

Service Design with Third Agers - Introducing the Possibilities of Mobile Devices

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Service Design with Third Agers –
Introducing the Possibilities of Mobile Devices

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This thesis set out to identify service innovation opportunities in the lives of the fastest growing demographic group of consumers - adults aged 55 and older. The focus was on finding ways to bridge the generational gap in digital technologies. Recently, this gap has started to narrow, due to the increased adoption of mobile devices by older adults. The opportunities that lie in this change, however, are largely unknown.

The objective of this thesis was to design a service concept that introduces the possibilities of mobile devices and applications as tools for capturing travel experiences. Three perspectives defined the approach used to achieve this objective: Seeing old age in positive light and as full of opportunities rather than as challenges that need to be solved, focusing on experiences rather than technical innovations; and involving older adults in the service design process. In order to focus the service development on the positive aspects of ageing, the perspective of the Third Age was chosen instead of chronological age. Customer-dominant logic combined with theories of service innovation and customer involvement formed the theoretical framework of this thesis.

The service design process consisted of various tools and methods to gather, analyse and communicate insights about the third age in the digital society. Interviewing third agers was the main method for gathering data. In addition, existing solutions for capturing experiences and learning to use mobile devices were studied. Personas, storytelling, visual mind mapping and systems diagram outlined the insights for idea generation, and a workshop was organized to participate third agers in the idea generation.

The designed service concept "Digipaja" (Digital Workshop) applies a networked perspective to introducing the possibilities of mobile devices for people in the third age. The service concept helps discovering and learning how to capture travel experiences with mobile devices. Four fields that have been largely detached are connected to facilitate this: travel industry, mobile applications, information communications technology (ICT) training, and photo services. The core of the service concept - social events hosted by individuals or organizations - can also be applied also in further contexts apart from travelling. Napkin pitch, value proposition canvas, value web and service blueprint are used to describe the service concept for piloting.

The findings of this design process prove that the interest in learning to use mobile devices is high, but there is a lack of services that encourage taking the first step into the new digital world. Until the digitally native generations reach the third age, it is important to focus on developing services that inspire and teach the use of mobile devices and applications. The designed service concept is one applicable solution for this. Moreover, the identified opportunities in the third age might offer new avenues for creating value also across generations.

Key words: mobile device, service concept, service design, third age, travel experiences.

Hanna Jaakola

Palvelumuotoilua kolmannessa ikävaiheessa - mobiililaitteiden mahdollisuudet tutuksi

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Tämän opinnäytetyön lähtökohtana oli palveluinnovaatiomahdollisuuksien tunnistaminen nopeimmin kasvavan väestöryhmän eli 55-vuotiaiden ja sitä vanhempien aikuisten keskuudessa. Työn keskeisenä tavoitteena oli löytää keinoja kuroa yhteen ikäryhmien välistä digiteknologiakuilua. Vanhempien ikäryhmien kiinnostus mobiililaitteita kohtaan on viime aikoina kasvanut, mikä on alkanut lähentää sukupolvia toisiinsa, mutta kyseisen muutoksen tuomat mahdollisuudet ovat vielä pääosin tuntemattomia.

Opinnäytetyön tavoitteena oli suunnitella palvelukonsepti, joka tutustuttaa käyttäjän mobiililaitteiden ja -sovellusten tarjoamiin mahdollisuuksiin. Konseptin lähtökohtana oli matkailukokemusten ikuistaminen mobiililaitteiden avulla. Tavoitteen asettelun taustalla oli kolme eri lähestymistapaa: 1) Ikääntyminen nähtiin haasteiden sijaan täynnä mahdollisuuksia. Kolmannen iän käsitteen käyttäminen palvelukonseptin kehittämisessä biologisen iän sijasta tarjosi mahdollisuuden lähestyä ikääntymistä positiivisesta näkökulmasta. 2) Palveluinnovaatioiden kehittämisessä keskityttiin teknisten ratkaisujen sijasta käyttäjäkokemuksiin, joita innovaatioilla voidaan toteuttaa. 3) Ikääntyvät otettiin aktiivisesti mukaan palvelun suunnitteluprosessiin. Tutkielman teoreettinen viitekehys muodostui asiakaskeksisen palveluliiketoiminnan logiikan yhdistämisestä palveluinnovaation ja asiakkaan osallistamisen teorioihin.

Palvelun suunnitteluprosessissa sovellettiin erilaisia palvelumuotoilun työkaluja ja menetelmiä. Niiden avulla koottiin tietoa kolmannen iän edustajista digiyhteiskunnassa ja analysoitiin koottu kvalitatiivinen aineisto. Aineisto koottiin yksilohaastatteluilla ja tutkimalla olemassa olevia kokemusten ikuistamiseen ja mobiililaitteiden käytön oppimiseen kehitettyjä ratkaisuja. Persoonia, tarinankerrontaa, visuaalisia miellekarttoja ja systeemidiagrammeja yhdistelemällä koottiin yhteenveto konseptin ideointia varten. Lisäksi järjestettiin ideointityöpaja, jossa kolmannessa iässä olevia ihmisiä osallistettiin palvelukonseptin kehittämiseen.

Suunniteltu palvelukonsepti, Digipaja, esittelee kolmannessa iässä oleville ihmisille mobiililaitteiden mahdollisuuksia verkostojen avulla. Konseptin toteutuksessa yhdistyy neljä tavallisesti toisistaan erillistä alaa: matkailuala, mobiilisovellukset, tieto- ja viestintäteknologiakoulutus ja valokuvapalvelut. Palvelukonsepti esittelee ja auttaa oppimaan matkailukokemusten ikuistamista mobiililaitteilla. Palvelukonseptin keskiössä ovat yksilöiden tai organisaatioiden järjestämät yhteisölliset oppimistapahtumat, joita voidaan soveltaa myös muissa kuin matkailun kontekstissa.

Opinnäytetyöprosessin aikana tehdyt havainnot osoittavat, että kiinnostus oppia käyttämään mobiililaitteita on kolmannessa iässä suuri, mutta tarjolla ei ole palveluja, jotka madaltaisivat kynnystä tutustua digitaaliseen maailmaan. Kunnes digitaalisten palvelujen keskellä kasvaneet sukupolvet saavuttavat kolmannen iän, on tärkeää suunnitella palveluja, jotka innostavat ja opettavat ikäihmisiä mobiililaitteiden ja -sovellusten käyttöön. Kolmannessa iässä tunnistetut mahdollisuudet saattavat tulevaisuudessa hyödyttää myös nuorempia sukupolvia.

Asiasanat: mobiililaitte, palvelukonsepti, palvelusuunnittelu, kolmas ikä, matkailukokemus.

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1 Introduction

This thesis drives change in the ways "being old" in digital society is constructed when developing new services that have digital elements. The central tenet of this thesis is to identify opportunities in ageing society, instead of focusing on tackling its challenges. The following chapter lays the grounds for the background, objectives and perspective of the thesis.

1.1 Introduction to the phenomena

We are living in an information society where the usage of information communication technology has shifted from a one-way information highway to a two-way communication medium. Digital technologies have changed the ways we experience our lives and share our experiences with others. Mobile devices, such as smartphones and tablets have become our belloved portable screens full off applications through which we capture, share and recall our experiences in text, audio, photos or video. Web 2.0 technologies allow anyone with appropriate skills and interest become producers and distributors of content. In this new digital economy built on knowledge, digitization, virtualization, networks, globalization and innovation, businesses as well as consumers have vast opportunities to capitalize the digital ones and zeros on both smaller and larger screens (Tapscott 1996).

What is often forgotten, however, is that this very same information society is also an ageing society. In Europe 2013, 13% of the population belongs to the age group of over 65 year olds. In Finland the percentage is even higher, almost 20% (United Nations 2013.) In the future, these numbers will only grow, which causes challenges to society and the economy. One challenge is that not everyone has taken the active role of a digital citizen. A gap between older and younger generations in their adoption of digital technologies is widely acknowledged. This gap is often called the generational digital divide. Prensky (2001) popularized a dichotomy between digital natives and digital immigrants to describe the extreme ends of participation in a digital society. Digital natives are the younger generations who are born and raised in the digital economy; they "are native speakers of the digital language". On the other end of the spectrum there are digital immigrants, often older people, who have been immigrated to a new world dominated by digital technologies. Although the conceptualization is not meant to be exhaustive, it provides an interesting perspective for this thesis. This thesis focuses on digital immigrants who often refer to older generations.

The nature and meaning of being older is changing. Cohorts approaching the somewhat stigmatized old age today do not fit the perception of previous generations. People over 60 are described as healthier, wealthier, better educated, more active and more open to digital technologies than the previous generations (Czaja and Sharitwhich 2009).

A promising trend shows traces that the generational gap in using digital technologies has narrowed in recent years. Tablet computers have substantially bridged the generational digital divide. According to Deloitte's global mobile consumer survey (2013), adoption of tablet computers among over 55 year olds has raised almost to the average. The amount of smartphone users still remains below average among this age group, but it is slowly growing. However, the survey also reported that older users do not fully exploit the possibilities of their mobile devices. For example, 34% percent of over 55 years old mobile device owners in Finland had never downloaded an application for their mobile device.

In addition to the gap of technological adoption, another gap is becoming evident: *for* whom and *with* whom new technology is designed for in the first place. Avcikurt (2009) states that older people are a large and influential market segment whose potential, however, has been often ignored in many fields. Especially in the field of developing new technological solutions, older people are often overlooked as an interesting target group. The majority of digital products and services are developed for younger generations, who are expected to adopt new technologies first. Older people are often conceptualized as passive receivers or testers of already developed technologies. Older people might even be categorized stereotypically as "technophobes", who are apathetic toward and even afraid of new technology (Essen and Östlund 2011, 95). Instead of trying to develop solutions that meet the real needs and wants of older people, service developers often try to change older people to become more receptive to technology (Selwyn 2004). Older people should be viewed with the same interest, creativity and dynamism as younger people. Digital services, such as mobile applications, could be designed to not only be accessible, but also relevant for older people (Deloitte 2013, 10). Involving older people in the design process early on could help to find out and meet these needs. There is evidence that older adults could even be seen as a resource and starting point for creating new innovations. More understanding is needed about the possibilities of proposing older adults a more active and influential role as a customer (Herstatt and Kohlbacher 2008, xiii) or as a co-developer (Essen and Östlund 2011; Wildevuur et al. 2013).

In cases where services are specifically designed for older people and even with their active participation, the focus has often been to support older adults in the challenges they are facing when getting older. According to Herstatt and Kohlbacher (2008), a negative discourse constructs ageing as a challenge that needs to be treated in society, not as an opportunity. For example, mobile service providers have mainly concentrated on developing applications to support older people in their health issues related to ageing (Deloitte 2013). Although these works are important, more emphasis could be put on developing services based on the positive sides of ageing, such as having more free time to travel or learn new things.

In this thesis, ageing is approached in a positive context of travelling where using mobile devices in creating digital travel stories is explored. All three, digital technology, travelling and storytelling, have been reported to be catalysts for active ageing. Digital technologies can bring many emotional, social and functional benefits to the lives of older generations (Czaja and Sharitwhich 2009). *Travelling* can also bring many positive effects to the lives of older people. Prayag (2012) outlines the benefits of travelling in the lives of older people to be: escaping daily routines, discovering new places, learning about different cultures, enriching self, experiencing nostalgia and socializing. Older people are the fastest growing segment in the tourism industry, which is slowly raising interest among marketers and service providers (Avcikurt 2009).

The European Commission has stressed the importance of fostering active ageing and lifelong learning in digital society (European Commission 2007). This mission has raised several projects that aim at seeing ageing in a more positive light, as an opportunity to continue active life regardless of biological age. This thesis is part of one of these European Commission-funded projects that aim to foster active ageing and lifelong learning. The context of this project is tourism industry. Next, the background of this thesis is described in more detail.

1.2 Origins of the thesis in AHEAD project

The topic and purpose of this thesis initiated from a European project named AHEAD. AHEAD is part of the larger Grundtvig's Lifelong Learning Programme (LLP) aiming at developing stimulating learning opportunities to foster active ageing among European adults. The goal of the AHEAD project is to make digital storytelling technically accessible to older adults in terms of both technical solutions and skills. Training high tech seniors for discovery is the statement of the project. The context for this discovery is travelling and creating travel stories. The strategy to reach this goal has two interlinked aspects: 1) designing an innovative mobile application specifically for older adults, 2) developing a training methodology and pedagogical framework to introduce and teach the usage of tablets and the developed mobile application. The benefits of AHEAD project are empowering seniors through ICT and promoting active ageing in the context of traveling. These two benefits build on a wider opportunity, a new community that connects older and younger generations as well as other stakeholders in the tourism industry, which can be used when building on a bottom-up approach to tourism planning.

Initially, the role of the author in the AHEAD project was to conduct interviews with older adults to provide personas and design principles for the development of the storytelling mobile application. After the fieldwork, however, the author became the manager of the project in Finland. The focus of this thesis changed when author became involved in developing and

offering training for the older adults. Therefore, the focus of this thesis shifted from the mobile application, to designing a more holistic service concept that introduces and promotes digital immigrants like older people the possibilities of mobile devices to capture travel experiences.

The role of the AHEAD project in this thesis has evolved to a case study context exploring how to approach old age in a more positive light and find ways to involve older adults in the new service development. The service concept builds on the identified opportunities in third age, Elements of the designed service concept will be tested when both the trainings and mobile application are piloted. The insights framed with service design tools in this thesis are used during the AHEAD project in various phases. These are explained later when introducing the specific tools.

Although the author of this thesis continues to work on the project, the scope of this thesis ends in the early stages of the service development process. At the time of finalizing this thesis, the AHEAD project has progressed to the piloting of the training courses where older adults are taught the possibilities of mobile devices to capture, store and share their travel experiences. The results from these piloting activities will be discussed in another contexts, for example when presenting a paper at EDULEARN15 annual International Conference on Education and New Learning Technologies.

1.3 Research objective

This thesis sets out to explore service innovation opportunities from the third life in the context of capturing travel experiences with mobile devices. Three approaches drawn from the gaps discussed in the introduction guide this exploration.

First tenet is seeing old age in positive light as full of opportunities rather than challenges that need to be solved. A critical perspective is adopted to transform how ageing and old people are seen in the eyes of service developers, but also in the eyes of older adults themselves. Instead of focusing on biological age, the concept of “third age” was chosen for its positive connotations associated with ageing. The research context of capturing and sharing travel experiences provides a positive perspective to old age. Second tenet shifts the focus away from the technology to the experiences people have with technology. Objective is to identify opportunities for new service experiences rather than technical innovations. Third, and last, tenet emphasizes the importance of involving older adults in the service design process to reach the objective of this thesis. Essen and Östlund (2011) indicate that although older generations have “been around” longer than digital technologies, they are largely ignored when new services are developed. This thesis provides more understanding on the dis-

cussion about how to design digital services for older generations, but also how to involve them in the process of identifying new opportunities. The underlying hypothesis behind this thesis is that giving people in their third age a more active role in the process of innovating new services that have digital elements would provide more value in their lives. Older adults can create value and feel empowered with the help of the service that is developed, but also the experience of participating in the process can create value and empower them.

The objective of this thesis is to design a service concept that introduces the possibilities mobile devices for people in third age. Travelling is chosen as an example case of a positive context. To reach this objective the following research questions are posed:

- *How old age could be approached when designing services that have digital elements?*
- *What needs to be taken into account when designing services for and with older adults?*
- *What kind of service concept would facilitate introducing the possibilities of mobile devices?*

The scope of the empirical part of the thesis explores the early stages of a service design process. A learning plan and suggestions for the future phases are presented in the end of the thesis. The focus of this thesis is not so much on the output of service development, but rather the social practices to identify opportunities for new value propositions. This thesis is based on studies in three research fields: service marketing, design thinking, and social gerontology, which also form the theoretical framework of this thesis. At the heart of this thesis are the people in their third age.

1.4 Conceptual framework

The conceptual framework defines and reflects the core concepts used in this thesis for the empirical case study. The social nature of the research topic and the explorative framing of its questions require a research paradigm that aims at understanding the social world. This thesis takes a social constructionist position to the new service development and usage of digital services as a social practice. According to Burr (2003, 3-4), social constructionism is a theory of knowledge about how reality is constructed in social interactions between people.

Taking a social constructionist approach to new service development shifts the focus from the products and services to the ways different actors construct their social realities through language, such as through words and images used when referring to “old people”. Hackley (2001, 39) states that the social constructionist perspective in marketing research shifts the focus from objectifying and measuring the social world to understanding and changing the social practices within, which implies qualitative research methods.

Thus, in the context of this thesis, traditional “hard” methods generating quantifiable knowledge in businesses are supplemented with additional softer and people-centric approaches adopted from service design practice. A positivist search for one absolute truth is rejected. Social constructionism focuses on the ways knowledge is constructed in social interactions. This epistemological standpoint guides this thesis all the way from the theoretical framework to choosing methods to develop service concepts. The paradigm will impact all the choices in this thesis, including what questions are asked and how, as well as how the phenomenon under study is understood.

Social constructionism orients the focus on the language (regardless of its form) as an action that shapes the social practices and interactions. Units of analysis are the meaning making processes and meanings assigned to people as social actors, products and technologies as physical objects, and services as abstract objects. Meanings related to language are bound in categories that convey power relations. (Burr 2003, 16; 74-75.)

