Actor roles within the platform

Items of Interest e.g.: "But you have to make good agreements, with everyone who does something for that and also just what value they can create. And then. <CEO case-organization> now has a business partner and that guy who comes from a completely different angle, and at some point he can also bring in value. Yes, and then at some point you have to come up with a formula of how you value that, how you value that and it doesn't always have to be all that money, it can also be something else..." (P2). "Yes, what we said at some point is that if people want to join the platform in a moment, they will have to be able to put a certain certification on the table. (P5). "It has a high value for <complementor> or so for <case-organization>? But we are very decisive in this to be able to generate that value from our technical role. And if we then consider ourselves as an actor, because that can also mean that you will position yourself further there..." (P8)

Coding: "Agreements on
value creation" (P2);
"Perspective of the owner"
(P5); "Positioning as actor"
(P8).

Theme:
1. "Agreements on
value creation"

Design dimension Value-creating mechanisms - Subdesign dimension 4. Value creation and capture

Items of Interest e.g.: "We will always ensure that social innovation does not come at a fair price performance. So the whole story around our neo-liberalism; we are basically more looking for the meaning economy and that will cost us quite a few headaches." (P1). "We have to find care providers who, er, are going to convince the end users to use this, and for that we have to convince the board and management of those care providers that this ultimately contributes to their revenue model and that it therefore saves time, administrative burdens save that kind of thing. You have to map out that added value very well and where the costs and where the benefits fall...in order to be able to convince those parties." (P3). "I think that as complementors; <complementor 1 > and <complementor 2>, must, well, be paid in euros for delivering, for the value they deliver in storing data or presenting a front-end and they are rewarded for that, by payment. And then it is irrelevant whether we can also see what that customer is doing and that does not seem to me to be a healthy, healthy situation for <case-organization>." (P7)

Coding: "Social dimension"
(P1); "Users are partly
responsible for creating
value" (P3); "Definition of
role in platform is decisive"
(P7).

Theme:
1. "Role of actors"
2. "Development
perspective"

	<p>know who I mean by that those relationships often already exist."</p>		
4	<p>Dat is exclusief het doel natuurlijk, hè, als je kijkt vanuit de organisatie, hè, want kijk de oudere, dus de doelgroep kan er mee spelen, maar specifiek voor de gegevens, richting organisatie ja, is dat wel zeker van belang.</p> <p>"That is exclusively the goal of course, isn't it, if you look from the organization, right, because look at the older ones, so the target group can play with it, but specifically for the data, towards the organization yes, that is certainly important."</p>	<p>Belang van transacties "Importance of transactions"</p>	
5	<p>Zeg maar, en ja, het is feitelijk voor hun ook straks een intermediair tussen de organisatie en in dit geval de cliënt om daarover iets te vinden, te kunnen, mogelijk vraag en aanbod, want ze hebben, een zorgartikelen winkel, ze hebben al dat soort dingen.</p> <p>"Say, and yes, it is actually an intermediary for them between the organization and in this case the client to find something about it, to be able to, possibly supply and demand, because they have, a care products store, they have all that kind of stuff."</p>	<p>Intermediair "Intermediary"</p>	<p>1. Platform als Intermediair tussen actoren 1. "Platform as Intermediary between actors"</p>
6	<p>Ja, die heb ik op hoog gezet, want dit is wel een doel van het platform uiteindelijk, om bijvoorbeeld transacties in de zin van dat mensen producten of diensten kunnen kopen, dus dat wij bemiddelen tussen dienstverleners en gebruikers. En aan de andere kant zou je ook de ja, de relatie tussen thuiszorgorganisatie en gebruikers kunnen zien als transacties.</p> <p>"Yes, I have set that high, because this is a goal of the platform ultimately, for example to make transactions in the sense that people can buy products or services, so that we mediate between service providers and users. And on the other hand, you could</p>	<p>Direct doel van het platform "Direct purpose of the platform"</p>	

	<p>also think of the yes, the relationship between home care organization and users as transactions."</p>	<p>Gelaagdheid in relaties tussen gebruikers, leveranciers en leveranciers van gebruikers. "Layering in relationships between users, suppliers and suppliers of users."</p>	
7	<p>het eerste kenmerk daarvan, is de subdesign dimensie, is de efficiëntie en het gemak om transacties te faciliteren...Hoog, ja, dat is wat <case-organization> vraagt te ontwikkelen, aan te bieden. Dus dat dat, dat is ook meteen...Matchmaking, Ja.</p> <p>"the first characteristic of that, is the subdesign dimension, is the efficiency and ease of facilitating transactions... High, yes, that's what <case-organization> requires to develop, to offer. So that that, that's also right away... Matchmaking, Yes."</p>	Matchmaking	

8	<p>wij zeggen in het systeem zoals wij het hebben neergezet, zeggen wij de patiënt is eigenaar van de data. Dat doet <case-organization> ook. Maar ja, goed, als je dan een data uit het ziekenhuis haalt, dan zet je die in je eigen kluisje zowel bij <case-organization> als bij ons, en dan is die data van de patiënt. Dus daar is geen eindpunt eigenlijk, alhoewel ik denk dat dat de omgeving die op <case-organization> zit, eigenlijk het eindpunt moet worden en dat je vanaf daar de data uit kunt gaan wisselen, omdat dat denk ik ook een veel beter centraal beeld geeft van alle mogelijke data bronnen.</p> <p>"we say in the system as we have put it, we say the patient owns the data. That does <case-organization>. But yes, well, if you then get a data from the hospital, you put it in your own locker both with <case-organization> and with us, and then that data belongs to the patient. So there's no endpoint there actually, although I think that the environment that's on <case-organization> should actually be the endpoint and that you can start exchanging the data from there, because I think that also gives a much better central picture of all possible data sources."</p>	<p>Faciliteren van transacties via het platform "Facilitating transactions via the platform"</p>	
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Subdesign Dimensie

6.2 The provision of affordances: the innovation capabilities of digital platforms that enable complementors to create solutions complementary to the platform core.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"

1	<p>De samenwerking en de co-creatie moet leiden tot een win- win. Dus wat ons aangaat heeft iedereen zijn eigen businessmodel en iedereen mag ook geld verdienen, maar niet op het platform, maar vanwege het platform, dus dat is dat is eigenlijk een ongeschreven regel in de opzet van <case-organization>.</p> <p>"The collaboration and co-creation must lead to a win-win. So as far as we are concerned, everyone has their own business model and everyone is also allowed to make money, but not on the platform, but because of the platform, so that is actually an unwritten rule in the design of <case-organization>."</p>	Co-creatie "Co-creation"	
2	<p>Dat is nogal ingrijpend. Dat is echt kwalitatieve, het is een transformatie als je dat doet. Dan maak je er echt iets anders van. Dat is, ik vind het op dit moment helemaal niet aan de orde en ik denk ook dat dat ook niet iets is waar we gewoon mee bezig moeten zijn. Laten we eerst maar zorgen...Dat we goed op weg zijn op de ingeslagen route.</p> <p>"That is quite drastic. That's really qualitative, it's a transformation if you do that. Then you really make something else out of it. That is, I do not think it is at all on the agenda at the moment and I also think that that is not something that we just have to deal with. Let's take care of it first... That we are well on our way on the chosen route."</p>	Ontwikkeling "Development"	
3	<p>We zijn nu nog echt in de creërende fase waarin we zelf een beetje grip willen houden, wat we willen doen in overleg met eindgebruikers.</p> <p>"We are still really in the creative phase in which we want to keep a bit of a grip ourselves, which we want to do in consultation with end users."</p>	Ontwikkeling "Development"	

4	<p><Geen relevant citaat></p> <p><"No relevant quote"></p>	<p>Geen code</p> <p>"No code"</p>	<p>1. Ontwikkelingsperspectief</p> <p>2. "Development perspective"</p>
5	<p>We hebben daar (<case-organization>) een open broncode van gemaakt...Dus dat betekent dat eigenlijk iedereen die zich ontwikkeld, zeg maar, je kan daar op inhaken dan wel via hun een eigen systemen met API's, dat soort dingen een koppeling maken. Dus we hebben dat eigenlijk vrij open gemaakt temeer ook omdat wij geen geheim hebben of niks.</p> <p>"We have (<case-organization>) made an open source code of it... So that means that basically everyone who develops, say, you can hook into that or through their own systems with APIs, make that kind of thing a link. So we have actually made that quite open, especially because we have no secret or nothing.</p>	<p>Samenwerking en ontwikkeling</p> <p>"Cooperation and development"</p>	
6	<p>Ook dat speelt momenteel denk ik nog niet zo heel erg. Ja, misschien hebben we het er in het verleden iets over gehad in waar we op een gegeven moment de crux leggen van producten en diensten, of bijvoorbeeld we hebben het wel over gehad, of bijvoorbeeld alleen maar een link leggen, een link opslaan naar een website van een producten en diensten leverancier en zoek het verder zelf lekker uit.</p> <p>"I don't think that's a big issue at the moment either. Yes, maybe we have talked about it in the past in where at some point we lay the crux of products and services, or for example we have talked about it, or for example just make a link, save a link to a website of a products and services supplier and find out for yourself."</p>	<p>Ontwikkelingsperspectief</p> <p>"Perspective on development"</p>	