All actors, regardless of their roles as researchers, service managers, service designers or users, are negotiating the meanings related to ageing and being old. Burr (2003, 46) points out that when referring to others, people, and whether intentionally or not, make choices from the vast repertoire of different cultural discourses. These choices can have a profound impact on not only how older people are perceived by the service developers or marketers, but also on how older people perceive themselves as users of digital services. The outline of the conceptual framework presented next is drawn from this social constructionist approach to knowledge and reality. This thesis is positioned in the crossroads of three research fields: service marketing, design thinking and social gerontology. The interdependence of these fields is presented in

Figure 1. Next these fields and their roles in this thesis are introduced briefly.

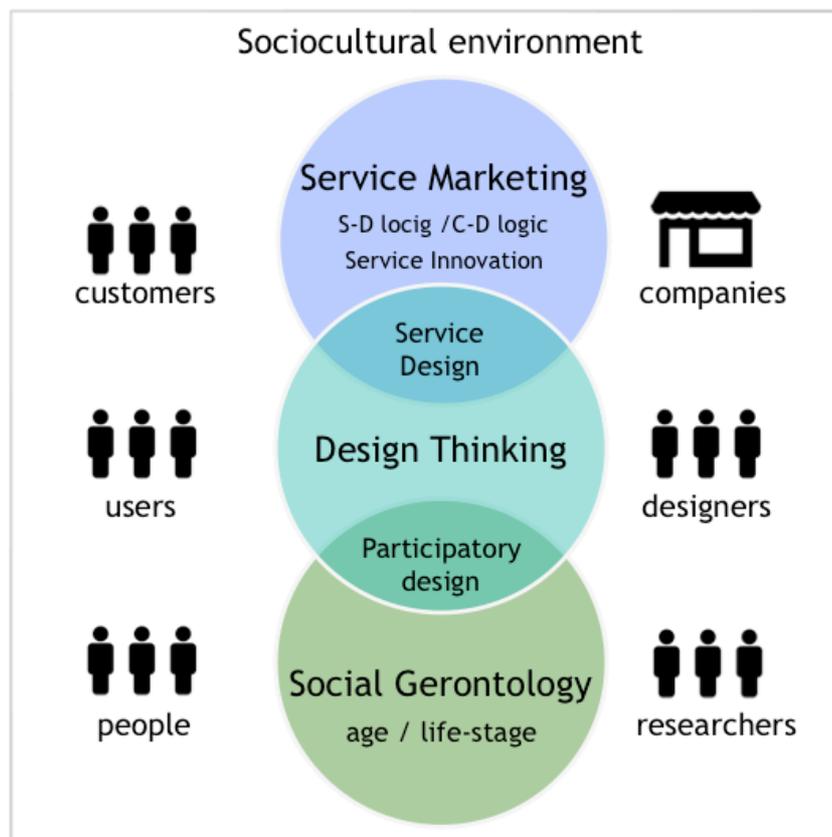


Figure 1: Conceptual framework for this thesis

At one end of the framework is the field of service marketing, which is based on theories of managing the interactions between customers and services. At the other end of the framework is the field of studying age and ageing: gerontology. In the middle is design thinking, which is based on a more practice-based field. Design thinking offers practical tools and methods for bringing the two worlds closer to each other. From design thinking, the sub-branches of service design and participatory design are chosen. When the underlying conceptual differences are acknowledged, these three fields can be used to build on each other. Service design is a branch in design thinking that can potentially bridge the gap between these two fields, but also help to acknowledge the social side of ageing and older people.

From the service marketing and management field, conceptual framework is built on the following constructs: service, service concept, service innovation and customer involvement. These concepts are approached from a perspective that combines service-dominant marketing logic (S-D logic) and customer-dominant marketing logic (C-D logic). According to Voima et al. (2010), both logics are positioned in the field of service research, but they take a somewhat different stance to the location of value creation in services. Instead of treating these two paradigms as opposites, in this thesis they are treated as complementary, providing a lens that can be adjusted to zoom into different parts of the complex system from which new op-

opportunities for service innovation can be identified. Micro level means zooming into either to the world of the individuals (C-D logic) or to the world of potential service providers or even networks of them (S-D logic). Zooming out means focusing on larger system level actors and their interactions, such as how the social norms of being an older adult in a digital economy are negotiated. Social Gerontology offers concepts and perspectives to this.

Gerontology in general aims to understand the underlying processes of becoming an older person in society and thereby having a positive impact in the quality of life of ageing people. It is a multidisciplinary research field that studies the biological, psychological and sociological aspects related to ageing and old age. The focus on studying ageing is wider than in geriatrics, which focuses on medical aspects of ageing, such as treatment and care of older people. From this broad field of gerontology, social gerontology is chosen to guide new service development for and with older people. Hooyman and Kiyak (2010, 5) explain that in social gerontology the focus is on studying the ageing of people from a sociological perspective. It is used as a framework for redefining ageing and old as a social structure, rather than chronological age. Age and life-stage are central concepts within social gerontology. Literature reviews in this thesis revealed that gerontology has been used in the context of developing and designing solutions to support active ageing, but it has not been directly used in the more mental aspects of the process of developing these solutions. In this thesis Social Gerontology offers an encouraging approach on how to analyse and communicate the understanding gained about the life-worlds of older people in the early stages of a new service development process.

In the empirical study, service marketing and its logics are used to describe and prescribe, whereas design thinking and its sub-branches service design and participatory design are used to interpret and visualize. As Wetter-Edman (2009; 2011) proposes, practical tools and methods in the design practice and research can complement the service management in involving customers in service development. Both research fields are interested in the role of the customer in developing new services. This topic is evident and actual in both research fields, but there seems to be differences in the perspective and vocabulary. This thesis addresses precisely these differences. The central question for the author of this thesis is to explore the roles of the people in their third age when developing new services. The focus is not solely on the outcome, the service concepts developed, but is also on the social processes and activities to get there, such as the meaning making processes depicted through words and images used to conceptualize and communicate the life worlds' of older adults when developing new services that have digital elements. Next, the key concepts of the thesis are shortly defined from the constructionist perspective.

1.5 Key concepts

As the thesis draws from three distinct research fields, service marketing, design thinking and social gerontology, it is important that the concepts used are given a profound definition to the reader. Following the social constructionist theory, the meaning of these concepts changes not only between research traditions, but also between users and situations. This thesis will take into account the meaning making processes of words used. The definitions offered in this thesis are not the only truth. Literature review around the topics of this thesis revealed that there is no unambiguous definition about any of the terms used in this thesis. Regardless of this, the following definitions are proposed.

1.5.1 Phenomenon: ageing, older adult and third age

Many concepts are used when referring to the phenomenon under study, ageing and old people, such as late-midlife, senior, third age, older adult, elderly, silver market, young-old, old-old, oldest old, and retirees to name but a few. However, it is not the term alone that varies, but also its meaning is complex and subjective. In this thesis, a common categorization of old people according to their chronological age is rejected. A more holistic conceptualization of ageing and old is adopted. Focus is shifted from the chronological and physiological age to the social construction of older age as a life-phase in society. The purpose of this is to approach ageing and old age from a positive perspective that focuses on the opportunities rather than challenges related to ageing.

Older adult is used to refer to individuals somewhere in their later life. According to Brosioie (2009, 21), older adult is a widespread term used in many research fields when referring to aged individuals with positive connotations.

Third age is chosen as a conceptualization of a new life stage of later life because it focuses on the potential of later life rather than challenges. Third age is a concept introduced for the public by Laslett (1991) in his book *A Fresh Map of Life*. It comes from the idea of dividing peoples' lives into four intertwined stages, which are defined by the life situation instead of the chronological age. Third age is described as a stage characterized by "personal achievement and fulfilment" (Laslett 1991, 142). Third age redefines the life transitions and social roles related to the life stage after retirement. People in their third age are fully or partially retired from work life, but are still active, relatively healthy and living independently. Third age as a life stage and ideology conceptualizes a new group of older people who have more competencies and interest in engaging in society than previous generations. Third age discerns older people from the later life stage, fourth age, which is characterized by frailty and dependency. People in their third age are often between 60 to 80 year olds. Although chrono-

logical age is not considered a denominator in this thesis, it gives direction to the divergence of these two life stages in later life (Dawn and Komp 2011, 3-4).

In this thesis the main logic behind using the concept of third age is to raise the question of what is third age. As third age is not (yet) such a familiar and obvious part of vocabulary in society, it might not carry the same stereotypical and even stigmatizing meanings often related to common words, such as senior, old or elderly. The person answering the question of what is third age gets the opportunity to propose a new perspective to being older in society.

1.5.2 Roles: customers, users and consumers, people

“We call people “consumers”, “users”, and “customers.” But people only play these roles for small, often insignificant and not so positive portions of their lives.” When we label them, it relegates them to minor roles. If we start referring to them as people, maybe we will begin to think of them as people? (Sanders 2001, 2).

The above quote summarizes the perspective of this thesis. Customer, consumer and user are socially constructed roles. According to Burke and Stets (2000), role is defined as an expectation of how a person should act in a certain situation. Roles are always created collectively through social norms embedded in social contexts. A repertoire of roles forms the social identity of the person, such as how a person sees himself/herself belonging to a social group, like seniors or retirees.

Research fields have their own norms for what roles and terms are used when referring to certain roles. Service Marketing literature uses the term customer. In design research, it is user, and in service design, terms like user and customer are often used interchangeably. In social sciences, people are often referred to as consumers. This thesis tries to adopt a unifying approach. The author of this thesis feels it is not natural to define these terms in situations where there is no established company or service. Therefore, as often as possible, the term people or person is used in this thesis because it does not assign people to minor roles. When this is not possible, terms of customer and user are used interchangeably and without differences in their meanings. This thesis focuses mainly on the business-to-consumer market, so customer refers to individuals whether they are individuals or customer units, such as a married couple. To be specific when referring to other organizations as customers, the term partner is used. Other organizations in the value constellation are seen as partners in creating the value proposition offered to the customer. When discussing the conceptual framework in chapters 2, 3 and partly in 4, the terms are used according to their literature sources. The author of this thesis does not try to define these terms every time these words are used. The semantic differences, however, are good to acknowledge when forming an interdisciplinary framework for the empirical study.

1.5.3 Objects: service, services and service concept

This thesis is focused on the social processes and activities to develop a service concept. *Service* is defined through the S-D logic lens as “the application of specialized competences, through deeds, processes and performances for the benefit of another entity or the entity itself” (Vargo and Lusch 2008, 26). These competencies can be resources, knowledge and skills derived from both customers and service providers. The juxtaposition of services and products as outputs and bases of customer value is abandoned. Services are a collection of different intangible and tangible resources, whether based on technology or not. Service in singular form is defined as a perspective rather than output. *Services* in plural form refers to the outputs of the new service development process. (Vargo and Lusch 2008.)

Service concept is defined as a mental image of the service in the minds of different stakeholders (Goldstein et al. 2002, 121). It is a prototype of the service describing *what* the new value proposition offered to the customers consists of and *how* the company is planning to support this value creation. In practice, service concept makes explicit what needs of the customer the service is aiming to satisfy, which is based on how the customer is creating value in the context of using the service (value-in-use) (Edvardsson and Olsson 1996 148-149).

Mobile device is a hand-held and portable computing device referring to smartphones or tablet computers. Programs running inside mobile devices are mobile applications, for example web browsers, email or social networking sites (SNS). Mobile devices and mobile applications are one element of information communication technologies.

1.5.4 Process: service innovation and new service development

Service innovation is defined following the perspective of S-D logic as an innovative way to combine resources and structures that support actors in their value creation. It can contain intangible, tangible and technological elements. In service innovation focus is on the ways actors use these elements among their own resources (Edvardsson and Tronvoll 2013). Therefore, the term “services that have digital elements” is sometimes used to decrease the dominating role of technology in service innovations.

New service development (NSD) is defined as the “overall process of developing new service offerings” (Johnson, Menor, Roth and Chase 2000, 2).

1.5.5 Tools and methods: design thinking and service design

Design Thinking is conceptualized as an approach to innovation that uses the toolkit of a designer to “integrate the needs of people, the possibilities of technology, and the requirements for business success” (Brown 2008, 84). Design thinking is centred on the expectations and experiences of people, regardless of their roles as users, customers or employees.

Service design is simply applying the tools from the design field to the service marketing and management context (Saco and Goncalves 2010, 161). In this thesis, service design is used for describing different design activities that can be present in all stages of the service development process (Moritz 2005).

Many different verbs, nouns, adjectives and even combinations of these such as participant, co-creator, and co-designer, are used when signalling the involvement of customers and users in service design and service development processes.

To avoid the confusion of the word co-creation, the author tries to use active verbs designing for and with someone. Co-creation refers to the process of creating value-in-use and value-in-context (Vargo and Lusch 2008). To use a full sentence that has the subject, object and verb might keep the meaning of different terms more clear. Service design is seen as practice where there is always someone doing something for or with someone.

1.6 Delimitations and scope

After defining the objective of the study, it is important to make explicit the choices that set the boundaries of the study. The study has certain delimitations in its perspective, focus and scope.

The topic is approached from the perspective of a person who presents a dualistic role of a service designer and a design researcher. In practice this dualistic role lay in between an imagined service provider and a customer or user of the service. However, the focus is not on the service designer or design researcher as such, the focus is rather on the practices of how a service designer or design researcher can engage older adults into the service design process.

Another delimitation of the thesis is related to how an older adult is categorized, which affects the choice of participants in the study. Setting a boundary according to a specific chronological age is not straightforward. The European project that sets the stage for this thesis has defined the target group as seniors who are over 55 years old as retirees or early

retirees. In this thesis the older adults are specified more according to the life situation rather than a chronological age. The concept of third age is chosen to limit the target group to older people who are fully or partly retired from work life, but are still living an active and independent life (Laslett 1991).

The scope of the empirical study is purposively narrow because of the restricted time and resources allocated for this thesis project. The design process is investigated only in its early stages, in the so-called fuzzy front end. Therefore, the purpose is not so much on the output of service development, but rather the social practices to identify opportunities for new value propositions. However, recommendations for the excluded future phases are presented in the end of the thesis. When involving people during the early stages of the service design process, it is important to pay attention to the meaning of the following three prepositions: designing for, with and by people. This thesis limits involving older adults only to the first two, designing for and with. Designing services by older adults gives most of the power of the design process to them, which unfortunately was not possible, as it takes more time and requires a deeper interaction for a longer time span (Essen and Östlund 2011).

Taking a social constructionist perspective to knowledge implies certain limitations regarding the research design. Qualitative case study seeks to describe and understand the topic of the thesis by deepening the focus on one case study. The objective is not to develop and test a generalizable model; the findings of this thesis can only be located to one social context.

1.7 Structure of the thesis

The first chapter introduces the reader the context, objectives and background of the thesis. To avoid misunderstandings or stereotypes the key concepts are explained rigorously.

Second chapter discusses what is already known about the context of this thesis: older people as users of technology. The reader is introduced a fresh perspective to old age, third life stage. Next the thesis delves deeper to the most crucial questions, how might we introduce mobile devices in the lives of people in their third age.

Third chapter introduces the theoretical as well as practical approaches chosen in this thesis to find answers to the research questions. Service marketing concepts such as customer-dominant logic, service innovation and customer involvement are discussed. Then the focus is shifted to presenting service design as a bridging field in this thesis.

Fourth chapter begins by synthesizing the previous discussions and frameworks into a practical framework that is used during the service design process. After that the activities during the empirical service design process are described and reflected. The chapter concludes with a service concepts and a learning plan for its piloting.

Fifth chapter concludes by discussing the findings and summarizing. The thesis ends by proposing ideas for future research and design practice.

2 Identifying service opportunities in Third Age

The following chapter introduces the perspective towards old age. The role of older people in the design process is discussed in light of studies in the fields of marketing and service design. Social Gerontology integrates these observations together to form a holistic and optimistic theoretical perspective to old age. The focus is on the social aspects that need to be taken into account when designing value propositions for and with older adults.

2.1 Perspective to ageing and old age

Moschis (1996) extracts ageing into three conceptualizations: 1) Biological ageing referring to the physical changes people go through when ageing, 2) psychological ageing meaning the changes in cognition, personality and self-image, and 3) social ageing indicating the changes in social relationships, lifestyles, attitudes and social roles (via Wildevuur, Dijk, and Hammer-Jakobsen 2014, glossary).

Table 1 synthesizes the physiological, psychological and social changes related to ageing found in literature. These changes have an impact on cognition, affect and behaviour (Gregoire 2003). In the empirical study in this thesis, this framework is turned into a usable framework in new service development.

Physiological	Psychological	Social
<ul style="list-style-type: none"> • vision • audition • agility • mobility 	<ul style="list-style-type: none"> • memory • learning • problem-solving • personality • attention 	<ul style="list-style-type: none"> • roles • social identity • relationships • availability • status

Table 1: Framework of changes related to ageing (Gregoire 2003; Czaja and Sharit 2009, 35; Fisk et al. 2009, 25-26)

Old age is often defined according to the individual's chronological age. When people reach certain age or life-stages, such as retirement, they suddenly become old, at least in the eyes of researchers and policy makers. There is, however, no unified definition or truth about when a person is "old", young or middle-aged. Social contexts have an impact on how old age is defined and perceived. Hooyman and Kiyak (2010, 5) state that all cultures have their own definitions, expectations, social roles, opportunities and constraints on all life stages, from early childhood to later life.

Wildevuur et al. (2014, 31) refer to Moschi's (1996) statement: "Because ageing is multidimensional, that is, people gradually grow older biologically, psychologically, and socially, any age boundary used is not likely to produce a meaningful definition." Ageing and becoming older as a phenomenon is inevitable, but the perspective towards it can be altered. This thesis adopts a holistic and integrative conceptualization of ageing and being old, which is inspired by Social Gerontology, field of study interested in the social structures related to ageing and being old.

According to social gerontologists Hooyman and Kiyak (2010, 4) "Old" is seen as a social construct that has diverse social meanings depending on the sociocultural environment. Social identities and the roles they form are based on the social norms and symbols largely imperceptible and bound to culture. These influence not only how others define or relate to ageing people, but also how older people see themselves; how their own self-image is formed. Silverstein and Abrahamson (2008) have found out that exposure to more positive images of getting older, lessens the anxieties of people about their own ageing.

Another social gerontologist Brossoie (2009, 21-23) highlights the importance of being conscious about the stereotypes and even stigmas that affect ageing. Ageism is a term used to referring to the categories and stereotypes related to ageing and old age that stigmatize and even discriminate older people. In society, there are many myths related to ageing that can have a negative effect to the lives of older adults. These myths can also affect the new service development. It is good to make these myths explicit also in the context of new service development so that they can be avoided and even dispelled.

This thesis focuses on the micro-level, how perceptions, beliefs and actions related to "old age" are constructed. However, the possible effect on the macro-level always exists when culturally bound norms and values are challenged and even new laws and policies are made. Small changes can make a change in larger structures. This kind of theorization raises the question of, how older people should be defined and named or should they be at all. Focus is shifted from the chronological and physiological age to the social construction of old age as a

life-phase in society. Purpose is to approach ageing and old age from a positive perspective that focuses on identifying positive opportunities rather than challenges in experiencing ageing. Although there is no homogeneous old market, studies have shown that same cohorts have similarities for example in the usage and adoption of digital technologies (Rowland 2003, Fisk et al. 2009, 13).

Instead of using terms seniors, retired, elderly and old, third age is chosen as a construct to refer to the life cycle stage in old age from a positive perspective. Third age highlights the life stage and ideology in person's life course rather than typical characteristics of ageing. It is described as a life stage characterized by "personal achievement and fulfilment" (Laslett 1991, 142). Third age redefines the life transitions and social roles related to the life course after retirement. People in their third age are fully or partially retired from work life, but are still active, productive, relatively healthy and living independently. Third age as a life stage and ideology conceptualizes a new group of older people who have more competencies and interest in engaging in society than previous generations. Third age discerns older people from the later life stage, fourth age, which is characterized by frailty and dependency. (Dawn and Komp 2011, 3-4.)

To conclude, choosing the construct of third age shifts the perspective of old age and even raises questions. Words such as old, senior or elderly might automatically renew certain stereotypes or even create negative reactions. Third age is not a common concept, which might help people to question their presumptions by asking, what is third age. Then the person answering gets the chance to explain third age and the positive aspects of it. This is crucial for the next theme of discussing the position of older adults in the market.

2.2 Third age as an untapped business opportunity

Herstatt and Kohlbacher (2008) have edited a whole book about the business opportunities in an era of demographic change. They use the term silver market to create more positive associations for old age. A perceptual shift toward old age is needed in the business world. Authors have collected vast examples around the world to support this claim. Leading country adopting a more positive perception towards older people is stated to be Japan, where the baby boom generation currently reaching the life stage of retirement is considered full of business opportunities. In Japan business concepts are even created solely to serve the needs of this generation.

Perceptual shift is happening in the meaning of being an older consumer in today's society. Especially, the generation known as baby boomers challenges the traditional perception of an older consumer. This generation was born and raised in a post-war consumerism society. It is

described to be more educated, more active and spends more money than earlier generations. In addition, higher level of health and wellbeing enables them to hold on to their roles as active consumers longer. It is important to take into account that in the future the change in the perspective of “being old” is only going to accelerate. Ageing is a process that cannot be stopped, everyone is ageing - even the “digital natives”. The need for a new approach towards ageing will become even more important in the near future. Ageing, as a phenomenon, is actually more than an opportunity for businesses; it is “also an opportunity for innovation, invention, creativity, learning, as well as social response and responsibility” (Herstatt and Kohlbacher 2008, 497).

Herstatt and Kohlbacher (2008, xiii) argue that majority of businesses have not taken an active approach exploiting the opportunities of the demographic change. They propose that the business potential could be related to innovations, new services, and even completely new markets based on the *joy of active ageing* instead of focusing only on treating the challenges related to ageing.

Figure 2 presents the starting point for this framework. The tag cloud combines attributes that were collected by the author during the background information search on the phenomena (Czaja and Sharit 2009; Herstatt and Kohlbacher 2008; Wildevuur, Dijk, and Hammer-Jakobsen 2014; Usui 2008, 73).

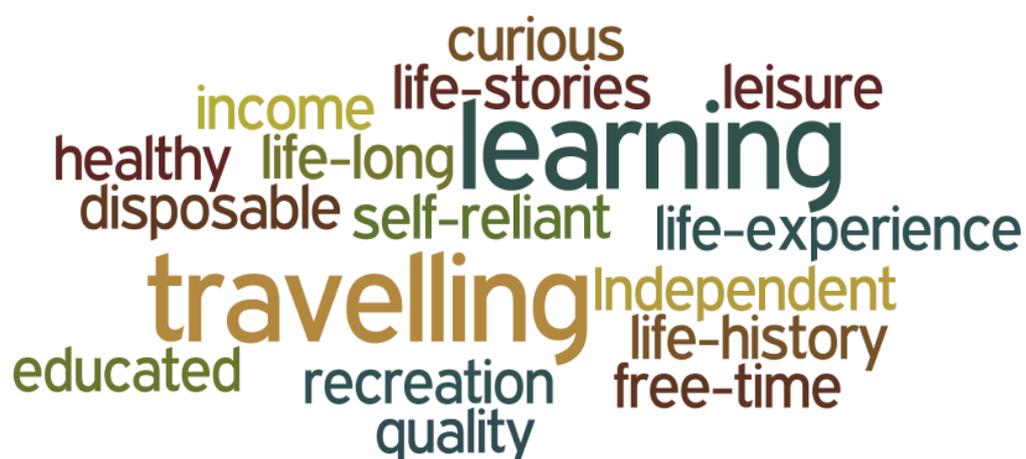


Figure 2: Identified positive opportunities in third age

Malanowski (2008, 49) calls for more open and two-way interaction between businesses and older people. To avoid stereotypical perceptions of older people as a homogeneous market, more understanding is needed about their needs and wants. Empirically grounded studies are needed to create concepts, practices and processes for different levels of management: all

the way from identifying opportunities for innovations to developing and marketing new services. This thesis will follow the path toward this objective. A conceptual and practical framework is developed to help companies and other actors approach and exploit the positive opportunities of ageing society in a digital economy. One major theme guiding toward this objective is empowering active ageing.

2.3 Active Ageing and empowerment in digital economy

The research problem behind this thesis was born from the AHEAD project that aims to foster active ageing by empowering older adults in becoming more active participants in the digital society. Thus, the concepts of active ageing and empowerment are also central in this thesis.

Growing share of ageing population has affected different policy makers to take action to support the activities of older people. Active Ageing is a concept developed by European Commission to drive people, regardless of their age, to participate actively in the different levels of society (e.g. social, economic, cultural, spiritual). The World Health Organization (2002,12) defines active ageing as follows: "Active ageing is the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age." Quality of life means in practice that the individuals perceive their lives positively related to the cultural and social structures, such as values, goals and physical health. Culture is considered the key determinant that affects how age is perceived in all levels of society from larger economic, social and health related environments to the individual's personal, physical and behavioural environments. Active ageing as a policy strives towards finding ways to help older people realize their full potential. What does this "realizing their full potential" mean practice leads to the term empowerment, which will be touched upon next.

According to Gibson (1991) empowerment is a process and an outcome that enables people to feel in control of their lives: to identify and encourage people to satisfy their needs and address challenges. Empowerment is build on the self-efficacy, that is the belief of the person he is able to perform a task to reach a goal. Instead of merely receiving services and solutions, empowered people use their own resources and develop their competencies in the process. Empowerment happens both in individual level but also in societal level where belonging to a certain group such as older people enhances power.

In relation to the concept of Active Ageing, empowerment through ICT is often considered important. According to European Commission (2007): "The information society should enable older people - where they wish to do so - to fully participate in the society and the economy and to be active and empowered citizens and consumers, thereby contributing to a positive perception of ageing in Europe."

Digital technologies can bring many emotional, social and functional benefits to the lives of older generations (Czaja and Sharit which 2009). ICT can also help in life transitions inherent in older adults' lives. Salovaara et al. (2010) state that major value ICT can bring to the changing life situation of retirees is its potential to gain information as well as maintain and extend social networks and thereby boosting the feeling of both independence and connectedness in society. ICT can also bring younger and older generations closer and even make older people feel younger (Ericsson Consumerlab 2014, 4).

Selwyn (2004) criticizes that in the policy discourse (and in other contexts as well), information communication technologies are often presented as saviours that automatically foster active ageing and quality of life in individual level and tackle the challenges of demographic change in societal level. Strengthening the self-efficacy and thereby eventually also empowerment requires always an active participation of the individual. The focus is shifted away from designing technological solutions to designing more holistic service concepts that focus on empowering older adults in the digital world. Technology is seen more as a component, not value as such. Holistic understanding of the forces affecting the use and adoption of ICT are needed. The following chapter proposes that acceptance of technology and believing the ability to use it cannot be achieved by focusing only on the technology.

2.4 Use and adoption of ICT in third age

The empirical case study in this thesis aims at empowering older adults in the world of digital technologies. Therefore it is important to discuss what is already known about their ICT use or non-use. A digital divide exists between younger and older generations in many developing countries. Digital divide does not exist only between the younger and older generations. It exists also within the older cohorts. 75 years seems to often set a boundary (Zickuhr and Madden 2012). Cohort between 65-75 year olds have more likely embraced new technology probably mainly because they became familiar with computer technology already during work life (Ericsson Consumerlab 2014). Besides, this cohort is the first one that has been able to exploit information communication technology in old age. In fact, over time the generational divide is only going to narrow faster and faster when more and more people belonging to the baby boom generation reach their third life stage. In the end, also the younger generations, born and raised in the digital world, will get older. Older people as technophobes might soon become an extinct species.

Although younger generations will most likely continue to be upfront in adopting new technologies in the future, there is evidence that the digital divide has been narrowing especially

due to the development of tablet computers. Deloitte's global mobile consumer survey (2013) states that the adoption of tablet computers among over 55 year olds has risen almost to the average. Smartphone adoption is also growing, but more slowly. Pew Internet and American Life Project (2013) study shows that 31% of over 65 old Americans already own a tablet or smartphone. This number has increased relative fast. Mobile devices, especially tablets, have their advantages because they are portable and easier to use than desktop computers (Ericsson Consumerlab 2014, 3). These hand-held devices allow a constant access to information, navigating, being connected or capturing and sharing experiences in a digital format.

Although the penetration of mobile devices seems promising, there might be a lot of catching up for older adults in the actual usage of these devices. Older users might not fully exploit the possibilities of their mobile devices. For example, 34% of Finns over 55 years old had never uploaded an application for their mobile device. 51% of them had not used internet with their smartphones. (Deloitte global consumer survey 2013.)

The discussion of, how big the generational divide or how many percentages use different devices or applications inside the devices does not provide deeper understanding and solutions to bridge the divide. Therefore, it is more fruitful to focus on the factors affecting this divide: what are the obstacles and motivations of using and adopting ICT by older adults.

Many studies have been conducted among older adults to explain the use and adoption of new technology. Studies have focused for example on ICT in general (Selwyn 2004; Vroman, Arthanat and Lysack 2015), mobile phones (Mallennius, Rossi, Tuunainen 2010), health related mobile applications (Plaza, Martínez, Martín and Medrano 2011), internet (Zickuhr and Madden 2012), social networking sites (Braun 2013; Xie et al. 2012) and even practices to even create own content with web 2.0 applications (Karahasanović et al. 2009). Demographic and socio-economic factors of older adults have been proven to predict the adoption of new technology. However, these factors are usually independent variables that cannot be modified. The factors easier to modify are the perceptions and attitudes towards technology. The famous model of technology acceptance (TAM) emphasize that *perceived usefulness* and *perceived ease-of-use* are the main predictors for the technology adoption by both current users and nonusers of the technology. When social networking sites are taken into account trust is added to the list (Braun 2013). The simplicity and ease of use in new technologies is not enough alone. Mathur (1999) emphasizes the influence of socialization agents in the life of older adults. Support and encouragement from so called "warm experts" or "circles of people" with technology literacy are important. Social norms and social relationships such as social pressure from family are also stated to influence the adoption positively. Older person is more likely to adopt new technology when it is popular within his social network. Mathur (1999) has also identified that younger family members are often gatekeepers of new technology. Social

norms can also influence through the beliefs the person has about what is socially accepted behavior (Venkatesh and Davis, 2000).

One interesting usage context for this thesis is the social media. Although social elements are important in the adoption process of ICT, controversy and negative attitudes toward social networking sites exist, especially toward Facebook. Kälviäinen and Morelli (2012, 42.) explain that social networking tools are seen mainly as communication tools for distant locations. Older adults' everyday social contacts are often bound locally, which makes social networking tools not so relevant to them. However, studies have also shown that when older adults start using social media their attitudes toward it become positive (Gatto, and Tak 2008). People in their third age are even reported to be the fastest growing demographic segment on social media sites in America (Zickuhr 2010). To sum up, there is potential and major benefits in social media use among older adults. In the end, to fully build on this potential the barriers such as lack of awareness and trust need more focus.

Another context interesting for this thesis is, how older adults relate to generating own content in web 2.0. Karahasanovic et al. (2008) conducted an ethnographic study to explore elderly peoples' user requirements related to consumption, sharing and co-creation of user generated content (UGC) in new media. Although current state is that older people haven't exploited the possibilities of sharing own audiovisual content in new media, reaction towards it was mainly positive. Older adults started to see more self-expressive ways to exploit new media. Study revealed that there was interest and enthusiasm towards the opportunity to co-create narratives based on a common history and collective memory especially when these narratives were connected to offline social relations. To sum up, it is important to strengthen the connection between the offline and online worlds.

The discussion about accepting technology, however, is based on a view about rational behaviour. It does not view people as active users and even modifiers of technology. The biggest limitation of TAM based models is that they do not give any indications for designing relevant and easy to use services. In addition these models give little guidance in providing solutions and strategies in raising the awareness of new technological solutions. A positive change in ICT adoption and use among older adults is evidently around the corner when the baby boomer generation reaches their third life stage. Vroman, Arthanat and Lysack (2015) remind that there is still a long way to go until the sociocultural changes are realized in the everyday lives of older adults. The overall perceptions and beliefs of being older in digital economy will change slowly. They suggest that meanwhile the focus should be kept on identifying innovative ways to address the attitudes and beliefs of older people by facilitating their learning and self-efficacy of ICT.

When introducing new technologies to older adults it is important to invest in the processes that focus on the adoption process. Emphasizing the relevance of the technology, supporting its ease of use, and addressing potential anxiety towards learning new technologies should be taken into account. In addition, identifying natural mediums like family and friends could be encouraged to trigger motivation for using new technologies. Study by Ericsson consumerlab (2014) calls for the importance on building on the explorative mind-set of older people. Xie, Watkins, Golbeck, and Huang (2012) developed an educational strategy with three steps to facilitate older adults in learning how to use social media such as blogs and Facebook. *First* it came evident that before introducing the different functions of social media tools, the overall concepts should be defined and presented in a comprehensive way by using terminology and metaphors older people already know. *Secondly* it is important to respond and reflect on the older adults' concerns about trust and privacy issues. *Third* educational strategy addresses the ways to make social media feel personally relevant and valuable.

In the light of the findings presented above, the importance of older people is evident. In this thesis the currently low penetration of new technology is not presented as a challenge, but rather as huge opportunity for different actors such as businesses and policy makers. Compared to the highly competitive and saturated market of technology among younger cohorts, there seems to be (still) plenty of untapped potential among the older cohorts.

2.5 Developing services for Third Age

When developing services for older adults the changes that come with ageing are central focus of the designers. Purpose is to approach ageing and old age from a positive perspective that points towards the opportunities rather than concentrating merely on challenges related to ageing. However, also the not so positively perceived changes related to ageing need to be acknowledged, such as decline in vision and memory. In this thesis these changes are treated as self-evident basis to build on. Principles of universal design (or inclusive design) help in turning these changes into self-evident design principles that cannot be disregarded when designing for older adults. Also human factors design can be used as an inspiration for understanding how changes in age affect older adults as customers and users. Stroud (2008) states that designers should understand more deeply the different age related changes that create tension between older people and technology.