	<p>daar heb je het vooral over gehad hoe het voor het platform zou kunnen werken, maar er zitten natuurlijk wel een hele grote technische consequenties aan vast. Dus als je, als je alleen maar linken opslaat is lekker makkelijk. Maar als je zegt: ik wil eigenlijk de gebruiker binnen houden, dan moet je dus de hele dienstverlening van producten en diensten leverancier moet je eigenlijk nog een keer over doen, of zo, of gaan integreren of nou ja, whatever.</p> <p>"you mainly talked about how it could work for the platform, but of course there are a very big technical consequences attached to it. So if you, if you only save links, it's nice and easy. But if you say: I actually want to keep the user inside, then you actually have to do the entire service of products and services supplier again, or something, or integrate or well, whatever."</p>	<p>Toekomstvisie inrichting van platform Future vision for the design of the platform</p>
7	<p><Geen relevant citaat></p> <p><"No relevant quote"></p>	<p>Geen code</p> <p>"No code"</p>
8	<p>Oh, ja, dat is steeds de vraag natuurlijk. Ja, ik ik, ik blijf bij drie, bij hoog hangen, want ja, ik ik, ik geloof enorm in dat ecosysteem.</p> <p>"Oh, yes, that's always the question of course. Yes, I, I stick to three, to hang at high, because yes, I, I believe enormously in that ecosystem."</p>	<p>Geloof in ecosysteem "Belief in ecosystem"</p>

Subdesign Dimensie

6.3 Actor roles within the platform: identification of possible beneficiaries to the value proposition of the platform and how their commitment is achieved.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
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1	<p>De samenwerking en de co-creatie moet leiden tot een win- win. Dus wat ons aangaat heeft iedereen zijn eigen businessmodel en iedereen mag ook geld verdienen, maar niet op het platform, maar vanwege het platform, dus dat is dat is eigenlijk een ongeschreven regel in de opzet van <case-organization>.</p> <p>"The collaboration and co-creation must lead to a win-win. So as far as we are concerned, everyone has their own business model and everyone is also allowed to make money, but not on the platform, but because of the platform, so that is actually an unwritten rule in the design of <case-organization>."</p>	Co-creatie "Co-creation"	
2	<p>Maar je moet wel goede afspraken maken, met iedereen die die d'r iets voor doet en ook gewoon welke waarde die kan creëren. En dan. <CEO case-organization> heeft nu een zakenpartner en die jongen die komt weer uit een hele ander hoek, en die kan op een gegeven moment gewoon ook waarde binnenbrengen. Ja, en dan moet je op een gegeven moment een formule bedenken van hoe je dat, hoe je dat waardeert en het hoeft niet altijd al dat geld te zijn, het kan ook iets anders...</p> <p>"But you have to make good agreements, with everyone who does something for that and also just what value they can create. And then. <CEO case-organization> now has a business partner and that guy who comes from a completely different angle, and at some point he can also bring in value. Yes, and then at some point you have to come up with a formula of how you value that, how you value that and it doesn't always have to be all that money, it can also be something else..."</p>	Afspraken over waarde creatie "Agreements on value creation"	Afspraken over waarde creatie "Agreements on value creation"
3	<p><Geen relevant citaat></p> <p><"No relevant quote"></p>	Geen code "No code"	
4	<p><Geen relevant citaat></p> <p><"No relevant quote"></p>	Geen code "No code"	
5			

	<p>Ja, wat wij gezegd hebben op een gegeven moment dat, als mensen willen toetreden tot het platform zometeen, dan zullen ze een bepaalde certificering op tafel moeten kunnen leggen. Neem de KEMA keur, hoe heet die club van de loodgieters hier, die hebben ook zo'n ook zo'n club. Als wij mensen willen hebben, omdat zij specifieke badkamers kunnen maken voor ouderen of wat dan ook, in huis, hé, want het gaat om thuis, dan vinden we wel dat er een bepaalde kwaliteit achter moet hangen. Dus dat wij als platform worden gebruikt om Jan rap en z'n maten en de 'duvel en zijn ouwe doos' aan elkaar te koppelen. Dat is niet de bedoeling.</p> <p>"Yes, what we said at some point is that if people want to join the platform in a moment, they will have to be able to put a certain certification on the table. Take the KEMA keur, what is the name of that club of the plumbers here, they also have such a club. If we want people, because they can make specific bathrooms for the elderly or whatever, in the house, hey, because it's about home, then we think there should be a certain quality behind it. So that we are used as a platform to link Jan rap and his mates and the 'devil and his old box'. That is not the intention."</p>	<p>Certificering "Certification"</p>	
6	<p>Ja, ik denk ook dat het weer iets is wat meer bij <CEO case-organization> dan ligt dan bij ons. Dus voor ons is dat niet zo relevant. Dus die zou ik dan ook laag gaan zitten.</p> <p>"Yes, I also think that it is something that lies more with <CEO case-organization> than with us. So for us, that's not as relevant. So I would sit it low."</p>	<p>Perspectief van de eigenaar. "Perspective of the owner"</p>	
7	<p>Dan zou ik zeggen, laag. En dat is omdat er weinig...sorry ik zal hem anders vragen: waarom is die laag? Ja, omdat ik, er moet al een intrinsieke waarde zitten in wat het platform biedt. Dat hoeft niet van buiten gefaciliteerd te worden.</p> <p>"Then I would say, low. And that's because there's little... sorry I'll ask him otherwise: why is that layer? Yes, because I, there</p>	<p>Intrinsieke waarde is bepalend "Intrinsic value is determinant"</p>	

	<p>must already be an intrinsic value in what the platform offers. That does not have to be facilitated from the outside."</p>	
8	<p>I: Beschouw jij jezelf als actor of beschouwt <complementor> zichzelf als actor?</p> <p>Ja, zeker, want wij faciliteren natuurlijk toch die technische omgeving, dus dat, dat zal, dat, kijk dat, dat moet ook voor <case-organization> wel een hele hoge waarde hebben.</p> <p>I: Zou je dan zelf zeggen van nou, het heeft voor <complementor> of zo voor <case-organization> een hoge waarde? Maar wij zijn daarin wel heel bepalend om die waarde te kunnen genereren vanuit onze technische rol. En als we onszelf dan als een actor beschouwen, want dat kan ook betekenen dat je je daar dan verder gaat positioneren...</p> <p>Ja, ja.</p> <p>""I: Do you consider yourself an actor or does consider <complementor> yourself an actor?</p> <p>Yes, certainly, because of course we facilitate that technical environment, so that, that will, that, look that, that must also have a very high value for well.</p> <p>I: Would you say well, it has a high value for <complementor> or so for <case-organization>? But we are very decisive in this to be able to generate that value from our technical role. And if we then consider ourselves as an actor, because that can also mean that you will position yourself further there...</p> <p>Yes, yes."</p>	<p>Positionering als actor "Positioning as actor"</p>

Subdesign Dimensie

6.4 Value creation and capture: consideration how value is created and captured/ appropriated through price structure and revenue model.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>Analyses zijn natuurlijk sowieso belangrijk voor, omdat ze in grote lijnen kunnen zien, wie gebruik zoiets nou. Maar sociale innovatie zullen we altijd voor waken dat het tegen een eerlijke prijs-prestatie gaat. Dus het hele verhaal rond om ons neo-liberalisme; wij zijn van in basis meer op zoek naar de betekenis economie en dat zal ons best wel wat hoofdbrekens kosten.</p> <p>"Analyses are of course important anyway, because they can broadly see, who is using something like that. But we will always ensure that social innovation does not come at a fair price performance. So the whole story around our neo-liberalism; we are basically more looking for the meaning economy and that will cost us quite a few headaches."</p>	Sociale dimensie "Social dimension"	
2	<p>Ja, dat is natuurlijk eigenlijk gewoon waar we nu op dit moment met name voor staan. Het is eigenlijk gewoon de kick of om gewoon echt groot te worden. Hoe ga je dat dan doen? Hoe veel, wat moeten we mensen vragen... om, en uiteindelijk gaat het bestuur daar niet over, maar dan komt vanuit de BV het voorstel 'zo willen we dat gaan doen'...Want het is de future, het is de toekomst. Dit moet je doen als je dat niet voor elkaar krijgt gaat niet lukken.</p> <p>"Yes, of course that is really just what we are facing at the moment. It's really just the thrill or just to get really big. How are you going to do that? How much, what should we ask people... and in the end the board is not about that, but then the bv comes up with the proposal 'that's how we want to do it'... Because it's the future, it's the future. You have to do this if you can't do that is not going to work."</p>	Toekomstperspectief "Future perspective"	