Universal design is a strategy to design products, environments and technologies to be accessible to everyone, regardless of person's limitations or disabilities in physical and psychological functions. In the context of universal design usability is emphasized. Fisk et al. (2009, 31) define usability through five main attributes: *easy to learn*, *efficient to reach usage objec-*

tive, easy to remember, high tolerance for errors and pleasure of the usage experience. User-centred design (UCD) methods, such as personas, usage scenarios, are often used when designing solutions to meet these principles from the perspective of the user.

Figure 3 describes the different factors that need to be taken into account when matching the requirements of innovative products and the abilities of older people (Gassman and Reepmeyer 2009, 135).

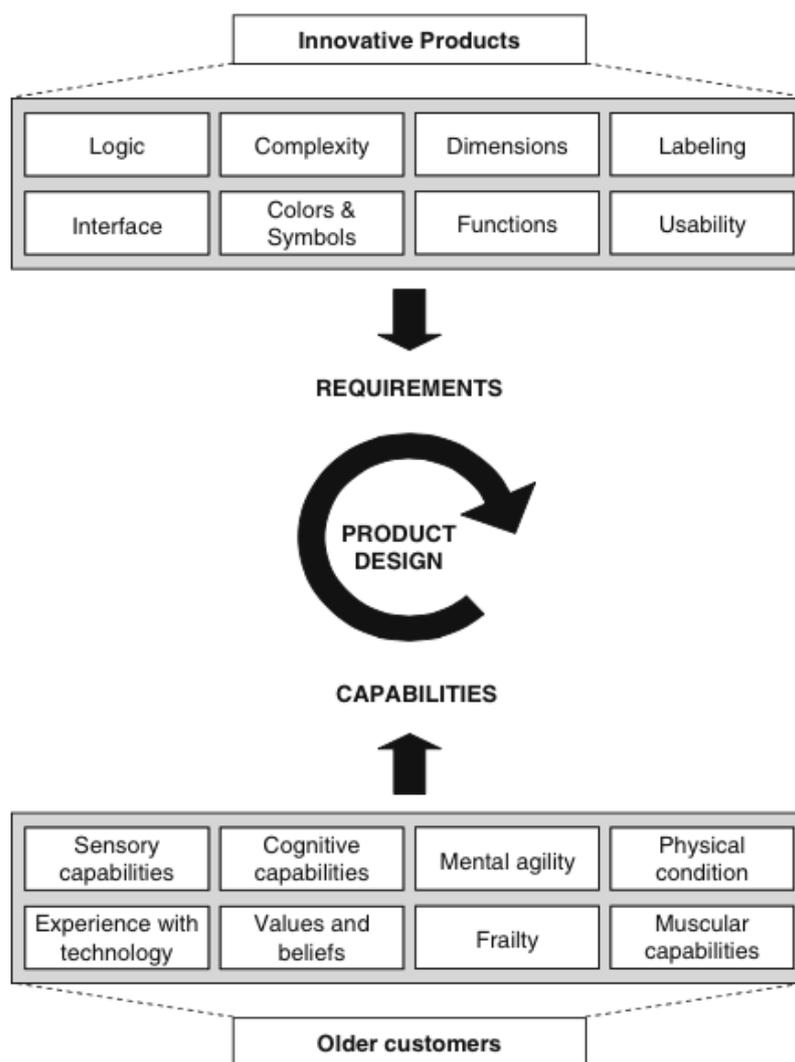


Figure 3: Universal Design principles (Gassman and Reepmeyer 2009, 135).

Although these principles are important, they are not the sole focus in this thesis. Universal design principles are mainly used when designing physical products and environments, such as technology or buildings.

Dickinson and Dewsbury (2006) point out that many technologies specifically designed for older people are not accepted. According to them the underlying issue causing this is that tech-

nology is put at the centre of attention instead of focusing on the actual wants and needs of older people. This thesis challenges the focal role of technology by putting people at the centre of attention. Focus is shifted from outputs to broader social dynamics that can propose value to older adults in a context that fosters the joy of active ageing: travelling. Change in the perception of old age is needed among all stakeholders participating in developing new services.

Major driver for this change is considered be involving older adults in the process of developing services and their adoption (Selwyn 2004). Essen and Östlund (2011) state their concern that older users are often considered as laggards who are not worthwhile taking into the development process of especially technological solutions, because they adopt new innovations mainly when forced to do it. Most often older adults are proposed the roles of testers of new services or prototypes. Established theories of the diffusion of innovations (e.g. Rogers 2003, von Hippel 2005) suggest that early adopters are the category of users that can shed light into the development process and thereby support the possible adoption of new innovations. However, many studies are highly product and technology centred (Alam 2005).

Essen and Östlund (2011) challenge this common mind-set by referring to the unpredictable nature of the adoption of new innovations. According to them starting from the latent needs of “ordinary” people can be more fruitful for the service development. Questioning older users’ as laggards of innovation and establish a new term “been arounds” to refer to older users. The findings of this study reinforce the assumption that the possibility of involving older users in the early phases of new service design process is underestimated.

Filkin (2013) calls for more attention toward involvement by stating:

*Service designers and providers should listen to what older people say they want and value, and co-design services **with** them, rather than doing things to them. We should also need to recognise the huge diversity among older people, and make the best use of the evidence of what works best. (Filkin 2013, 6.)*

In right circumstances and with right support older people can be a valuable resource in the whole development process. These are discussed in more detail through the perspective of design tradition.

2.6 Contextual framework

Three tenets build the framework of this thesis context: 1) take a positive perspective toward old age, 2) focus on encouraging ICT adoption 3) involve people in third age to the development process. Figure 4 compiles the central findings from the literature review presented earlier. This framework is used during the service design process as a reference point to avoid

stereotypes and ageism thinking as well as focus attention to right factors both in micro and macro level.

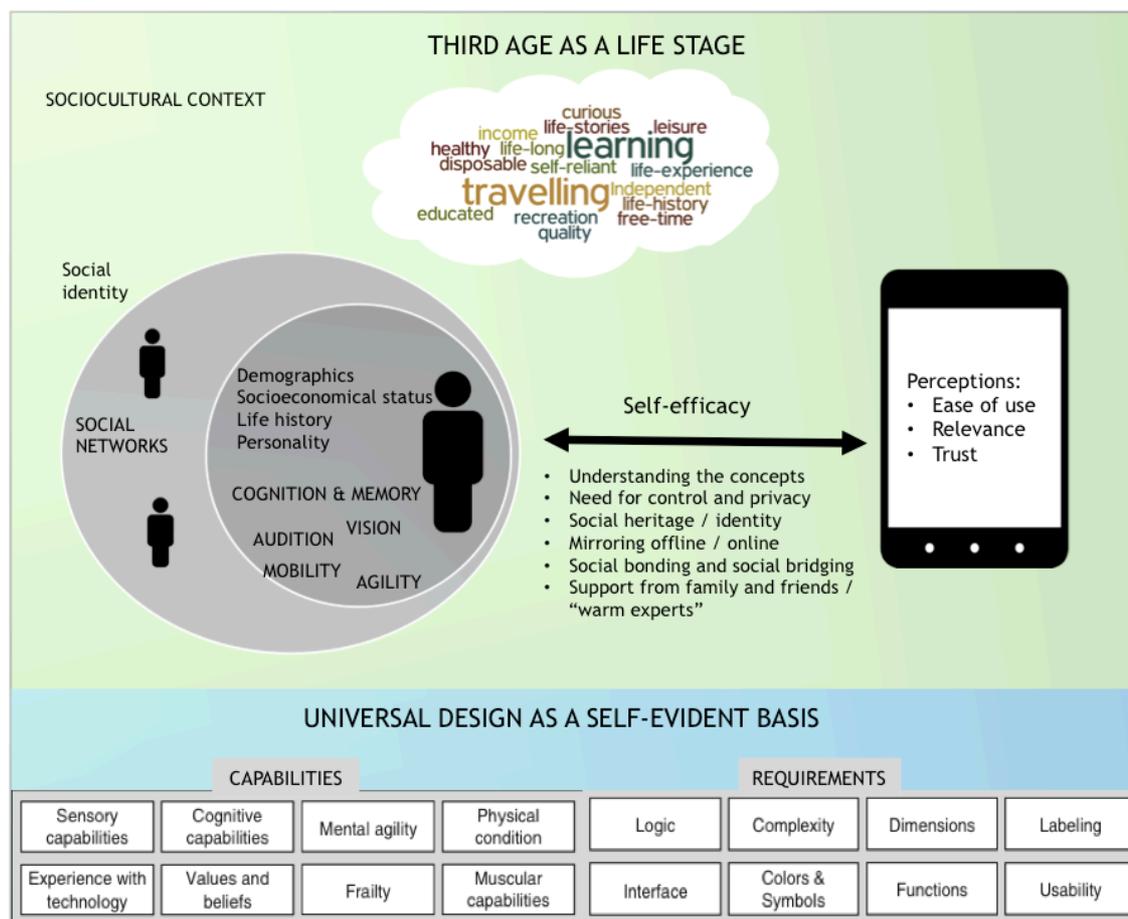


Figure 4: Contextual framework

First tenet focuses on taking a positive perspective toward old age. Ageing and old age are approached beyond biological changes. In the framework this is supported by the concept of third age, which emphasizes the positive opportunities people have after life transition to retirement. The tag cloud presented earlier in this chapter works as a reminder of the potential of this life stage. The physiological and psychological changes related to ageing are not disregarded. With the help of universal design these changes are turned into self-evident basis guiding the practical development of services. However, the focus of this thesis is not on designing technical solutions for third life stage, but services to adopt and use these technical solutions already in the market.

Second tenet focuses the attention toward the experiences rather than digital technology. In this thesis this refers to the adoption of mobile devices and the applications inside of them. In the framework key learnings from the literature are presented between the individual and the mobile device. Self-efficacy is a central theme to encourage learning new technology.

Following the technology acceptance model, perceived ease of use, relevance and trust are emphasized. Universal design is included into the framework as a self-evident basis for all design work. Third tenet, not strongly visible in the framework is the approach this thesis takes to the role of people in their third age in the development process.

3 Perspectives to designing services

This chapter forms the perspective that is taken toward service development. First, relevant theories from the field of service marketing are presented to redefine traditional perspectives toward value, experience, innovation and customer role in the development process. Then, service design is introduced as a practice-based methodology to design service concepts. In the end, the differences between the fields of service marketing and service design are discussed.

3.1 From services to customers

In this thesis, theoretical framework combines service-dominant logic (S-D) with customer-dominant logic (C-D). Both logics are positioned in the field of service research, but they take a somewhat different view on the location of value creation. S-D logic focuses on the interaction between services and customers as a location where value is co-created (Vargo 2004). C-D logic has evolved from S-D logic and takes a more holistic and deeper perspective to the customer's world. C-D logic emphasizes that customers can create value also independently outside the interaction with the service provider (Voima et al. 2010). In this thesis these two logics are used as a lens that can be adjusted to "zoom in and out" to worlds of different actors.

Heinonen et al. (2009) have published an exploratory paper about a new conceptual model that builds on the premises of service-dominant logic. According to them service-dominant logic is considered as a model that is still quite provider-dominant, although it is a big step towards the right direction. Authors raise an interesting question, should service companies' business logic be redefined to form new guidelines. A new model customer-dominant logic is introduced. In this logic the perspective is shifted from the service interactions toward the customer. The perspective adopted is much more holistic focusing on larger processes than just the service interaction. Thus, the arguments in the service-dominant logic are seen in a different light, which affects the implications set for both managers as well as service researchers. In customer-dominant logic the perspective is on a more detailed level of customer experience. Customer experience should be seen as the goal of companies instead of concen-

trating only on the service provided.

Figure 5 describes the holistic nature of the customer-dominant logic, which shifts the focus from the service provider towards the customer's world. Heinonen et al. (2009) point out that these experiences and activities are not limited by time or space for example to the interactions happening between service provider and customer. The perspective is on the customer's role. The role of the customer is re-defined through three conceptualizations 1) co-creation, 2) value-in-use, 3) customer experience.

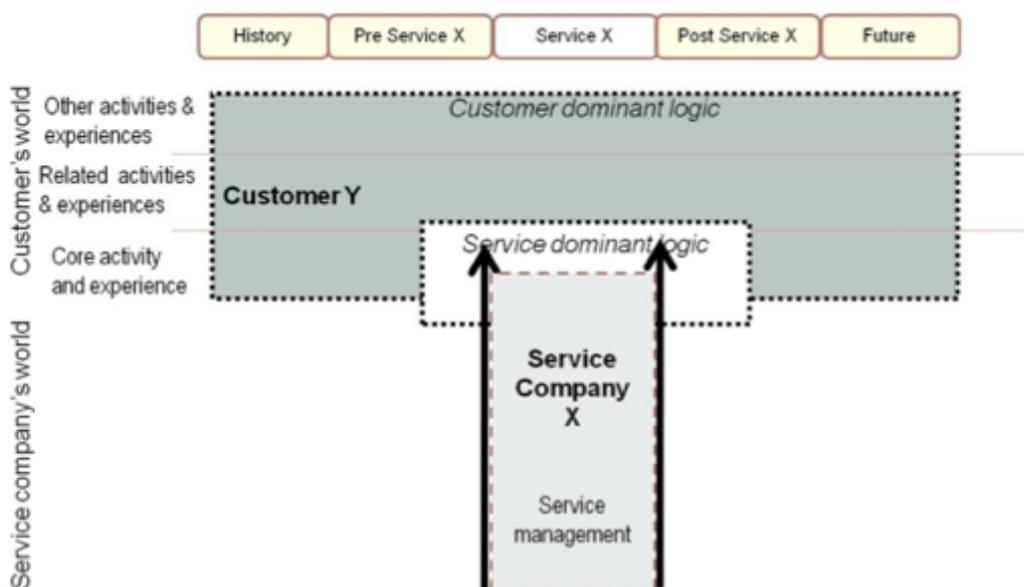


Figure 5: Customer-dominant logic (Heinonen et al. 2009, 5)

First concept is *co-creation* of value, which refers to the power relations between customer and company. Through customer-dominant lens, customer is seen as a co-producer of services who takes an active role also being able to control the interaction. Customers create value for themselves, companies don't create value for customers. Deriving from the perspective offered by Grönroos (2008) Heinonen et al. (2009) suggest the role of the company to be seen as facilitator of value creation rather than as a controller.

Second concept is *value-in-use*. Value is not delivered to customers by the company, value emerges for customers not only during service moments, but also before and after Voima et al. (2010). Heinonen et al. (2009, 9) propose an example that fits the objective of this thesis: *"For example, when thinking about a holiday trip, customer value can emerge before the trip, value is created during the holiday, but also after the holiday in terms of memories"*.

Most of the value emerges outside of the scope of the company's service processes in the customer's everyday practices involving both products and services. Heinonen et al. (2009) sug-

gest companies to put the insights about customers' "contexts and practices" at the heart of the service management. In these lay the opportunities for the companies to find ways participating in the customer's world. Companies should be integrated into the customer's world, not the other way around. Customer-dominant logic widens the emergence of value from the processes of physically consuming the services to the mental processes happening invisibly in the customer's mind. The authors continue with the same example that fits the topic of this thesis aptly. Customers may create value for example after the trip when they reflect on the lived travel experiences during the trip.

When designing new services it would be good to start from the ways the company could support customer's processes (Voima et al. 2010). Applying the earlier described context of travelling, travel companies could explore whether they could support the ways customers are building friendships during trips. Heinonen et al. (2009) emphasize that value creation processes are shaped in two levels; in the level of individual's needs, desires and habits as well as in the more abstract level of socially constructed forces and structures. To conclude, companies could be involved in the value creation processes before, during and after the service in a more collective level. An example of these value-contexts could be the wider socio-cultural processes where the stigmatized social identity of the old people as passive laggards of innovations is challenged.

Third conceptualization, customer experience, forms the basis for the previous ones. Customer-dominant logic defines value as *customer's subjective experience*. Thus, it rejects a dramaturgical perspective often presented in the provider-dominant logic where customer experience is described as a play staged and directed by the company (Grönroos 2008). Voima et al. (2010) argue that a company can orchestrate neither the value creation, nor the experiences. Thereby, the locus and character of customer experience changes. Caru and Cova (2003) divide experiences into *consumption experiences and consumer experiences*. Experience is limited neither to a specific time nor a physical entity such as a company. Experience develops through time and includes previous experiences and even thoughts about future experiences inside or outside the scope of one company. The control of the service experience is only limited extent under the influence of the service provider.

Unfortunately, the paradigm of customer-dominance has not, yet, been applied to the business processes seeking innovations. The articles written by Heinonen et al. (2009) and Voima et al. (2010) focus on the business logic of an already established service and company, which raises the question of its application in situation where there is no established service yet. On the other hand, the authors do not discuss the application of customer-dominant perspective in "businesses" where the mission expands beyond financial profit to social impact, either as the only or second part of the bottom line. Thereby, this thesis will utilize the customer-dominant logic in new areas. Firstly, customer-dominant logic is applied in the early stages of

new service development process. To be more specific, the focus is on constructing (older) customers an active role even before the service exists. *Hypothesis* is that customer-dominant logic could offer a novel perspective in identifying new opportunities for service innovation. Secondly, customer-dominant logic is applied in an innovation context, where a double bottom line exists; non-profit mission of social change in active ageing is coupled with potential for a financially viable business model.

3.2 Service innovation

Among service innovation researchers there seems to be disagreement about how service innovation differs from product innovation. Michel, Brown and Gallan (2008) argue that the dichotomy of products and services is artificial and irrelevant also in the context of service innovations. Service innovation is defined following the perspective of S-D logic as an innovative way to combine resources and structures that support actors in their value creation. Service innovation can contain intangible, tangible and technological elements, but they are not the focus of the innovation as such. Focus is on the ways actors use these elements among their own resources. (Edvardsson and Tronvoll 2013.)

Michel, Brown and Gallan (2008) conducted an exploratory study on the innovative ways companies can share their resources with customers. As a result they formed a framework for service-logic innovations that builds on innovating the *role of the customer* not the output, such as product or service. Purpose is to find new innovative ways to support the customers' value creation. Integrating the customers' own resources such as knowledge and skills to the company's resources can bring forth new value co-creation possibilities. Customers are empowered and supported to create value themselves with the help of company's offerings. Companies need to stop categorizing actors in the value co-creation context as completely separate entities.

Michel, Brown and Gallan (2008) concluded with three different ways companies can innovate based on service-logic: 1) smart offerings, 2) value integration and 3) value constellation. Smart offering refers to innovative ways to develop offerings that affect positively the ways customers can create value in their contexts. In practice this means enhancing the ways offerings can support customers satisfying their needs and getting the job done they hired the offering to do. Value integration means models that reconstruct the roles companies and customers play in the interactions. Value constellation refers to a more complex and multitudinous network of actors in co-creating value. Developing processes that co-create value with all participating actors, both customers and partners by integrating knowledge and skills into a value constellation. This mind-set guides this thesis in finding ways to build and foster relationships through open interaction.

Ordanini and Parasuman (2011) state that the position of the customer in the service innovation can go even further to action than merely having a customer-centred mind-set or as the authors write customer orientation. Customer can be seen also as a collaborator through real activities during the process. According to Sandén (2007) traditional market research falls short in providing this deep understanding. More involving and engaging research methods are needed, one crucial method being involvement of the customer in the process.

3.3 Customer involvement

In the light of the paradigms discussed, customers have a key role in the final service co-production. Thereby, involving customers in the development process becomes even more crucial in the case of new services than in developing tangible products. Alam (2005) states that few studies, however, have focused on the customer role in developing new services. In the context of developing new products, the role of the customer has already been widely proven important. Research conducted by Alam and Perry (2002) has proven the importance of these activities in forming the backbone of the whole service development process. Because of the different nature of services in relation to products, these studies cannot be directly implemented in new service development. The definition and meaning of involving customers in new service development varies. Alam (2005) criticizes that innovations have usually been studied in the context of tangible products, many of the technological. This thesis changes the perspective from outputs to the experiences of the customer.

Alam (2002) has studied, how interaction with customers can be used in the fuzzy-front end of developing new services and how service managers can exploit the information gained from this interaction. Results show that involving customers into the activities during the fuzzy front-end stages can have substantial benefits to the successful service. These phases consist usually of activities that aim at generating and screening ideas as well as developing initial concepts from these ideas.

The importance of customer involvement is proven, but most of the studies are revolving around the question of, whom to involve to the innovation process. Already in late 1980's von Hippel's (1986) innovation studies pointed out to the importance of involving lead users in the early phases of innovation process. Lead users are separated from average users as a link to future innovations. Lead users are the ones who adopt new products before masses (average users), which makes them potential source of information and inspiration. Average users are not considered potential for finding out future solutions, because they adopt new products only after lead users. After the discovery of lead users there has been lots of discussion on, who these lead users are and how they can be identified. Strategic fit of the involved cus-

tomers is considered more crucial for the outcome of the interaction, than how “lead” the customer is.

In his dissertation Sandén (2007, 21) has explored the different roles of the customer. He defines customer involvement as “those processes, deed, and interactions where a development team collaborate with current (or potential) customers at the program, project, and/or stage level of the development process, to uncover sticky information such as latent needs, develop customer knowledge, and develop new solutions accordingly.” Result of his years of studying how companies involve customers in the development processes and what roles they are offered, is synthesized as a continuum presented in Figure 6.

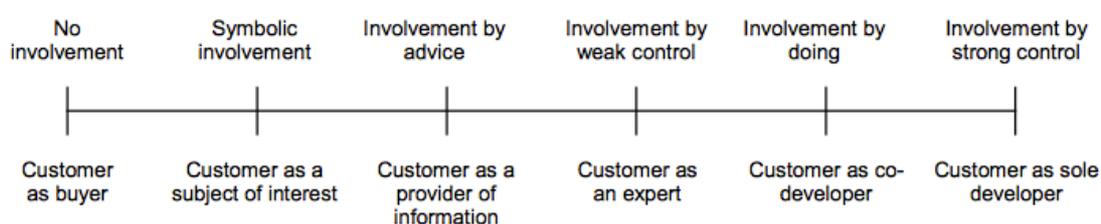


Figure 6: Customer involvement continuum (Sandén 2007, 53).

On the other end of the continuum customer is only seen as a buyer or user or there is some interest in the customer as a subject for example through survey research. Moving along the line to right approach to research changes to seeing customer as an information providers. In the left side of continuum power has been given to the customer, only its intensity differs. In an expertise role customers are given little power to impact the outcome by advice. When customers are involved by doing they are given the role of a co-developer. In the extreme case, customer is the sole developer having power in the outcome. Customer as a sole developer means that customer has complete power of the output. (Sandén 2007, 53.)

What Sandén (2007) does not address in his model is that no human role is ever static, customer can constantly move between different roles in the continuum. Another discussion is, whether the role proposed by the development team is experienced and approved by the customer. According to social constructionism roles are negotiated in social interaction from the repertoire guided by wider social norms that are embedded in cultural structures (Burr 2003). This implies that also the social norms need to support older adults to take an active role in new service development. Thus, the interactions that create meaning should be considered; the communicative elements such as words and images.

This thesis follows the definition of Sandén (2007), but simplifies it as a mind-set and interaction that constructs the customer (older adult) and active role as an expert to his/her experi-

ences and life-world. In addition, customer (older adult) is seen as a window or informant to the experiences of others sharing similar life histories, needs and wants as well as dreams about future. As the focus of this thesis is in services that have digital elements, it needs to be taken into account that older adults might not (yet) be active customers and users. They might not know what is possible in the first place, so it might be difficult for them to approve an active role proposed by the service developer. This thesis plays with a metaphor of seeing the older participants in service development as digital immigrants who are inspired to take on to an expedition to the previously unknown digital world. During this expedition they start to see the possibilities and are hopefully able to provide the development team insights on how they would like this digital world to be.

In the literature review it was often evident that service marketing lacks practical ways, tools and methods to realize the shift in the role of the customer. Service-dominant logic and customer-dominant logic are inspiring paradigms to see the world of services, but how could these mind-sets be put into practice. Sandén (2007) criticizes that service management uses often very traditional market research methods that tend to objectify the customer as a passive rather than construct an active agency. Lack of innovative tools and methods in the management literature to involve customers (not to mention older adults) leads to search them from a different discipline, design tradition.

3.4 Designing a service concept

This sub-chapter describes the main literature that provides possible answers to the question, how to apply the theories of service marketing when designing service concepts. Answers are sought from the field of design thinking and from one of its branch service design. In this thesis service marketing is used to describe and prescribe, whereas design thinking is used to interpret and visualize (Wetter-Edman 2009). Tools and methods from the design practice are used to complement the logics when designing a service concept for and with people in their third age.

3.4.1 Service concept

A holistic perspective is taken when defining service concept, which means in practice defining it as a mental image of the service in the minds of different stakeholders (Goldstein et al. 2002, 121). Service concept can make the service processes explicit and help to communicate it to others. Johnston and Clark (2008) encapsulate the description of service concept and its relation to other concepts in the next quotation:

Service concept is something that is more emotional than a business model, deeper than a brand, more complex than a good idea and more solid than a vision. It is also something that can unite employees and customers and create a business advantage.” (Johnston and Clark 2008, 40.)

Goldstein et al. (2002) note that definitions of service concept differ in the level of depth they go into the overall conceptualization of services. However, there is a shared understanding that service concept mediates organizational strategic intent and customer needs. Service concept models this by answering two questions: 1) what customer needs the service is going to satisfy and 2) How the company is going to do this in operational level. This four dimensional nature of the service concept is visualized in Figure 7.

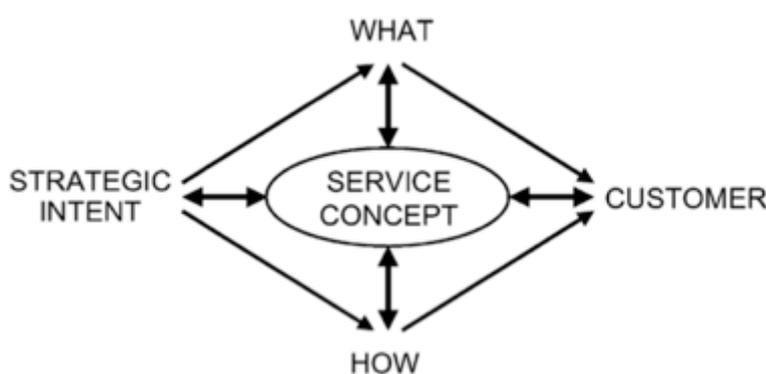


Figure 7: Service concept description (Goldstein et a. 2002, 124).

Expectations in both ends of the spectrum need to be in-line to minimize gap formation. Edvarsson and Olsson (1996, 148-149) argue that in the context of service Innovations drafting a service concept forms a prototype about the new value proposition offered. It also describes, how the company is going to support customers in their value creation; how the customer is creating value in the context of using the service. Goldstein et al. (2002) advise that when developing a service concept both holistic and reductionist perspectives are needed. In the end, customers experience the service as sum of its parts. However, when designing the operational level of the service, service concept needs to be deconstructed to different analytical elements.

Figure 8 presents a remodelled version of the service concept to literally follow customer-dominant logic in this thesis. Three elements are added to the visualization: 1) sociocultural environment to remind that all activities are part of wider social systems, 2) customer's world to highlight that service is only small fraction of customer's life, and 3) with whom the service, could be offered, such as other companies or associations. Goldstein et al's. (2002) model conveys that the service concept is at the heart of the model. As the globe is not the centre of universe, neither is the service concept the centre of the customer's world. It is

time to step away from the egocentric and company centric worldview and acknowledges the two-sided perspective of designing a service concept.

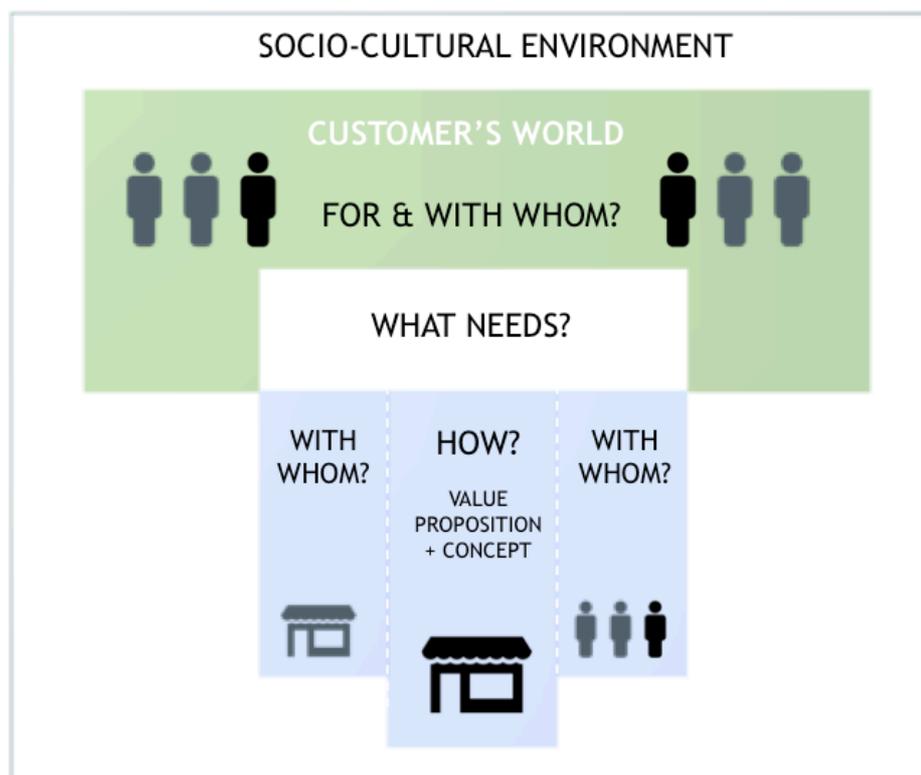


Figure 8: Modified framework for service concept (adapted from Goldstein 2002, 124).

Goldstein et al. (2002) criticize that discussion around service concept has mostly focused on the different definitions of the service concept. They implicate that more attention needs to be given to the meaning and practical use of it in service design and development. The empirical study in this thesis will provide more understanding on the concrete ways to develop an initial service concept for and with older adults. It provides a customer-centred and participatory framework to develop a service concept.

3.4.2 Design thinking

Design thinking is a field rooted in studying the mental strategies of designers during a creative process (Tschimmel 2012). Design as a practice and profession has extended from a narrow function of designing the aesthetic and functionality of developed products, towards a holistic and strategic function to design solutions for any business problem. It has spread its roots to other contexts where systematic and creative problem solving is needed. One of these contexts is the business context. In many businesses possibilities for maximizing productivity and optimizing processes have reached their limits. These changes have led business man-

agers to seek answers outside traditional business management practices, one promising being design tradition. (Liedtka and Ogilvie 2011, 4-5.)

Brown (2008) believes that design thinking can provide answers to these questions. Design thinking can help businesses in discovering new and innovative ways to build competitive advantage and strategic growth. Following citation, encapsulates what taking a design thinking approach means in the business context or any kind of context.

Design thinking is a human-ed approach to innovation that draws from the designer's toolkit to integrate the needs of people, the possibilities of technology, and the requirements for business success (Brown 2008, 3).

According to Brown (2008) design thinking is centred on the expectations and experiences of people, whether they are users, customers or employees. Design thinking means applying a designer's way of thinking, as well as using design tools and methods for the overall process of designing products and services that are valuable to people. For this thesis, applying design thinking to the process of designing services is central.

3.4.3 Service design

In design as well as in marketing, products have been the main centre of attention in innovations, although service economy is booming and offering opportunities to create innovations. To address this shortage, a new design discipline emerged in the 90's, service design. (Moritz 2005, 23.)

Saco and Goncalves (2010, 161) point out that there is no unified definition of what service design is. Lack of a unifying definition can be considered as an advantage in today's constantly evolving world. Moritz (2005, 8) encapsulates the essence of service design as follows:

Service Design is a new holistic, multi-disciplinary, integrative field. It helps to either innovate or improve services to make them more useful, usable, desirable for customers, as well as more effective for organizations.

In practice, service design applies design thinking principles in the service context. Service design addresses the complex and intangible nature of services by making them more explicit. Objective of service design is to create new or improve existing services. What separates service design from other design disciplines is its focus not only on designing the customer experience, but also on designing the whole system and strategy of providing the solution for customers. (Moritz 2005, 15, 39.)

Wetter-Edman (2011, 63) has proposed a model that synthesizes the different principles of service design in literature. The synthesized model is described in Figure 9. The model conceptualizes service design through three questions: who, how and what, which are answered with five characteristics. Next these characteristics are discussed in the context of this thesis.

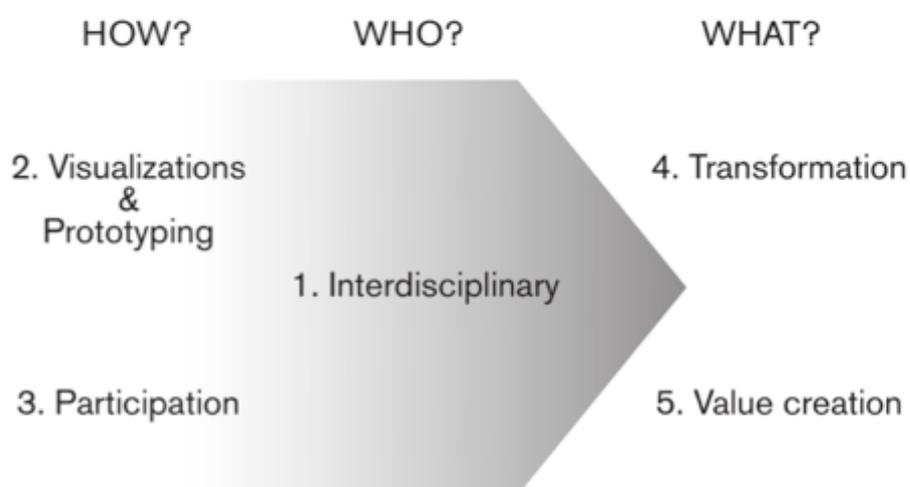


Figure 9: Service design characteristics (Wetter-Edman 2011, 63).

Who?

First question addresses the interdisciplinary nature of people and competencies in service design. Service design draws on different fields of research and practice (Wetter-Edman 2011, 63). For example anthropology, psychology, marketing, interaction design, service management. Stickdorn and Schneider (2013) even argue that because of the interdisciplinary nature of service design it cannot be viewed as a separate discipline.