3	<p>Ja. Kijk, in het begin gaan wij niet de eindgebruikers overtuigen om dit te gaan doen, maar moeten we zorgverleners vinden die eh, de eindgebruikers gaan overtuigen om dit te gaan gebruiken, en daarvoor moeten we de directie en management van die zorgverleners overtuigen dat dit uiteindelijk bijdraagt aan hun verdienmodel en dat het dus tijd scheelt, administratieve lasten scheelt dat soort dingen. Die toegevoegde waarde moet je heel goed in kaart brengen en waar dan de kosten en waar dan de baten vallen, moet je heel goed in kaart brengen om die partijen te kunnen overtuigen.</p> <p>"Yes. Look, in the beginning we are not going to convince the end users to do this, but we have to find care providers who, er, are going to convince the end users to use this, and for that we have to convince the board and management of those care providers that this ultimately contributes to their revenue model and that it therefore saves time, administrative burdens save that kind of thing. You have to map out that added value very well and where the costs and where the benefits fall, you have to map out very well in order to be able to convince those parties."</p>	<p>Gebruikers zijn mede verantwoordelijk voor het creëren van waarde "Users are partly responsible for creating value"</p>	<p>1. Rol van actoren 1. "Role of actors"</p>
4	<p>Die vind ik wel belangrijk, omdat je ook wilt laten zien als organisatie ja, wat jij voor belang acht voor de cliënten dan wel toekomstige cliënten. Dat vind ik wel een relevante issue.</p> <p>"I think that is important, because you also want to show as an organization yes, what you consider important for the clients or future clients. I think that's a relevant issue."</p>	<p>Inzicht in wensen van de klant "Insight into customer wishes"</p>	

5	<p>Voor de duidelijkheid, omdat <case-organization> nog geen prijs neergelegd heeft. En dat wordt natuurlijk zo meteen wel een dingetje. Wij blijven dit niet de aanbieden voor niks, voor nul, voor nop. Kijk, nu is het mooi gesubsidieerd allemaal door 'TET' onder andere en via die IGW die we nu hebben, kunnen we ook weer een deeltje financieren en subsidiëren. Maar uiteindelijk moet dit natuurlijk ergens in de kostenstructuur terechtkomen.</p> <p>" To be clear, because <case-organization> has yet to pay a price. And of course that will become a thing in a moment. We do not continue to offer this for nothing, for zero, for nop. Look, now it is nicely subsidized by 'TET' among other things and through the IGW that we now have, we can also finance and subsidize a part again. But in the end, of course, this has to end up somewhere in the cost structure."</p>	<p>Kostenstructuur "Cost structure"</p>	<p>2. Ontwikkelingsperspectief 2. "Development perspective"</p>
6	<p>Ja op dit moment speelt het ook niet, dus op dit moment zou ik denk ik ook laag zeggen, in de zin dat de waarde voor gebruikers of voor partijen, gemeentes, thuiszorgorganisaties nog moet blijken.</p> <p>"Yes, at the moment it is not happening either, so at the moment I think I would also say low, in the sense that the value for users or for parties, municipalities, home care organizations has yet to be proven."</p>	<p>Ontwikkelingsstadium van het platform. "Stage of development of the platform."</p>	
7	<p>Ik denk dat dat als complementors; <complementor 1 > en <complementor 2>, moeten, kunnen nou ja, worden betaald in euro's voor het leveren, voor de waarde die ze leveren in opslaan van data of het presenteren van een front-end en daar worden ze voor beloond, door betaling. En dan is het niet relevant, of wij dan ook nog kunnen inzien wat die klant allemaal aan het doen is en dat lijkt me niet een gezonde, gezonde situatie voor <case-organization>.</p> <p>"I think that as complementors; <complementor 1 > and <complementor 2>, must, well, be paid in euros for</p>	<p>Definitie van rol in platform is bepalend "Definition of role in platform is decisive"</p>	

	<p>delivering, for the value they deliver in storing data or presenting a front-end and they are rewarded for that, by payment. And then it is irrelevant whether we can also see what that customer is doing and that does not seem to me to be a healthy, healthy situation for <case-organization>."</p>	
8	<p>Is zeker hoog, maar we hebben daar nu nog niet voldoende capaciteit ervoor, moet ik eerlijk zeggen. Maar hij staat wel hoog. Maar dat komt pas als je natuurlijk voldoende gebruikers hebt ook in <case-organization> om dat vorm te geven.</p> <p>Dus dat, dat heeft te maken met het ontwikkel stadium en ook, denk ik, met de plannen die die <case-organization> heeft voor ja, voor die, voor die ontwikkeling?</p> <p>Eigenlijk wel ja.</p> <p>""Is certainly high, but we don't have enough capacity for that yet, I have to say. But he does stand high. But that only comes when you of course have enough users also in <case-organization> to shape that.</p> <p>So that, that has to do with the development stage and also, I think, with the plans that that <case-organization> has for yes, for that, for that development?</p> <p>Actually, yes."</p>	<p>Ontwikkelstadium "Development stage"</p>

Coding example for design dimension Ecosystem and the wider environment; for each subdesign dimension three examples for items of interest and their resulting codes from participants (P1-P8) are used. The themes represent the actual result for each subdesign dimension; they are based on the coding process for all participants P1-P8.

Design dimension Ecosystem and the wider environment - Subdesign dimension 1. Management of regulatory issues and laws

Items of Interest e.g.: "We are in healthcare. I think it's not one organization(is), maybe in the banking world that it listens so much. Listens closely as in this sector in which we move." (P1). "That it is important, but also to the extent that it is increasingly mandatory to use this type of tooling, can of course help us a lot to get the flywheel on,... eh and to be ahead of the competition." (P3). "It is really very high with us there, that is part of our raison d'être I think: to comply with the legislation and also to have those stamps." (P8).

Coding: "Important given the nature of the sector" (P1);
"Compliance strengthens frontrunner position" (P3);
"Legislation determining the right to exist" (P8).

Theme:
1. "Importance of compliance with laws and regulations"

Design dimension Ecosystem and the wider environment - Subdesign dimension 2. Dialogue with regulatory authorities

Items of Interest e.g.: "Well, that is of course very important for this platform because we actually want to work for the municipality, so, we also have to make sure that we are on speaking terms and that they just want something with us, and we can show that by saying: well, we see very well what you are doing, and we also try, and of course we make sure that we comply with your rules. (P2). "I can imagine that if you as stakeholders are connected to one platform, which happens to be <case organization>, then you also have that dialogue with each other more logically because then you are with each other, you are a user and then you meet each other on that user platform." (P4)

Coding: "Cooperation" (P2);
"Platform as a means of dialogue" (P4);

Themes:
1. "Openness"
2. "Cooperation"

Design dimension Ecosystem and the wider environment - Subdesign dimension 3. Choice of partners

Items of Interest e.g.: "I think the partners with whom we develop the idea and the reliability that they radiate, that is of great importance." (P3). "Again, we make as open as it can be, so we try to be as open as possible so that you are clear where you can, to prevent you from getting a kind of secrecy story in which everyone dies at some point." (P5). "An essential role for the platform,<case organization>. If she didn't, there would be nothing. So I can't judge the importance high enough, say for her as far as she's concerned, but that's not our role in that." (P6).

Coding: "Reliability" (P3);
"Openness" (P5);
"Leadership platform owner" (P6).

Theme:
1. "Reliability of partners"

Design dimension Ecosystem and the wider environment - Subdesign dimension 4. Forging alliances with other platforms or whole industry actors

Items of Interest e.g.: "It is the steps that we always make and then you come back to 'Envelopment' and it is intended not to always invent the wheel ourselves and if immediately a party comes that does this much better than we do and has that completely ready, and also, for example, all the rules of art, then I would almost say "gosh do it, just arrange it". That is not my end goal. (...) No, my end goal is that it will be used and not that we will set it up." (P1). "I wouldn't rate it highly, but I do think that often in, in those kinds of platforms you can often help each other more than you are a competitor of each other, so that the moment you also open up that everyone, that everyone has a different vision of what kind of service it provides. (P7). "Look, I'll do it and I think it's important. Of course you have to make yourself known and that's where my customers end up. Fair is fair. But I don't think it's decisive that we're in such an alliance." (P8).

Coding: "Co-creation" (P1);
"Importance of cooperation"(P7);
"Visibility" (P8).