In the empirical part of this thesis main actor in the process is the author of this thesis, who takes the roles of both a design researcher and a facilitator (Sanders and Stappers 2013, 24). Furthermore, the partners in the project consortium play the roles as users of the information provided by the author. Interdisciplinary nature of service design, on the other hand, is realized through the multidisciplinary background of the author in marketing, social sciences, communication and service design.

How?

Second question, how, relates to the process, tools and methods of service design that are characterized by visualizations and prototyping as well as participation (Wetter-Edman 2011).

Tschimmel (2012) and Stickdorn and Schneider (2013, 126) note that there is no one right model of a design process and its tools. Design process should be designed case-by-case for

the specific design challenge. There are, however, some unifying characteristics in design processes. First of all, design process is not a linear process with predefined steps and roles. According to Kumar (2013) design process could be described as a system of spaces that finally construct the whole creative process. Brown (2008) emphasizes that at the core of the process are humans, who discover the task in iterative cycles of prototyping, testing and refining. He also reminds that in the paradigm of design thinking innovation is not an abrupt incident when a light bulb ignites suddenly above the head of a genius, but rather an iterative process. Moreover, Liedtka and Ogilvie (2011, 8) state that design process is characterized as constant learning through divergent and convergent thinking. According to Tschimmel (2012) design process usually starts with a thorough understanding of the context, observing and gathering contextual information, analysing and synthesizing of findings and finally visualizing and prototyping in early stages for feedback. Moritz (2005, 123) points out that it is important to switch different mind-sets during the stages of the design process.

Wetter-Edman (2011) emphasizes the importance of tools to visualize and prototype the intangible nature of services. *Visualization* helps to make explicit the interactions that make up the service experience. Prototypes bring the services to life for the people to interact with and evaluate the experience beforehand. They can be used as tools to analyze, interpret, ideate and synthesize, as well as to communicate the insights for others. Throughout the service design process in this thesis different visualization tools and rough prototypes are used.

According to Wetter-Edman's (2011) conceptual study, service design practice is *co-creational and participatory*. This is rooted in the human-centred design philosophy and actualized with techniques from participatory design tradition. Sanders and Stappers (2013, 20) follow this line of thought by pointing out that service design tradition often implements tools and methods from the fields of participatory design and generative design research. In a nutshell, participatory approach to design emphasizes the importance of bringing the future users of the service into the design activities (Sanders & Stappers 2008). Generative design, on the other hand, has evolved from the participatory design tradition to put more focus on the concrete tools to enable creativity among the people participating (Sanders & Stappers 2013, 21). To sum up, participatory design can offer the right mind-set, whereas generative design research can offer concrete tools and techniques to foster the participation.

In this thesis the term participation is used, because the semantic meaning of the word co-creation differs in design and service management discourses. Participation refers to the different practices to engage customers, users and other stakeholders to the design process. Stickdorn and Schneider (2011, 36-37) stress that the goal of participation is to build empathy towards people and their experiences. In practice this means building both emotional and cognitive empathy toward the users of the service: stepping into their shoes and seeing the

world through their eyes. Sanders and Stappers (2013, 24) add to this discussion that participation should be also seen as a way to help people express their creativity and imagination. Sanders and Stappers (2008, 36) point out that designers or researchers are moving between the facilitation actions of designing *for* and designing *with* users. In their theory everyone is considered creative and experts of their own experiences. People are approached from three levels: 1) what they say, 2) what they do, and 3) what they make.

In this thesis the main focus of *participation* is to involve people in their third life-stage in the process of generating ideas for a service concept that has digital elements. During this process *visualization* forms the basis for understanding, identifying opportunities as well as communicating the information to others in a way that minimizes negative stereotypes of old age. In the end of the thesis, implications for the future directions are discussed.

What?

Third question focuses on *what* is the goal and output of service design. Wetter-Edman (2011, 68) summarizes the goal through two concepts: transformation and value creation. Transformation refers to the effect service design can have in changing the behaviors and beliefs at different levels of the social world: individual customers, organizations, social institutions and even societal levels. Transformation characterizes also this thesis, as the objective is to drive social change in how “being older” is conceptualized in the process of developing new services. This might also influence the individual level of, how older people perceive their relationship with digital technologies. Kimbell (2010) encapsulates that the focus of service design is not so much on the objects, products and services, as such. Focus is rather on the value creation in relationships between these objects and different actors in a larger service system that is build on different social structures. This argument shifts the focus in this thesis from the technology and services to the relationships people in their third age have or could have through them.

3.5 Complementing service marketing with design thinking

When two paradigms stemming from two different traditions are implemented, it is important to define and reflect on the core concepts used to avoid conceptual misunderstandings. Wetter-Edman (2009) has provided a conceptual analysis of the similarities and differences between S-D logic and design thinking. According to her complementing S-D logic and design thinking can offer promising synergies. S-D logic has been criticized because it falls short in its practical implementation to service design and development. Design thinking can provide practical tools and methods to this. Design thinking has been criticized of its superficial level how it has penetrated the management of services. S-D logic can complement design thinking

in its weaker role in managerial and strategic level.

When comparing these two fields, central concepts under examination are value, user and co-creation. Concepts of value, experience, actors and systems overlap in some extent, whereas the construction of people and co-creation differ. *Value* is the most central concept in S-D logic, but in design tradition it is not considered central per se. Design thinking focuses on the user experience that comprises of value, it does not highlight value as such. Both disciplines emphasize the importance of experience, but design thinking deepens the scope on the experience. (Wetter-Edman 2009.) This is in line with the paradigm of customer-dominant logic. C-D logic puts more emphasis on the humans and their context than the more provider dominant S-D logic (Heinonen et al. 2009).

Both disciplines acknowledge the complex nature of services comprising of networks of different actors. Premises of S-D logic stress the importance of service ecologies and value systems in the complex creation of value-in-context. Design thinking, in turn, has developed practical analysis and visualization tools to map these largely implicit systems, such as systems maps, stakeholder maps and service ecology maps. Conceptualizing people and co-creation are also different. Design thinking views peoples as humans in context, whereas S-D logic highlights customers and beneficiaries of services. Co-creation is another concept that has a different meaning in service research and design thinking. In design thinking co-creation may refer to concrete practices where users and service designers work together in ideating and designing services. In S-D logic co-creation has a more fundamental and abstract nature: it refers to customer's active role in creating value in the usage situations. (Wetter-Edman 2009.) In this thesis potential confusion in the concept of co-creation is avoided by using whole sentences designing with someone, instead of co-creation to refer to the practices of involving users in the design process.

When taking into account the conceptual differences of these two disciplines, they can be used to build on each other. The author of this thesis sets to explore, how customer-dominant logic could bridge S-D logic and design thinking.

3.6 Two-sided perspective

This thesis will experiment with a two-sided perspective to service innovation. Two sided refers to two things: 1) customer's world and service provider's world and 2) S-D-logic and C-D logic. Two sided view builds a lens that can be used when zooming into different parts of the value constellation. Figure 10 is the framework modified from customer-dominant logic (Voima et al. 2010; Heinonen et al. 2009). The framework takes into account the perspectives of

the customer and the service provider. S-D logic and C-D logic are not considered mutually exclusive; they are lenses that can be adjusted to view certain parts of a larger sociocultural system.

C-D logic model is complemented with the case study context: travelling experience that can create value before the trip, during the trip, after the trip and even considering future travels. Moreover, the history of for example travelling or technology usage affects the value-in-context. Text is added to remind that individual's life-world consists of both individual experiences and collective experiences, such as travelling with family or group of friends. Although experiences are always personal sensations, the social side of experiences should not be forgotten. For example reminiscing a trip or planning one ahead with fellow travellers can create value in the person's life.

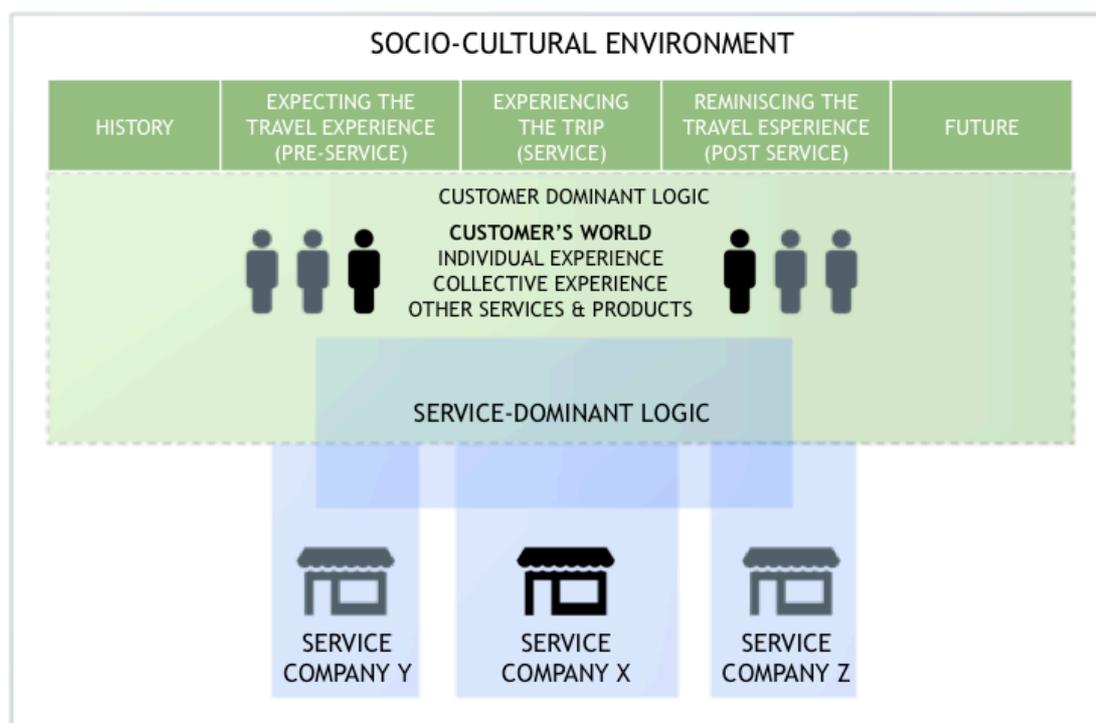


Figure 10: Customer-dominant logic applied in this thesis (Heinonen et al. 2009).

Most underlying change in the model is adding other possible service providers and their offerings to the picture. In the case of AHEAD as a non-profit project there is no predefined service company who develops the service. The project is located in the tourism industry, but tourism industry consists of a wide variety of service providers: travel agencies, airlines, tourist offices, hotels and even cities and even countries. Therefore, service concepts developed this thesis, do not have a clear service provider. This might, however, be considered as an advantage, because people are not tied to certain already established company cultures or business strategies. The project can offer a fertile ground to innovate a networked service model.

The above Figure could be playfully described through a metaphor of building a brick house. The AHEAD project consortium (or service company) tries to find a gap (untapped need) from older peoples' worlds, where it could create a right form of brick (service) to make life for them more pleasurable. Perspective is not to create value to older people; it is to support them in their own value creation processes. Question guiding the usage of C-D logic is: "how a service could become "embedded in the customers' contexts, activities, practices and experiences" (Heinonen et al. 2009). The boundary between the digital and non-digital world loses its meaning.

C-D logic model offers an interesting perspective, but it does not offer practical guidelines or methods to implement the model when innovating new services. Finding untapped needs in the customer's world and taking into account the whole span of life events needs methods of inquiry. Also the interaction and ideation of potential systems to create value-propositions requires methods. In the empirical case study this logic is put in test with the help of practical methods from the design field. Before going to the details of these methods an outline of the service design process is presented.

4 Service design process in this thesis

This section describes activities that occur during the fuzzy front end of a service design process. An outline of the process and methods is presented, followed by a description of each activity and method.

4.1 Outline of service design process

Figure 11 presents an outline of the service design process in its entirety. This design process model is unique due to the two-sided perspective visualized in the outline and implemented during design activities. Following C-D logic requires the service designer's ability to take into account two viewpoints and interact with two worlds: 1) the service provider's world and 2) the customer's world. In this way, a holistic understanding of customer experience is kept in mind throughout the design process. The flowing line represents the idea that service design process activities need to take place within both worlds. The illustrated level of depth depends on the tools and methods used.

Another detail of Figure 11 to note is that the developed design process model is located inside a context that is entitled Sociocultural Environment. Schmidt-Ruhland and Knigge (2008, 106) note that design is always rooted in sociocultural environments. Thus, social interactions

during a design process need to be taken into account and reflected. The ways in which older adults are represented and their interactions are explored during the design process.

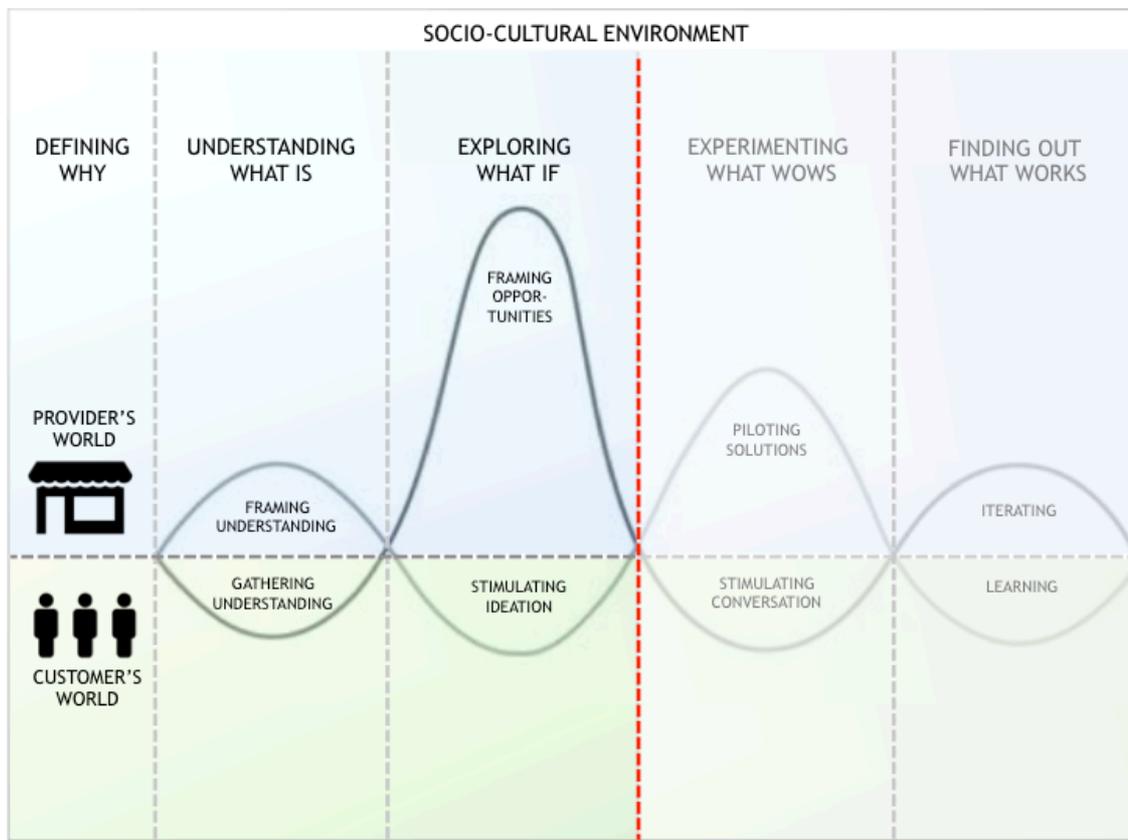


Figure 11: Design process in this thesis

The model in Figure 1 and the four questions - “what is”, “what if”, “what wows” and “what works” - are drawn from the design process model proposed by Liedtka and Ogilvie (2011). The model emphasizes the importance of understanding the present situation deeply before predicting the future. However, the basis of the design process is the same as in more well-known models such as “discover, define, develop, deliver” (British Design Council 2005) or “exploration, creation, reflection, implantation” (Stickdorn & Schneider 2013, 122). All the models begin by underscoring the value in gaining understanding about the people and the context of the designed service, followed by iterative cycles of creation and reflection concerning implementation of the service. The opening and closing of the flowing line represents the divergent and convergent phases typical in a design process. Although the process is presented as linear, in practice the design practice is cyclical and iterative, similar to Kumar’s (2013) visualization Figure 12. Kumar suggests that the phases should be seen as modes and mind-sets.

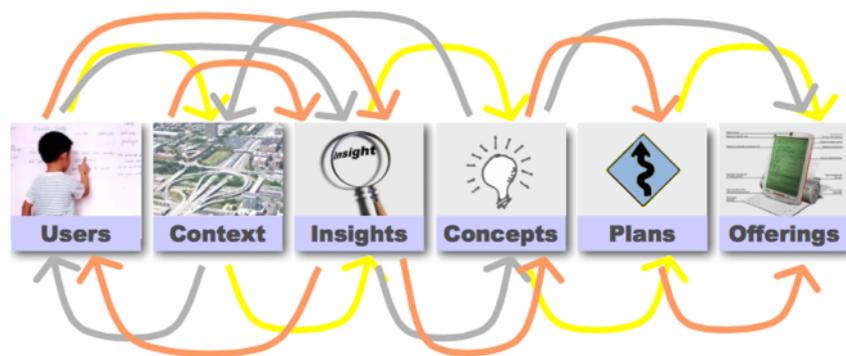


Figure 12: Real nature of the design process (Kumar 2003).