Theme:
1. "Cooperation"

Complete coding from all interviews for all subdesign dimensions of 'Ecosystem and the wider environment'

Subdesign Dimensie 7.1 Management of regulatory issues and laws: coping with regulations, laws and informal expectations regarding, for example, data security and quality control which can constrain but also enable platform development.			
Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>We zitten in de zorg. Ik denk dat het niet één organisatie (is), misschien in de bancaire wereld dat het waar het zo ontzettend zwaar luistert. Nauw luistert als in deze sector waar we ons in bewegen.</p> <p>"We are in healthcare. I think it's not one organization(is), maybe in the banking world that it listens so much. Listens closely as in this sector in which we move."</p>	Belangrijk gezien de aard van de sector "Important given the nature of the sector"	
2	<p>Lijkt mij, eerlijk gezegd, evident. Dat is heel belangrijk, hoewel ik ook vind dat er een enorme bureaucratie uit voortkomt</p> <p>"Seems obvious to me, frankly. That is very important, although I also think that a huge bureaucracy comes out of it."</p>	Vanzelfsprekendheid van wetgeving en richtlijnen "Self-evident legislation and directives"	

3	<p>Ja, dat is heel belangrijk, eigenlijk wat er eigenlijk al een beetje bij de toelichting staat, daarvoor is het van belang, maar ook in de mate waarin het steeds meer verplicht wordt om dit soort tooling te gebruiken, kan ons natuurlijk heel erg helpen om het vliegwiel aan te krijgen, ...eh en om voor te lopen op de concurrentie. In ieder geval dat PGO gebeuren, moet je goed op de hoogte zijn wat daar, de vereisten en de gevolgen van gaan zijn.</p> <p>""Yes, that is very important, actually what is actually already a bit in the explanation, for that it is important, but also to the extent that it is increasingly mandatory to use this type of tooling, can of course help us a lot to get the flywheel on,... eh and to be ahead of the competition. In any case that PBL happens, you have to be well aware of what that, the requirements and the consequences of that will be.""</p>	<p>Compliance versterkt koploperpositie "Compliance strengthens frontrunner position"</p>	
4	<p><Geen relevant citaat></p> <p><"No relevant quote"></p>	<p>Geen code</p> <p>"No code"</p>	
5	<p>Vanuit<user organization>, die hebben van ons wel meegekregen welke certificering en allemaal aanwezig zijn door MedMij, waardoor je in dit geval, <complementor>, dat is die de club die dat allemaal geregeld heeft voor ons. En bijvoorbeeld de NEN7510 zit d'r in. Maar er zit ook die andere in die je net noemde, daar zitten laten we maar zeggen, allerlei certificeringen in die medische gegevens mogelijk maken om die vast te leggen. Want de AVG is natuurlijk een speciaal hoofdstuk, zeg ik maar, en dus daar hebben wij aan voldaan en dan voldoen we uiteindelijk ook aan ja, ik ken de wetten niet helemaal uit mijn hoofd allemaal. De AVG ze natuurlijk ook weer een afgeleide van de EU....</p> <p>"From <user organization>, they have received from us which certification and all are present by MedMij, so that in this case, <complementor>, that is the club that has arranged all that for us. And for example, the NEN7510 is included. But</p>	<p>Certificering "Certification"</p>	<p>1. Belang van compliance met wetten en regels 1. "Importance of compliance with laws and regulations"</p>

	<p>there's also the other ones in there that you just mentioned, there are, let's just say, all kinds of certifications in there that allow medical data to be captured. Because the GDPR is of course a special chapter, I say, and so we have complied with that and then we finally comply with yes, I do not know the laws completely by heart. The GDPR, of course, is also a derivative of the EU...."</p>	
6	<p>Ja, ik weet niet of ik hem gemiddeld of hoog moet zetten, maar wet en regelgeving zijn natuurlijk wel belangrijk in de voorbeelden die je noemt. Dan zou ik dan naast de AVG en de NEN7510, ook nog de ISO 27001 aan toe willen voegen voor security dingen. Dat zijn wel de dingen waar je aan moet houden natuurlijk, om voor zo'n platform, om een goede reputatie te kunnen krijgen.</p> <p>"Yes, I don't know if I should set it average or high, but laws and regulations are of course important in the examples you mention. Then, in addition to the GDPR and the NEN7510, I would also like to add the ISO 27001 for security things. Those are the things you have to stick to, of course, in order to get a good reputation for such a platform."</p>	<p>Reputatie "Reputation"</p> <p>Invloed wet- en regelgeving "Influence of laws and regulations"</p>

7	<p>Ja, ik heb dat al hoog gezet bij kwaliteit, maar toen had ik het specifiek over de kwaliteit van de in ieder geval over ISO en NEN. Maar wederom in de opbouwende fase, mmm ,midden relevantie dus wel, je weet wel wat er aan de hand is. Je weet wat de AVG-regels zijn en je weet wanneer je ze even loslaat om, of wanneer je niet helemaal voor 100 procent volgt om het platform. Ja, maar je weet wel, je bent er wel van bewust, dus "dit is het gewoon niet relevant. We doen, maar gewoon een deurtje".</p> <p>"Yes, I have already set that high for quality, but then I specifically talked about the quality of the at least ISO and NEN. But again in the constructive phase, mmm, middle relevance so well, you know what is going on. You know what the GDPR rules are and you know when you let them go, or when you don't follow them 100 percent for the platform. Yes, but you know, you're aware of it, so "this is just not relevant. We do, but just a door".</p>	<p>Ontwikkelingsfase is medebepalend "Development phase is partly decisive"</p>	
8	<p>Die staat echt wel heel hoog bij ons daar, dat is een deel van ons bestaansrecht denk ik: het voldoen aan de wetgeving en ook die stempels hebben.</p> <p>"It is really very high with us there, that is part of our raison d'être I think: to comply with the legislation and also to have those stamps."</p>	<p>Wetgeving bepalend voor bestaansrecht "Legislation determining the right to exist"</p>	

Subdesign Dimensie

7.2 Dialogue with regulatory authorities.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- Quotes from interview addressing the relevance of the subdesign dimension.	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
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1	<p>We zitten constant in gesprekken met VWS, met ICTU. Dit zijn echt, een standaard onderdeel van onze roadmap. Ja, voornamelijk om ook te weten: wat mag wel, wat mag niet. Dat we niet achteraf een 'draai om onze oren krijgen'.</p> <p>"We are in constant dialogue with vws, with ICTU. These are really, a standard part of our roadmap. Yes, mainly to know: what is allowed, what is not allowed. That we don't get a 'turn around our ears' afterwards."</p>	<p>Regels en richtlijnen "Rules and guidelines"</p>	
2	<p>Nou, dat is voor dit platform natuurlijk heel erg belangrijk omdat we eigenlijk voor de gemeente aan de slag willen, dus, we moeten ook zorgen dat we on speaking terms zijn en dat ze gewoon ook iets met ons willen, en dat kunnen we laten zien door te zeggen van: nou, wij zien heel goed wat jullie doen, en we proberen ook, en we zorgen natuurlijk dat we aan jullie regels voldoen. En als wij dit of dit voor jullie kunnen regelen wat, hoe moeten we dat er voor elkaar krijgen? Dus die lobby, is gewoon heel erg belangrijk.</p> <p>"Well, that is of course very important for this platform because we actually want to work for the municipality, so, we also have to make sure that we are on speaking terms and that they just want something with us, and we can show that by saying: well, we see very well what you are doing, and we also try, and of course we make sure that we comply with your rules. And if we can arrange this or this for you, how are we supposed to get that done? So that lobby, is just very, very important."</p>	<p>Samenwerking "Cooperation"</p>	
3	<p>Ja, kan ik nog niet zo heel goed inschatten. Ik denk dat wordt nu op zulke grote schaal toegepast dat directe communicatie nog niet zo van heel groot belang is.</p> <p>"Yes, I can't estimate very well yet. I think that it is now being applied on such a large scale that direct communication is not yet very important."</p>	<p>Omvang platform is bepalend "Platform size is decisive"</p>	<p>1. Openheid 1. "Openness"</p>

4	<p>ik kan me voorstellen dat als je als stakeholders verbonden aan één platform ,dat is toevallig <case organization>, dat je dan met elkaar ook die dialoog logischer voert want dan ben je met elkaar, ben je gebruiker en dan kom je elkaar tegen op dat gebruikersplatform. Dus dat zou, dat zou een mogelijkheid zijn. Dus ja, ik denk dat ik hem wel hoog vindt om de dialoog goed te reguleren.</p> <p>"I can imagine that if you as stakeholders are connected to one platform, which happens to be <case organization>, then you also have that dialogue with each other more logically because then you are with each other, you are a user and then you meet each other on that user platform. So that would, that would be a possibility. So yes, I think I think it's high point to regulate the dialogue properly."</p>	<p>Platform als middel voor het voeren van de dialoog "Platform as a means of dialogue"</p>	<p>2. Samenwerking 2."Cooperation "</p>
5	<p>Dat zegt al dat er heel veel openheid is op dat gebied. Dus wij kunnen ook met hun praten erover. <User organization> heeft zelf een innovatie pot zeg, waar zij ook uit kunnen putten en toch merk je dat er terughoudendheid is ten aanzien van dit soort zaken en dat als het gaat om bijvoorbeeld te lobbyen naar DSW nou dan zit de lobby meer bij ons dan bij hun bij wijze van spreken, bij <case organization> bedoel ik, dan in dit geval en niet zozeer bij <user organization>.</p> <p>"That already says that there is a lot of openness in that area. So we can talk to them about it too. <User organization> itself has an innovation pot, say, from which they can also draw and yet you notice that there is reluctance with regard to these kinds of things and that when it comes to lobbying to DSW, for example, then the lobby is more with us than with them, so to speak, with <case organization>I mean, than in this case and not so much with <user organization>.</p>	<p>Openheid "Openness"</p>	

6	<p>Ja, gewoon voor ons als <complementor> is het voor. Voor de rest van de drie (subdesign dimensies), heb ik allemaal gezegd, is eindelijk iets voor <CEO case-organization>. Dus voor <complementor> is het laag. Ik denk <complementor>, andere partij in het geheel, die zal het misschien iets hoger scoren, want zij zitten ook wel in dat soort overlegorganen over nieuwe uitwissel platformen of standaarden op dat soort dingen voor gezondheidsinformatie.</p> <p>"Yes, just for us as a <complementor> is it for. For the rest of the three (subdesign dimensions), I have all said, is finally something for <CEO case-organization>. So for <complementor>, it's low. I think <complementor>, another party in the whole, they might score a little higher, because they are also in those kinds of consultative bodies about new exchange platforms or standards on that kind of thing for health information.</p>	<p>Positie in samenwerkingsverbanden "Position in partnerships"</p> <p>Activiteiten binnen het platform "Activities within the platform"</p>
7	<p><Geen relevant citaat></p> <p><"No relevant quote"></p>	<p>Geen code</p> <p>"No code"</p>
8	<p>Ja, ik zou daar best geneigd zijn om drie te zeggen, maar in de afgelopen 30 jaar dat ik in de zorg zit, heb ik geleerd dat het gewoon nul is eigenlijk, dus dus, want het heeft nul effect.</p> <p>Maar we kunnen geen vuist maken, om dat naar richting VWS in elk geval helder neer te zetten. In het afgelopen jaar slaat dat wederom slecht aan.</p> <p>"Yes, I would be quite inclined to say three, but in the last 30 years that I've been in healthcare, I've learned that it's just zero actually, so, because it has zero effect.</p> <p>But we can't make a fist, to at least put</p>	<p>Gebrek aan effect "Lack of effect"</p>

	that down clearly towards VWS. In the past year, that has again been bad."		
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Subdesign Dimensie

7.3 Choice of partners: forging alliances by adopting and endorsing existing standards or setting up proprietary standards.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>Wij gaan echt alleen maar op het moment, zeggen we altijd heel stout; het beste van beste, dus alleen partners kunnen toetreden bij ons als het echt al een grote staat van dienst hebben, c.q. evidence based daar boven komen drijven. En dan heb je natuurlijk d'r zijn er heel veel, en ook daar moet je dan weer een keuze in maken. En dan heeft het weer heel veel te maken met vertrouwen. We bouwen door op bestaande standaards, maar willen dus het wiel niet uitvinden en we zijn heel kritisch op de standaards die die mensen onze aanbieden.</p> <p>"We really only go at the moment, we always say very naughty; the best of the best, so only partners can join us if it really already has a great track record, or evidence-based come to the fore. And then of course there are a lot of them, and you also have to make a choice. And then it has a lot to do with trust. We build on existing standards, but do not want to invent the wheel and we are very critical</p>	Vertrouwen "Trust"	

	<p>of the standards that those people offer us."</p>	
2	<p>I: Het gaat ook de andere kant op. De keuze van een partner, bijvoorbeeld een grote partner, kan ook zorgen dat je allianties kunt vormen. R2: Klopt, je moet je strategische doelen altijd gewoon als richtsnoer nemen en als het bij het strategisch doel past, en met je basale uitgangspunten, ja, dat kan best zijn dat je wel met een grote partij iets doet, maar dan past dat gewoon bij de uitgangspunten.</p> <p>"I: It's going the other way, too. The choice of a partner, for example a large partner, can also ensure that you can form alliances. R2: Right, you should always just take your strategic goals as a guideline and if it fits the strategic goal, and with your basic starting points, yes, that may well be that you do something with a large party, but then that just fits with the starting points."</p>	Strategie "Strategy"

3	<p>ik denk de partners van met wie we het idee ontwikkelen en de betrouwbaarheid die zij uitstralen, dat dat is van groot belang is. Daarnaast ook door verzekeraars aan ons te koppelen dan wel grote tot middelgrote, heel grote tot grote thuiszorgorganisaties ja... en welke rol zij een beetje in dat landschap spelen, hoe groter de kans dat een andere partij het gaat overnemen of die het ook gaat doen, zeg, maar dus dat is, ja, wel redelijk hoog.</p> <p>"I think the partners with whom we develop the idea and the reliability that they radiate, that is of great importance. In addition, also by linking insurers to us or large to medium-sized, very large to large home care organizations yes... and what role they play a little bit in that landscape, the greater the chance that another party will take over or that will also do it, say, but that is, yes, fairly high."</p>	Betrouwbaarheid "Reliability"
4	<p>Ik denk dat voor ons is de keten wel heel erg belangrijk dus de eerste lijn, maar ook ziekenhuizen en de GGZ instellingen. Ja.</p> <p>"I think that for us the chain is very important, so the first line, but also hospitals and the mental health institutions. Yes."</p>	Partnerkeuze "Choice of partners"
5	<p>Nogmaals, we maken zo open als het maar zijn kan, dus we proberen zo veel mogelijk openheid te betrachten waardoor je daar waar het kan voor duidelijk, om te voorkomen juist dat je een soort geheimhoudingsverhaal krijgt waarin iedereen op een gegeven moment doodloopt.</p> <p>"Again, we make as open as it can be, so we try to be as open as possible so that you are clear where you can, to prevent you from getting a kind of secrecy story in which everyone dies at some point."</p>	Openheid "Openness"

6	<p>I: Dus die platform eigenaar en als ik hem even invul ook voor die andere resterende twee subdesign dimensies, die heeft erin als het ware een sturende rol en verantwoordelijkheid...</p> <p>R6: In ieder geval sturend, maar ook leidende rol, een essentiële rol voor het platform, <case organization>. Als zij dat niet zou doen, dan was er niks zeg maar. Dus ik kan het belang niet hoog genoeg schatten, zeg maar voor haar wat haar betreft, maar dat is dus niet onze rol daarin.</p> <p>"" I: So that platform owner and if I fill it in also for those other remaining two subdesign dimensions, he has a steering role and responsibility in it, as it were...</p> <p>R6: In any case steering, but also leading role, an essential role for the platform, <case organization>. If she didn't, there would be nothing. So I can't judge the importance high enough, say for her as far as she's concerned, but that's not our role in that."</p> <p>In de huidige situatie, zie ik die meer bij <user-organization> als zijnde degene die verstand hebben van de gezondheidszorg. Maar, je hebt wel gelijk dat wij, wij kijken wel goed wat dat is en of wij bijvoorbeeld in de toekomst dat zelf zouden kunnen.</p> <p>"In the current situation, I see it more in <user-organization> as being the ones who know about health care. But, you are right that we, we look carefully at what that is and whether we could do that ourselves in the future, for example."</p>	<p>Leiding platform eigenaar "Leadership platform owner"</p> <p>toekomstperspectief blijft belangrijk "future perspective remains important"</p>	<p>1. Betrouwbaarheid van partners 1. "Reliability of partners"</p>
7	<p>Hoog, ook weer om de kwaliteit te waarborgen, denk ik. Ja, als mensen, dat je mensen meeneemt die zich ook betrokken voelen bij het platform en iets teruggeven, dat het een wisselwerking blijft.</p> <p>"High, again to guarantee the quality, I think. Yes, as people, that you bring people who also feel involved with the platform and give something back, that it remains an interaction."</p>	<p>Kwaliteits argument "Quality argument"</p>	

8	<p>Ja, als je een standaard hebt met zijn allen, dan is dat lastig concurreren. Dus er zijn er een aantal die zeggen: ja, maar wij hebben een app gebouwd en wij hebben, bij ons kun je de metingen zus en zo doen. Dat doen wij allemaal niet. Ik zeg ja, ik lever het hele platform als een instrument voor jou.</p> <p>"Yes, if you have a standard together, then that is difficult to compete. So there are some who say: yes, but we have built an app and we have, with us you can do the measurements so and so. None of us do. I say yes, I provide the whole platform as a tool for you."</p>	<p>Standaarden beperken de concurrentiekracht "Standards limit competitiveness"</p>	
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Subdesign Dimensie