The design process begins by examining the world of the potential customer and asking: what is the nature of the current reality? Data is then gathered and analysed with different methods to gain understanding regarding the people and the context they are part of or could be part of. After this process, the designer returns to the service provider's world to analyse the gathered data and extract the most relevant insights. This can be thought of as the "What is" phase.

For the purpose of this project, data was gathered during the design process using interviews with individuals in their third age about their technology usage. Additionally, internet searches on current services and opportunities were conducted in order to gain a broader perspective of the context. The techniques of storytelling, personas, systems diagrams, and design principles were each used as frameworks for analysis. The outcome is a framed understanding meant to guide the design process toward ideation and initial concepts. Moreover, the research and analysis phases are ideally active throughout the design process. Listening, seeing, and hearing the potential customers, followed by interpretations of these observations, provide ongoing guidance for design decisions.

In the next stage - "exploring what if" - the synthesized information gathered during data collection is used to identify opportunities for future innovations. Once again, the process calls for the customer's world to be revisited so that ideas for the service concept can be generated.

The approach utilized for this project entailed a participatory workshop organized with individuals in their third age. Following the workshop, all data was examined in order to collect potential insights and ideas that were generated during the process. This process resulted in an initial service concept that will be discussed in later sections using the visualization methods of value proposition canvas, prescriptive value web and service blueprint.

A summary of all the methods and techniques used during the design process is provided in Table 2. Because the aim of this research is to study and enhance the roles of older consumers in the design process, this aspect is also included in the table.

PHASE	UNDERSTANDING WHAT IS?		EXPLORING WHAT IF?	
GOAL	GATHERING UNDERSTANDING	FRAMING UNDERSTANDING	STIMULATING IDEATION	FRAMING OPPORTUNITIES
ACTIVITIES	<ul style="list-style-type: none"> >People - interviews >Context - desk research 	<ul style="list-style-type: none"> >Storytelling workshop >Personas >Systems diagram >Insight boards & design principles 	<p><u>Designing with</u></p> <ul style="list-style-type: none"> >Design workshop with people in third age >C-D logic, Customer journey, Generative design research 	<p><u>Designing for</u></p> <ul style="list-style-type: none"> >Service concept >Value proposition canvas >Prescriptive value Web >Service blueprint
ROLES OF THE PEOPLE	<ul style="list-style-type: none"> Informants to: >own experiences >culture 	<ul style="list-style-type: none"> >people 	<ul style="list-style-type: none"> >Experts of their own experiences >Advocates for their future 	<ul style="list-style-type: none"> >co-producer
TIMELINE	April - October 2014	May - December 2014	January 2015	March 2015

Table 2: Activities during service design process

Thus, the red dotted line in Figure 11 delineates the extent of this thesis. The phases of testing and piloting “what wows” and “what really works” are outside the scope of the current project. However, a plan for future stages of the design process is suggested. During the understanding phase older adults are perceived as informants of both their own experiences and the sociocultural context they live in. In the “exploring what if” phase, their role was perceived as more active, that of experts of their own experiences and advocates for the experience of others in the same sociocultural environment. When involving people in new service development, participating customers cannot be extracted from their personal reality. Unconsciously or not, they bring their life histories, expectations, experiences, memories, and dreams to the process. If these are not taken into account, a large part of the customer’s world stays invisible to the service designer.

4.2 Gathering understanding

All successful innovations begin with an accurate assessment of the present, of current reality. We save the crystal ball for later (Liedtka and Ogilvie 2011, 23).

Liedtka and Ogilvie (2011) state that avoiding a common innovation pitfall of jumping too early to solutions requires important to make sense of the current reality. The goal of this first

phase of the design process is to understand the problems and opportunities to work on. Activities of this stage are gathering and framing understanding of the people and context (Kumar 2013). In reality, however, the steps of gathering, analysing and synthesizing the data are intertwined.

4.2.1 Interviews

Kumar (2013) emphasizes the importance of getting to know the potential users of the service concept in the early phases of the design process. The designer should not rely on second-hand information, but instead needs to gain an understanding of the users first-hand by talking to and observing them. The objectives of this approach include gaining understanding about the potential users, building empathy towards them, testing assumptions, and generating inspiration for the upcoming ideation process.

The explorative nature of this research lends itself to the use of qualitative research methods. The empirical research can be described as following an ethnographic orientation which aims at understanding the users' personal reality contextually and holistically (Mariampolski 2006, 9). The focus emphasized by this approach is on studying individuals in their natural context and exploring the meaning individuals assign to their own behaviour. The insights gathered by this research are then used to guide the service development process (Portugal 2013, 3-4). Qualitative interviews allow a flexible and in-depth way to experience the world through the user's eyes. Interviews can provide insights into a user's mental and behavioural models, deeper values, and opinions, as well as explicit and latent needs (Mariampolski 2006, 9). An in-depth individual interview methodology was chosen because it offers an open-ended and non-directive approach to delve deeper into the life of one person. In-depth individual interviews consist of predetermined themes, but the flow of the interview is flexible depending on the interviewee (Polaine et al. 2013, 50). Some of the interviews were dyadic, which means that two people with a pre-existing relationship were interviewed at the same time. The dyadic interview method is beneficial in examining peer interaction and reactions between the two persons (Mariampolski 2001, 50). In this study, all dyadic interviews were made up of married couples. This approach provided additional insights, specifically in how a couple shares similar experiences about travelling and information communications technology (ICT).

The sampling strategy for choosing participants for interviews was purposive, guided mainly by access, participants' ICT skills, and travelling habits. Recruitment criteria consisted of the following: minimum age of 55 years, male or female, and must travel at least once per year for leisure purposes in Finland or abroad. Because the goal was to understand the potential users of a digital service concept, it was also important that the participants had some level

of experience using ICT. Several channels were used for the recruitment: word-of-mouth through friends and relatives, associations driven by older adults, and Facebook groups related to the target group. In addition, some of the interviewees nominated their acquaintances for coming interviews. This kind of recruiting is referred to as a snowball sampling method (also called chain-referral sampling). To ensure that the research is able to inspire new opportunities, some of the participants were recruited because they represented extreme cases in their relation to ICT, travelling, or ageing. IDEO (2011, 40) proposes that interviewing extreme cases can reveal behaviours, needs, and frustrations which might later spread to the majority of people. Chosen extreme cases represented people with physical health issues that affected travelling and the use of ICT. Two of the interviewees were in an early pension because of health issues, which also restricted their travelling opportunities. ICT and social networking site adoption also inspired the choice of extreme cases for interviews. One of the interviewees was an amateur photographer who already had extensive knowledge of different digital services related to both travelling and ICT. Two interviewees were recruited because they wrote a public blog about being retired.

Three interviewers conducted the interviews. In total, 17 individuals between the ages of 59-73 years old were interviewed. The average age of the interviewees was 63.5 years. Fourteen of the interviewees were women and three were men. Interviews were primarily conducted in the Helsinki Metropolitan area, utilizing participants' home or public spaces such as a library or cafeteria. The duration of the interviews ranged from 30 minutes to 75 minutes. The nature of the interviews was conversational and open, with the intention of encouraging the participants to tell stories and reflect on their personal experiences.

Before each interview, the purpose of the interview was presented at a rather abstract level to avoid guiding and limiting the participants to certain presuppositions. Participants were told that the interview was part of a European-wide project with the purpose of developing technological solutions for older adults in the context of travelling. Attempts to motivate the participants included telling them that their role is to help understand the needs and wants of older adults related to ICT in travelling. Participants were also told that their personal information would be handled confidentially and that they would remain anonymous. Participants were asked for permission to record and transcribe the interviews for later analysis.

The interview guide (see Appendix 2) consisted of three main themes: the role of travel in a person's life; ways to capture, store, and share travel experiences; and usage of ICT and social networking sites. These main themes were further divided into sub-themes. The sequence of discussing these themes was dependent on the participant.

Interviews began with an opening question that encouraged the participants to describe themselves and their general lifestyle. The following questions were meant to dig deeper to

themes related to travelling and ICT. Participants were encouraged to tell about their experiences in their own words. Storytelling was occasionally utilized to prompt participants to share their last or most memorable trip experiences. Whenever possible, the participants were asked to show their digital devices and how they used them for storing their experiences (Figure 13).



Figure 13: Participants showing their digital technologies

As the interview approached conclusion, the interviewer revealed the more specific purpose to participants, informing them that the objective of the project is to develop digital services for the purpose of capturing and sharing travel experiences. Participants were given time to reflect on the topic, then ask questions and share their opinion about it if they chose to do so. As the interview session drew to a close, each of the interviewees were thanked for their contribution. After the interviews, the recorded interviews were transcribed.

The use of this data collection method was successful in providing initial understanding into the current experiences of people in their third age. Participants were eager to tell about their habits and opinions. Interest toward the topic of capturing one's own experiences digitally was high. The general possibilities of the digital world were appealing to the participants, but many of them did not express deeper interest toward technology. The interviews were not able to generate insights about the hopes and dreams of the participants. It became

evident that the participants were not able to propose hopes and ideas because they did not have a coherent picture about what is possible in the digital world. Therefore, the author decided to follow up on this topic in a generative workshop with third-age individuals as part of later data collection efforts.

4.2.2 Understanding the context

In addition to research into the lives of age-appropriate individuals, the media context and other services in the market were studied. The objective was to seek inspiration and gain understanding of models that already exist in the market. This approach enabled the researcher to see the design challenge from different perspectives and challenge assumptions formed during the initial stages of the process. Benchmarked contexts are typically chosen based on identified challenges in need of further understanding. For example, contexts can include organisations, products, communities, and even services that have commonalities with the focus of interest. Insights gained from studying chosen contexts are described and mapped using a mind-map or diagram. These description diagrams can be then used for brainstorming opportunities (Kumar 2013, 72-73).

Three questions were generated in order to guide the process. The specific sources are listed in Appendix 4. The internet search engine Google was used to find different contexts. Additional data was collected from library resources such as magazines.

The first question was - what kind of possibilities already exist to capture, store, and share personal experiences? Interviews with older adults revealed that using applications and digital services for these purposes is highly unusual. Typical uses of digital services and benefits sought are mostly functional, including but not limited to getting information and sending messages. General digital services and applications that already exist in the market for storage, reminiscing, and sharing of travel or life experiences were studied. Three categories were identified for this purpose: travel journals/blogs, mobile applications, and social networking services. A large number of solutions for capturing travel experiences were uncovered. Many of the benchmarked solutions are not currently utilized as part of the lives of the participants. However, they might give a hint and inspiration about the already identified and verified customer problems, as well as providing potential value propositions in the market. The second question was - what kind of possibilities already exist that allow a user to become more familiar with digital technologies such as mobile devices? Formal ICT training, guidance, and help websites were benchmarked to better understand current opportunities. None of the interviewed participants had used ICT training services and only few of the individuals interviewed had sought assistance from ICT helpdesks such as a mobile operator.

Key insights derived from this process included:

- There is a discrepancy between portraits of older adults in advertising and media compared with user-generated content such as travel blogs by older generations.
- Most traveling sites targeting older adults focus on advising or other more functional sides of travelling. The personal and emotional sides of travelling such as travel memories are not as strongly emphasized.
- Enjoyment and social aspects of travel are highlighted, but the individuals are usually passive recipients of products and services.
- There are many applications and programs available for capturing, sharing experiences, and creating digital and printed stories.
- None of the current technical solutions offer reminders to capture moments during a trip, nor do they offer much inspiration about the ways to capture moments. Without photos, audio, or video there are no materials for digital stories.
- Mobile applications and photo services are targeted more to young generations such as Millennials, not adult travellers. Oftentimes, the interface is not particularly user-friendly.
- ICT training sessions and courses focus on the technical devices, not the goals of their usage. The approaches are informative, but do not seek to be inspiring and innovative.

The results of the benchmarking process will be used in the later stages of the AHEAD project when a business plan for the project output is developed. The overall experience of observing the context provided a good sense of the opportunities that are not familiar to the individuals interviewed. The weakness of this data collection method was that the contextual understanding was mainly acquired through internet search engines, not real-life observations. However, even given this challenge, the web review approach helped to identify gaps in the market.

4.3 Framing the understanding

Collected data included excel files, research notes, transcriptions, images, sketches, and audio files. The next steps of the process involved moving from data collected in the “real world” towards a more abstract approach that included analysis and framing insights from the data. Kumar (2013, 130) describes this step as “cutting cubes out of fog”. Similar to the service development process, the research process also has a fuzzy front end, which can be approached with different methods and frameworks. Multiple methods allow gaining multiple perspectives to the design challenge. The objective is to refine key insights to actionable drivers and principles of innovation. The analytical frameworks are presented in the following sections. Discussion begins with a focus on the smallest unit of analysis - the people - then

continuing to larger systems. Summaries drawn from the key insights are presented after each framework. In an attempt to bridge the understanding and creation phases, insights are synthesized into design drivers for identifying opportunities. Storytelling, personas, systems diagram, and visual mind-maps were used as tools to deepen the understanding.

4.3.1 Storytelling

Because three different interviewers conducted the interviews, it was important to communicate right after the interviews so that a consensus about the gathered information could be reached. IDEO (2011, 92) encourages sharing the interviews with the research team right after the interviews. Storytelling is an effective method for identifying with the interviewees and building empathy towards them. The method IDEO proposes begins with each interviewer telling a story about every person they interviewed. Other team members take notes during the storytelling. When collecting the notes, researchers should ask themselves - what does this new information mean for the project? IDEO gives three tips to carrying out a shared storytelling workshop:

1. Be specific: Stories shared need to be based on real events.
2. Be descriptive: It is beneficial to use all the physical senses when telling a story about the person who was interviewed.
3. Follow reporting rules: A structure or a framework should be used to clarify the reporting for further analysis (e.g. who, what, when, where, why, and how).

At the same time, generalizing, prescribing (they should, would, could), hypothesizing, judging and evaluating, or assuming should be avoided (IDEO 2011, 92).

Taking into account these guidelines, a storytelling workshop was organized between the interviewers. The purpose was to share the information gained from the interviews to create a bigger picture of all the 17 participants. Inspiration was taken from a method called Insight Boards. Insight boards represent real people that were interviewed as an alternative or pre-stage to personas (Polaine 2013, 74).

The reporting framework consisted of five themes in order to remain consistent with the themes of the interviews: personal details, travelling, ICT usage, ICT-learning, and sharing and social networking. All observations were then organized under these main themes. Adding pictures of the interviewees is important for relating and emphasizing with the participant (Polaine 2013, 74). However, in an effort to protect the identity of the interviewees, photos resembling the interviewees were collected from image banks and used instead. Figure 15

portrays the outcome of this workshop. Interviewee posters synthesized the interview data to a format that was easily and quickly revised when needed.

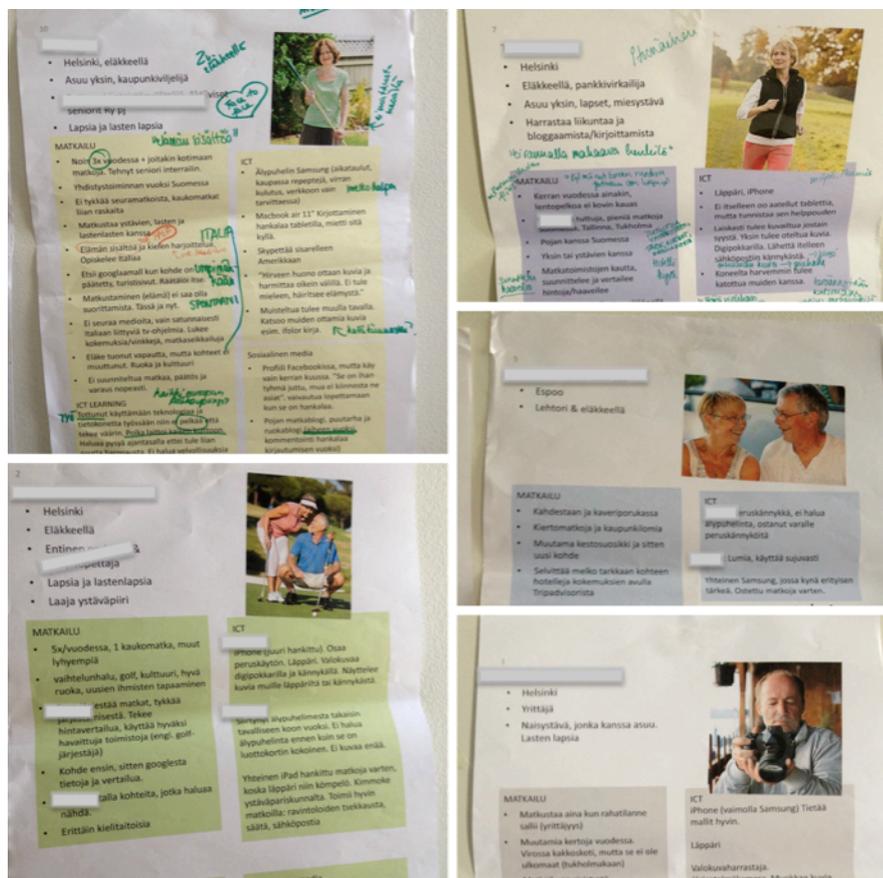


Figure 15: Examples of interviewee posters

Specific attributes were identified that described and differentiated the participants using these posters (Polaine 2013, 74). Themes and patterns in their life situations, beliefs, attitudes, and behaviours were identified and formed the basis for developing fictional personas. According to Cooper (2004), using actual individuals as a reference and inspiration in the design process might lead to too much complexity. Furthermore, it was not ethical for privacy reasons to use individual participants in this way. Insight boards and their analysis served as a pre-stage for creating design personas.