7.4 Forging alliances with other platforms or whole industry actors: this implies technology and/or standard choices.

Participant nr.	Citaten van het interview waarin de relevantie van de subdesign dimensie wordt toegelicht (in Dutch) "Items of interest"- "Quotes from interview addressing the relevance of the subdesign dimension."	Codering (in Dutch) "Coding"	Thema (in Dutch) "Theme"
1	<p>Het is de stappen die we steeds maken en dan kom je terug op 'Envelopment' en is bedoeld om niet steeds zelf het wiel uit te vinden en als dadelijk een partij komt die dit veel beter doet dan wij en dat al helemaal klaar heeft, en ook bijvoorbeeld alle regelen der kunst, dan zou ik bijna zeggen van "goh doe maar, regel het maar". Dat is niet namelijk mijn eind doel. (...) Nee, mijn einddoel is juist dat het gebruikt gaat worden en niet, dat wij het gaan opzetten.</p> <p>"It is the steps that we always make and then you come back to 'Envelopment' and it is intended not to always invent the wheel ourselves and if immediately a party comes that does this much better than we do and has that completely ready, and also, for example, all the rules of art, then I would almost say "gosh do it, just</p>	<p>Co-creatie "Co-creation"</p>	

	<p>arrange it". That is not my end goal. (...) No, my end goal is that it will be used and not that we will set it up."</p>	
2	<p>Als we uiteindelijk een nutsvoorziening willen worden, dan betekent dit gewoon dat je daar ook concessies moet doen denk ik, maar dat vind ik echt voor lange termijn. We moeten eerst zorgen, dat we, met wat we nu doen, dat dat gewoon goed draait en we nog meer zorginstellingen erbij halen enzovoort.</p> <p>"If we ultimately want to become a utility, then that just means that you also have to make concessions there, I think, but I think that's really for the long term. We first have to make sure that, with what we are doing now, that it just runs well and we bring in even more care institutions and so on."</p>	<p>Onderhandelingspositie "Negotiating position"</p>
3	<p>Het is nu nog wel vroeg en we zijn natuurlijk al een soort hub van allerlei andere informatie, zorginformatie platforms, waarin het dus wel, waarin het de vraag is in hoeverre je een 'alliance' daarin moet creëren om je objectiviteit daarvan niet in het geding te brengen.</p> <p>"It is still early days and of course we are already a kind of hub of all kinds of other information, healthcare information platforms, in which it is, in which the question is to what extent you should create an 'alliance' in it so as not to compromise your objectivity."</p>	<p>Objectiviteit van het platform "Objectivity of the platform"</p>

4	<p>Ja, ik denk dat dat inderdaad een ontwikkeltraject is, nu nog niet hoog, maar ik kan me zo maar voorstellen dat dat op een gegeven moment, zeker als die bestuurders wat meer ingevoerd zijn, in de mogelijkheden dat dat dan meer op de voorgrond zou komen. Het is wat mij betreft een ingroeimodel, vanaf één.</p> <p>"Yes, I think that is indeed a development process, not yet high, but I can just imagine that at some point, certainly if those directors are a bit more introduced, in the possibilities that that would then come more to the fore. As far as I'm concerned, it's an ingrowth model, from one."</p>	Ontwikkeltraject "Development process"	1. Samenwerking 1. "Cooperation"
5	<p>daar waar wij straks, ik noem maar wat, de buurtverenigingen of de (naam) welzijnorganisaties geïnteresseerd krijgen om dit in te zetten. Zit daar de quick-win voor <case organization> in, maar uiteindelijk ook voor <user-organization>. Want als jij de welzijnswerkers erbij betrekken of degene die, in de buurt-app iets organiseren wat interessant kan zijn voor mensen die alleenstaand zijn, of die eenzaamheid kunnen opheffen op die wijze zeg maar.</p> <p>"where we will soon, I'll name a few, get the neighborhood associations or the (name) welfare organizations interested in using this. Is there the quick-win for <case organization>, but ultimately also for <user-organization>. Because if you involve the social workers or those who, in the neighborhood app, organize something that can be interesting for people who are single, or who can eliminate loneliness in that way, so to speak."</p>	Co-creatie "Co-creation"	

6	<p>In plaats van <complementor>, als er redenen zijn om voor <CEO case organization> om andere keuzes te maken, van welke complementors zij erbij betrokken wil hebben. Het kwartje kan natuurlijk allerlei kanten opvallen, dus je kan zeggen: oké, nou, <complementor> dank je wel, <complementor> kan het nog beter en goedkoper. Het kan zijn, dat <complementor> er een zootje van maakt en dat ze zegt: nou <complementor> wil jij het alsjeblieft doen, want ik heb niemand anders.</p> <p>"Instead of <complementor>, if there are reasons for <CEO case organization> to make other choices, which complementors it wants to be involved in. The penny can of course go in all kinds of directions, so you can say: okay, well <complementor>, thank you, <complementor>can it be even better and cheaper. It may be that <complementor> makes a mess of it and she says: well <complementor> do you please want to do it, because I don't have anyone else."</p>	<p>Leiding platform eigenaar "Leadership platform owner"</p>
7	<p>Ehm, allianties, ik weet niet of ik dat, ik zou het misschien midden zou doen. Ik zou het niet hoog beoordelen, maar ik denk wel dat je vaak in, in dat soort platformen ook elkaar vaak meer kan helpen dan dat je concurrent van mekaar bent, dus dat je op het moment dat je ook dat je je openstelt dat iedereen, dat iedereen toch weer net een andere visie heeft op wat voor dienst die aanlevert.</p> <p>"Um, alliances, I don't know if I would, I might do it in the middle. I wouldn't rate it highly, but I do think that often in, in those kinds of platforms you can often help each other more than you are a competitor of each other, so that the moment you also open up that everyone, that everyone has a different vision of what kind of service it provides."</p>	<p>Belang van samenwerking "Importance of cooperation"</p>

8	<p>kijk, ik doe het wel en ik denk dat het belangrijk is. Je moet je natuurlijk kenbaar maken en daar zitten mijn klanten ook uiteindelijk. Eerlijk is eerlijk. Maar ik denk niet dat het van doorslaggevend belang is dat we in zo'n alliantie zitten.</p> <p>"look, I'll do it and I think it's important. Of course you have to make yourself known and that's where my customers end up. Fair is fair. But I don't think it's decisive that we're in such an alliance."</p>	Zichtbaarheid "Visibility"	
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6.17. Appendix 17 Themes for each subdesign dimension per design dimension

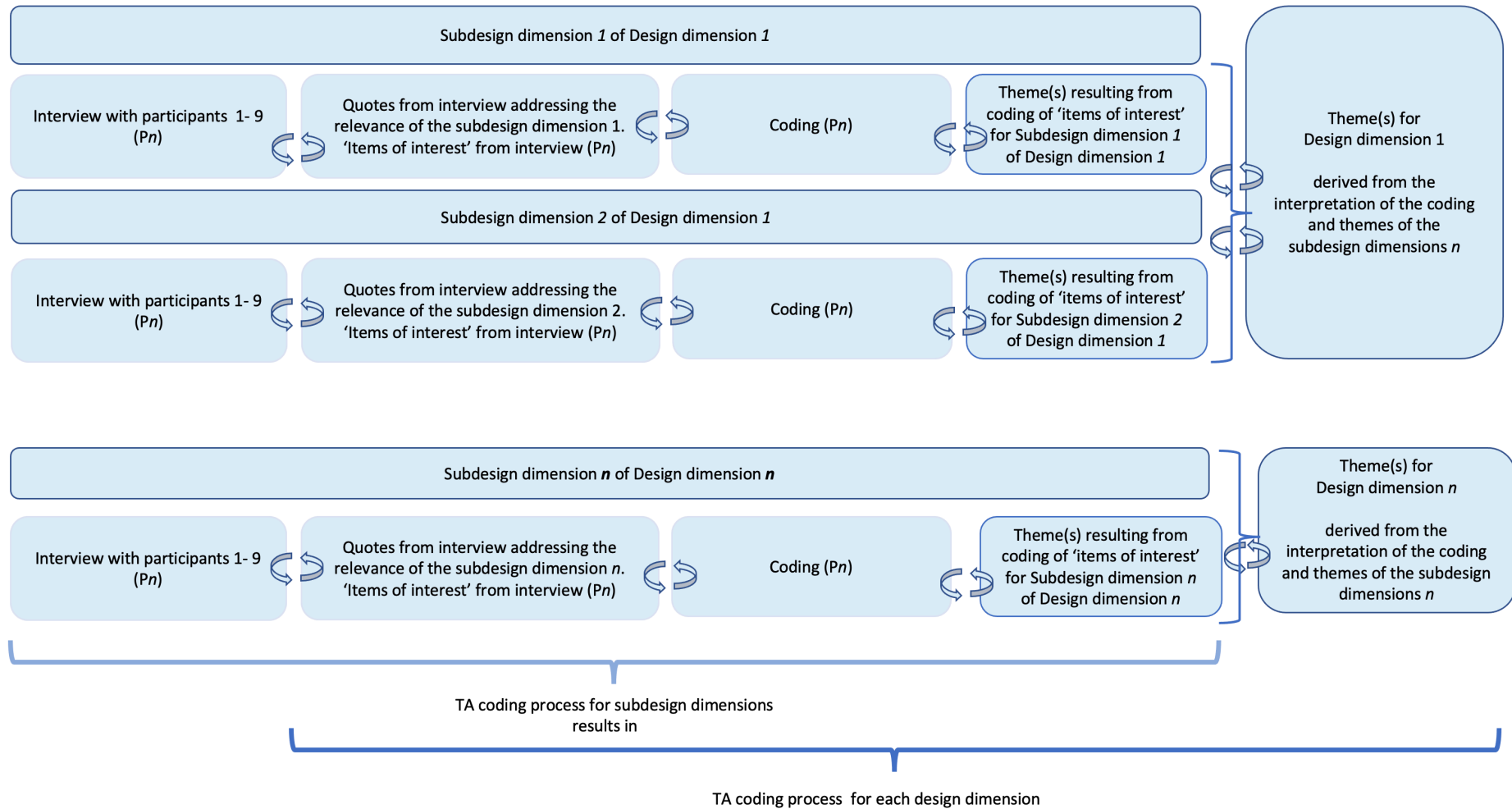
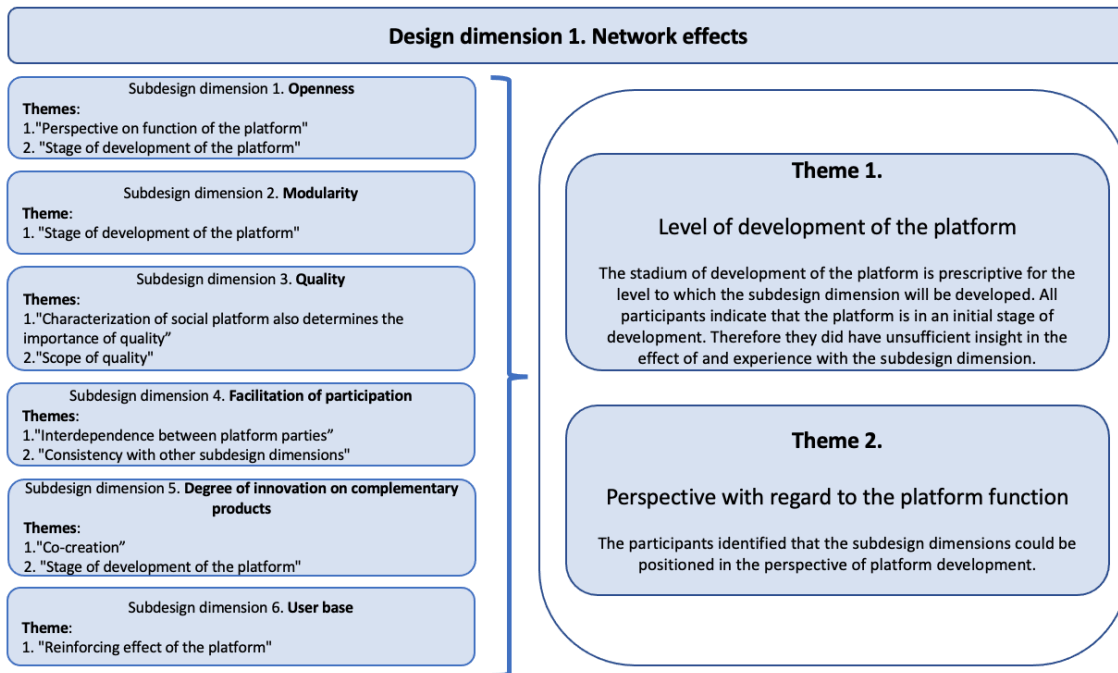
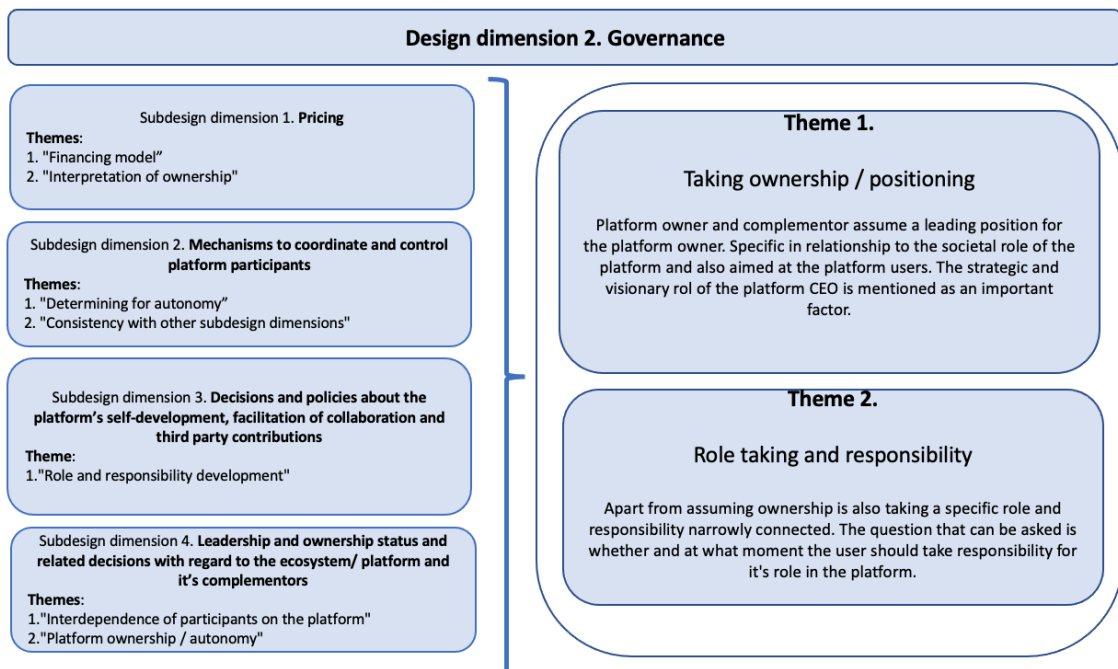


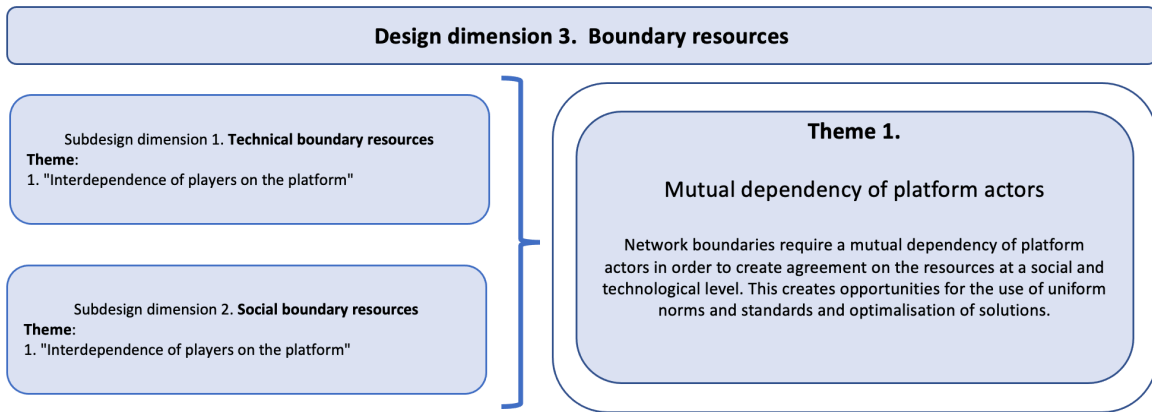
Figure 11. Flow of information for deriving themes subdesign dimensions and design dimensions using Thematic Analysis



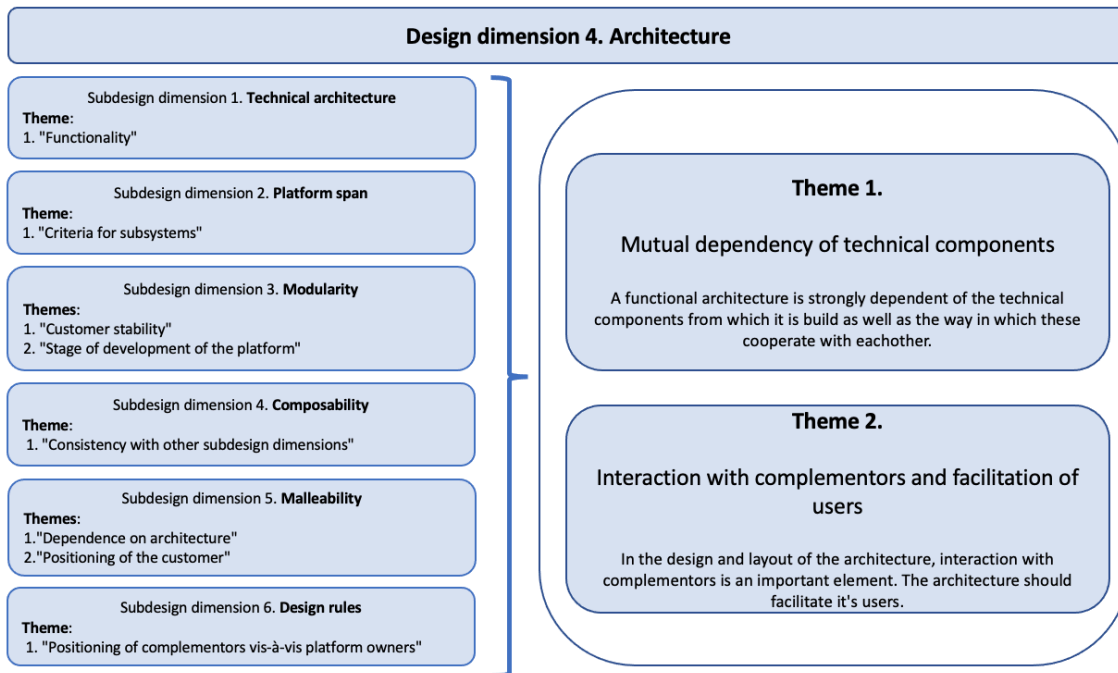
Themes for the design dimension Network effects, derived from its subdesign dimensions



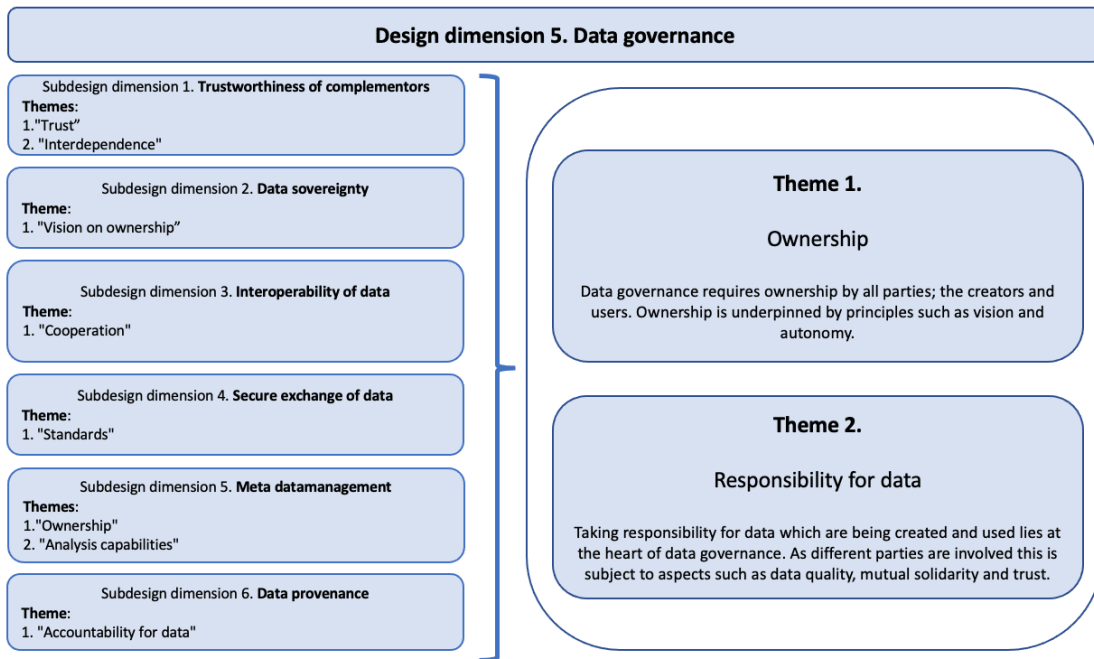
Themes for the design dimension Governance, derived from its subdesign dimensions



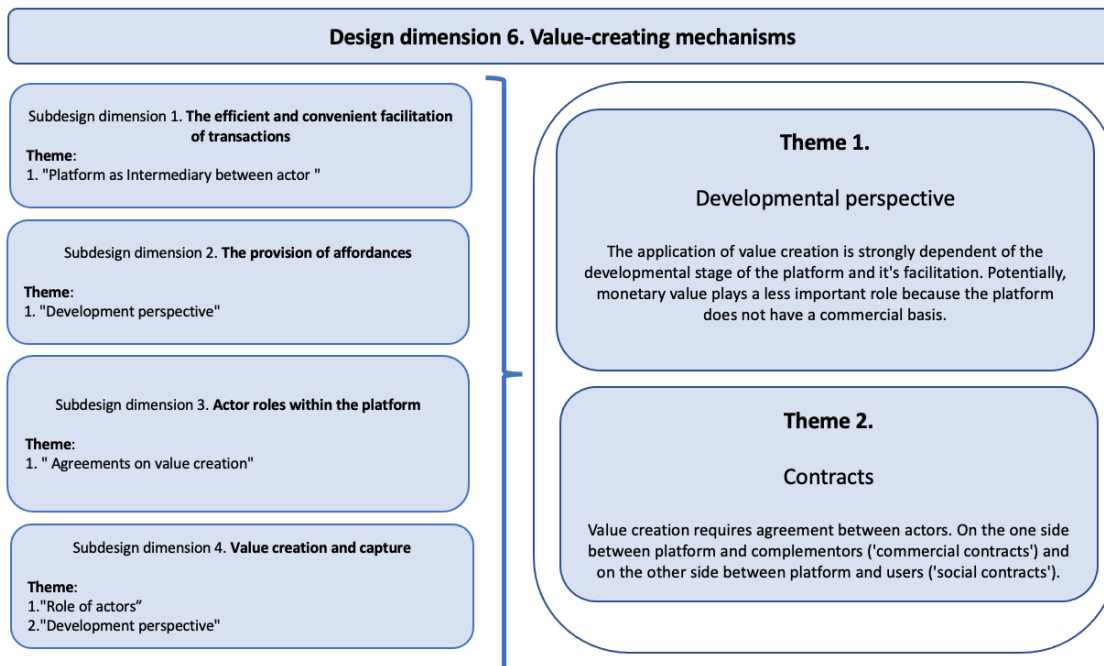
Theme for the design dimension Boundary resources, derived from its subdesign dimensions



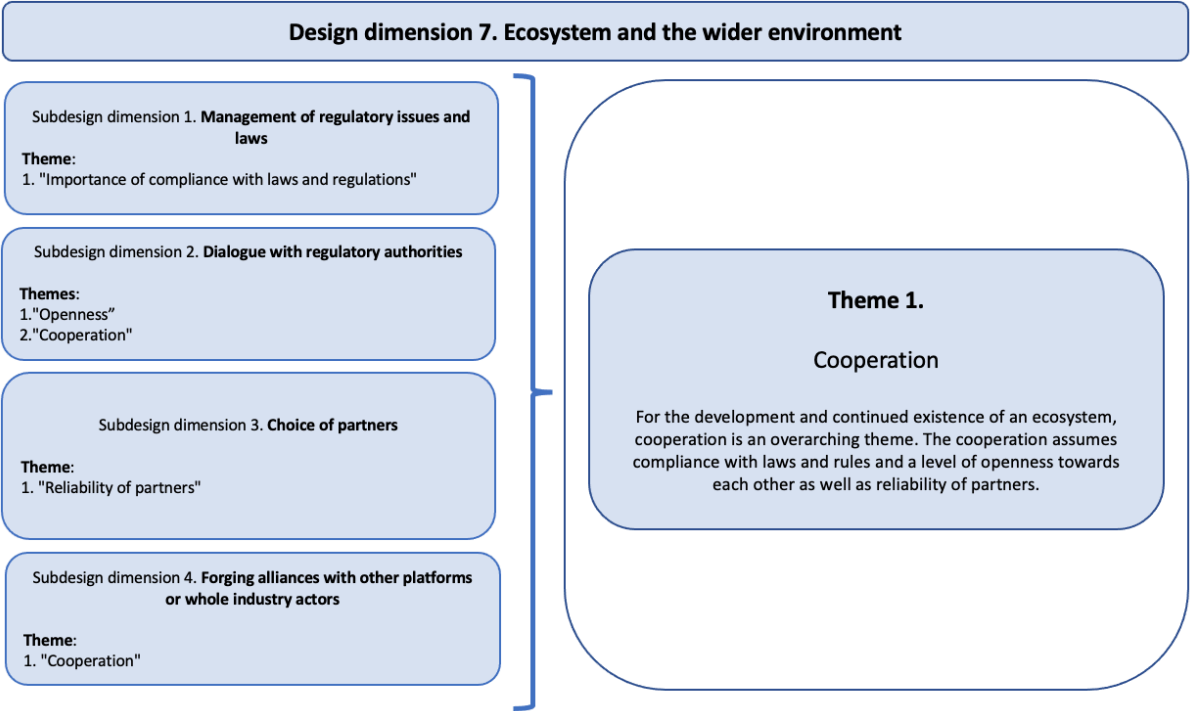
Themes for the design dimension Architecture, derived from its subdesign dimensions



Themes for the design dimension Data governance, derived from its subdesign dimensions



Themes for the design dimension Value-creating mechanisms, derived from its subdesign dimensions



Theme for the design dimension Ecosystem and the wider environment, derived from its subdesign dimensions

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