Key insights from the interviews were developed to synthesize the data and guide the design process. Key insights were gathered in an easily accessible document, which enabled revision and refinement when needed. However, the amount of information collected was cumbersome and did not lend itself to clear conclusions. Therefore, only the most relevant insights are listed below using four themes: capturing experiences, storing experiences, sharing experiences, and ICT use and learning.

1) ICT use and learning

- Basic computer programs are typically familiar, but smartphones and tablets are relatively unknown territory for many. Interest towards them is growing, especially for tablets because of their portable size and ease of use. Encouragement from younger family members is evident, but also peer-to-peer support is important people belonging to same age group.
- Learning to use ICT happened mainly with the help of children, who might not always have the time or patience to teach. They often “take over the mouse” or touchscreen and do settings for others. Some of those who were interviewed are more patient and read manuals. All in all, support for learning is scarce.
- When finding information for a trip, professional media is favoured more than subjective user-generated content because it is perceived as more trustworthy. Some people even reject other’s opinions, not wanting them to affect their own travel experience.
- The baseline requirements were ease of use, relevance and trust. However, all these requirements are bound to subjective experiences, the perceptions people have toward technology. The social context of using mobile devices and applications is important. The following quote is a “living proof” from the interviews conducted in the empirical study. It encapsulates the importance of taking into account the social context. It is an answer to the interviewers question, how the woman got her first smartphone.

“I used to think these [points to her new iPhone] were only for the young - not for me. Something I could not learn to use. But then my younger sister got one - and she’s a disaster with computers. So I thought if even she can learn to use one, I could too. “ (Woman 67.)

2) Capturing experiences:

- (Travel) experiences are typically captured using a digital camera, because it is familiar, easy to use, and portable.
- Mobile devices are occasionally used for taking photos, but the photos are often stored exclusively on the device.
- Mobile applications for capturing, storing, or sharing own (travel) experiences are not used because people are not aware of their possibilities or do not believe they could learn to use them.
- Some people state they are not “photographers”, but then express regret that they did not think to take a photo from a special moment.
- Individuals who can be described as “reflective” might keep a diary/notebook of experiences, but this may not necessarily be considered personal.

- Maps are a nice way to mark destinations for later reminiscence. Some even collect maps from their trips.

3) Storing experiences

- Digital camera photos are usually stored on a computer, memory stick, or even CD or memory card. The people who like taking photos are worried that they will lose the digital photos. Transferring photos and editing them is perceived to be very complicated.
- Traditional photo albums with paper photos were made seldomly, but interest toward printed photo-books is high. Obstacles to creating a photo-book include lack of time and a perception that the photo-book is not easy to make. Photo-books are a way to foster collective memories - they are often given as a gift to people who were part of the experience.
- Digital photos are turned into printed ones only in special moments, such as a gift or greetings card.
- Storing all material in one safe place for easy discovery is a challenge. These materials can include one's diary, photos, text, flyers, tickets, and maps. The existence of photos can be easily forgotten. Photos should be easier to organize and find.

4) Sharing experiences

- During a trip, experiences are often not shared because there is no recognized need or skills. Some individuals even still have a tradition of sending postcards from the location.
- Travel memories are shared mainly with fellow travellers in everyday conversations or looking at photos from the trip. Sometimes people tell about the trips when asked. Similarly, sharing experiences during the trip may result from being asked.
- People might sometimes share separate photos by email if they have the skills to do so. Individuals using Facebook or blogs expressed difficulty with sharing photos.
- Sharing many photos at once is challenging due to lack skills using cloud services or even awareness of them.
- Travel experiences are not typically shared with unknown people on a trip or even with unknown people who share same travel interest but who are not participating in the trip.
- Showing pictures from a computer or TV screen is seen as a lovely way to share an experience with others. These kinds of get-together evenings are longed for wistfully by participants.
- Social networking services such as Facebook divide opinions strongly because of lack of trust and social norms. Expressing oneself can be perceived as selfish and even

narcissistic. Even the bloggers that were interviewed tend to be very strict with their privacy.

- Personal content is not shared or published because the participants lack interest in doing so, lack self-efficacy, or do not believe that someone else would be interested in reading. After retiring from professional responsibilities, most people do not want many obligations and may perceive activities such as writing a blog as an additional task to be done.

4.3.2 Personas

An additional tool was needed to capture the characteristics of the interviewees in an empathic and detailed way. This tool also allowed the researcher to frame the understanding of the interviewees, while being functional in communicating information within the project consortium. Persona as a design tool was chosen to synthesize the insights gained from the interviews.

Cooper (2004, 130-131), the creator of the persona tool, refers to persona as “the single most powerful design tool, because it helps to see the scope and nature of the design challenge through the eyes of the user”. Persona as a design tool has spread from its origins in the software industry to many other design contexts. Personas are fictional but research-based profiles of current or potential users of the designed service. Although personas are not real people, they represent archetypes of identified clusters of real users who share similar attributes, such as behavioural patterns, attitudes and interests (Cooper 2004, 124; Stickdorn and Schneider 2013, 178). Goodwin (2009) states that using personas has three benefits into the design process, in that they can be used to improve focus, empathy, and communication. Personas help to focus the design process on real peoples’ needs, instead of aiming to design for everyone. It is also possible to use real people as targets of design, but having numerous real people might become overwhelming to the point of sacrificing utility. Cooper (2004, 124, 129) remarks that real users have too many small details and quirks which might lead the design team to lose focus. In addition, using real peoples might invade the privacy of the individuals who were involved when gathering data. These considerations confirmed the decision to use personas as a tool instead of posters representing real persons.

The second benefit of persona as a design tool is its ability to build empathy and engagement towards the users at a more emotional and social level than lists or statistical models of the data (Goodwin 2009, 229). Stickdorn and Schneider (2013, 178) emphasize the importance of building empathy towards the users of the service. Personas help to see the world through the eyes of the users. Sanders (2001) states that personas are valuable because they take into account that users have a life outside the scope of the designed services.

Third, persona is an effective tool for communicating the user's perspective among different stakeholders. Personas build consensus. As Goodwin (2009, 229) points out, personas presented as stories evoke the social and emotional parts of the brain. Persona etymology stems from the Latin word that refers to "character in play". Personas remind the listener of characters in stories, which is a familiar way of engaging with new information. A cast of persona characters can provide a taxonomy for making design decisions through the eyes of different users and communicating these decisions to others (Cooper 2004, 132-133). The following quote from Cooper (2004) summarizes the definition of personas:

A well-crafted, research-based persona is an archetype that smoothes out the idiosyncrasies of real individual people while retaining the patterns of needs and behaviours in the target market. At the same time, a persona retains enough human detail to feel like a real person. (Cooper 2004, 6.)

Like a design process, the persona creation process is non-linear and iterative. However, it does have some identified steps. The main steps of persona creation in this thesis are presented below. Additionally, the persona creation process introduced by Goodwin (2009) is presented in tandem with the steps taken in this project.

All personas should be based on real users; therefore studying the potential users is the starting point of persona creation. Goodwin (2009, 242) recommends using qualitative methods with an ethnographic focus to collect data. The data-gathering phase (semi-structured interviews) was described earlier. Mulder (2007, 35) points out that using only interviews as a data gathering method has its drawbacks, because interviews rely exclusively on information provided by what people say, not necessarily what they actually do. Adding observational methods is typically recommended to avoid self-reporting biases, but resources constraints for this work did not support this approach.

The next step in analysing the gathered qualitative data is to identify behavioural patterns that separate the interviewees from one another. Behavioural patterns refer to specific aspects of an individual's behaviour or attitude, such as goals, tasks, and mental models (Goodwin 2009, 247). The particular focus for this project was on uncovering behavioural patterns related to capturing, reminiscing, and sharing of travel experiences. Also, any distinct roles interviewees placed themselves in when talking about their relationship with ICT and travelling were identified. The analysis began by using post-it notes to list all the variables that differentiated the interviewees. The compiled interviewee posters were used as an inspiration, in addition to the raw data, interview recordings, and transcriptions.

Five main clusters of variables were identified: demographics; personality; interaction and sharing; travelling behaviour; and ICT skills, behaviour, and attitudes. The interviewees were

then mapped on these variables according to how they related to each other. Colour coding the names of the interviewees also helped to identify patterns of interest and form profiles. During the process of persona creation, the key variables were continuously evaluated to include only the most distinguishing and relevant themes for use in designing digital services. As a result of the analysis process, two main variables defining the key differences among the participants were chosen. The first one is self-efficacy, which combines concepts such as self-confidence, curiosity, motivation, and love for travelling. Higher self-efficacy often relates to self-directed learning and might result in higher level of ICT skills. Feeling able to do something is often the prerequisite for being able to do something. The second important distinction is sociality, which consists of self-expression, sharing of experiences, travelling with others, and social networks. Higher sociality represents the importance of social behaviour and motivations. These formed the data form for the personas.

After important databased characteristics were included into the blueprints, more detail is added to create a sense of realism. The most important data should be encapsulated in personas in a way that helps others to remember, understand, and relate to it. To achieve this result, the storytelling details and photo were added to the persona foundation. Goodwin (2009, 229) warns that in this stage, it is easy to get carried away in adding irrelevant details to the personas. In the process of building personas for this thesis, too many details and stories were added to personas, which made them harder to implement. Occasionally, shorter summaries of these personas, or even only the photos, were used. The created personas provided a synthesis of the main goals and frustrations of an individual, as well as a description of his or her situation in life. In the end, three personas were created: Soile the social experiencer, Reetta the reflective experiencer, and Heikki the personal experiencer. One of the personas, Soile is presented as an example in Figure 16 (see Appendix 3. for other personas). Soile the Social Experiencer later became the key persona for the service concept.

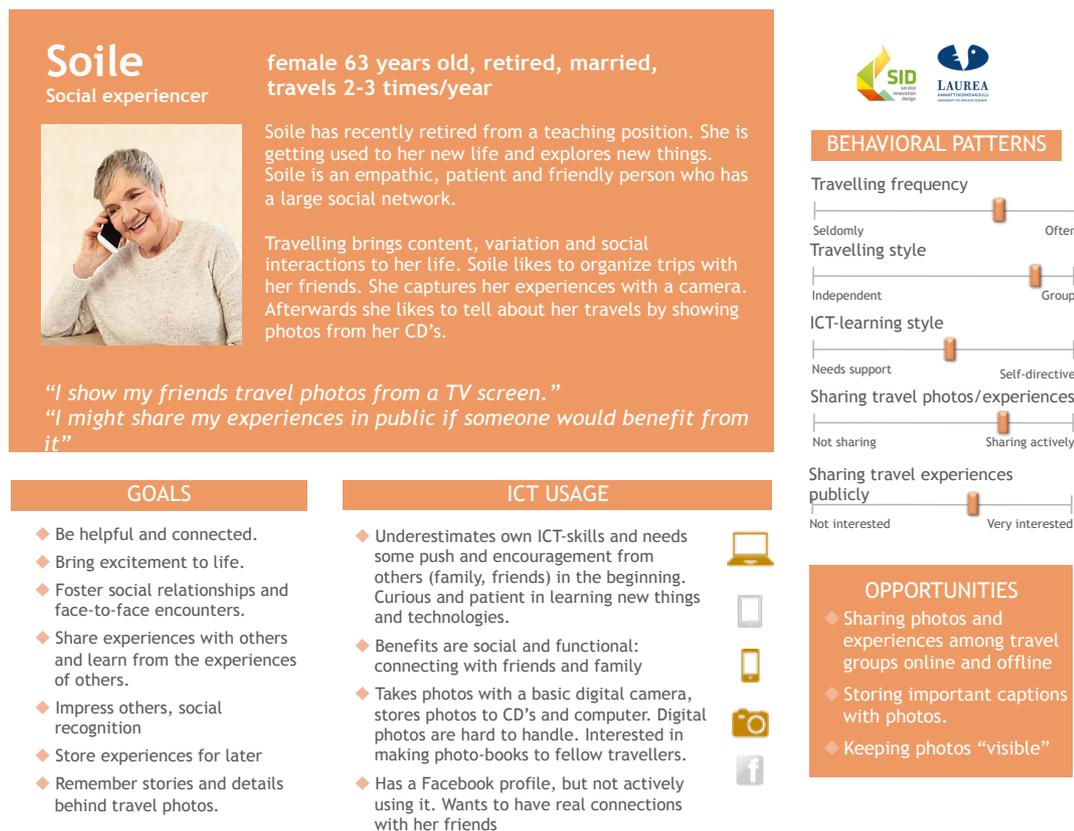


Figure 16: Example of a created persona

The created personas were used throughout the design process to guide decision-making. Personas were also presented at the AHEAD project consortium meeting. Partners in the project were excited about the personas and decided to create additional ones. In the end, dozen of personas were generated. Initially, the researcher tried to combine or prioritize the personas from different countries, but soon realized that it is difficult to create a unified set of personas across different cultures. During the development of the mobile application, the persona tool was again used to form usage scenarios. However, the partners not yet familiar with the tool need further guidance regarding how to exploit the personas fully when making decisions. On the whole, personas were a useful way to think like the customers.

4.3.3 Systems Diagram

After focusing at the individual level, the next phase included exploration of the wider context: people, offerings, organizations, and the relationships between these elements. Kumar (2013, 131) points out that thinking through complex systems is fundamental to identifying innovative solutions. It requires holistic thinking: an ability to both widen and narrow the analytical focus, as well as ability to visualize the information. There are different tools in service design developed for this purpose: systems maps, systems diagrams, stakeholder maps,

actor maps, experience maps, and context maps. These frameworks differentiate themselves at the unit of analysis, focus, or execution conventions, but they all share the objective of visualizing complex systems to inspire innovation. Mager and Sung (2011, 1) note that the ability to identify the interconnections between different actors in the context of the design challenge might lead to finding and communicating untapped value creation possibilities. For this study the ERAF Systems Diagram method described by Kumar (2013, 146-148) was chosen because it takes a broad perspective to the studied context. It includes all the elements of systems that can be defined as “nouns” and also captures the characteristics and flow of the relationships between them. Fuzzy data gathered in prior stages was synthesized into a diagram in a systematic way and then analysed with different lenses to identify opportunities in the innovation context. Next, the steps of crafting a modified ERAF Systems Diagram with the help of visualization tools offered by PowerPoint are described.

The initial step is to list all the relevant parts of the system that can be defined as nouns, such as people, places, organizations, products, or services. Only the entities that have or could have an impact on the innovation should be listed (ibid. 147). An ERAF Systems Diagram does not give directions on how to place the identified entities spatially, but following the mind-set of customer-dominant-logic, the potential users were always placed at the centre of the diagram. In the beginning, the context was observed from the perspective of the interviewees, specifically what entities they had mentioned and their relationships with these entities. The purpose for this was to understand what entities are currently relevant in older adult’s lives. First, all the actors mentioned in the interviews were listed and categorized. Categories included people travelling, people not travelling, tourism industry, photo services, user generated content, and professional media content. After that, the actors were arranged in a diagram according to linkages and overlaps between them. The systems diagram is presented in Figure 17.

The second step consists of connecting the identified entities according to the flow of their relationships. Arrows were drawn to represent the interactions between these entities. Straight lines were used to represent face-to-face interaction and dotted lines suggest indirect interaction that can take place through ICT. Small icons are used to describe the interaction modes, such as sharing photos, experiences, or formal information. To identify the potential for monetizable solutions, the relationships where money is exchanged are marked with a euro icon.

After mapping the context from the perspective of the interviewees, the perspective was changed to the insights gained from secondary research and benchmarking. Kumar (2013, 147) notes that after the first mapping round, it is important to refine the map to contain all relevant entities. Entities and relationships that could have an effect on the context and on the

new service developed were added. Two completely new entities were added: technology providers, such as manufacturers; and non-profit organizations, such as ICT education or other senior associations. Technology providers such as retailers or manufacturers were hypothesized to potentially have an impact on the devices used. Similarly, non-profit organizations could offer a medium to reach potential users. Systems entities that were not (yet) discovered by participants are marked with white circles. Examples of these entities include:

- Mobile apps: cloud image hosting services, digital slideshows, travel apps, digital diaries.
- User-generated content services: social networking sites, travel blogs, travel journals, travel videos or slideshows.
- People “back home”: unknown people sharing the same travelling interests.
- People travelling: unknown tourists sharing the same “first-hand” travelling experiences.

When the map was complete it was analysed and discussed in an attempt to find disconnects as well as opportunities to create new relationships or even new entities (Kumar 2013, 148). The opportunities identified from this visualization exercise are marked with a star icon. Not all of the details of the map will be discussed, but the main entities are introduced in turn below.

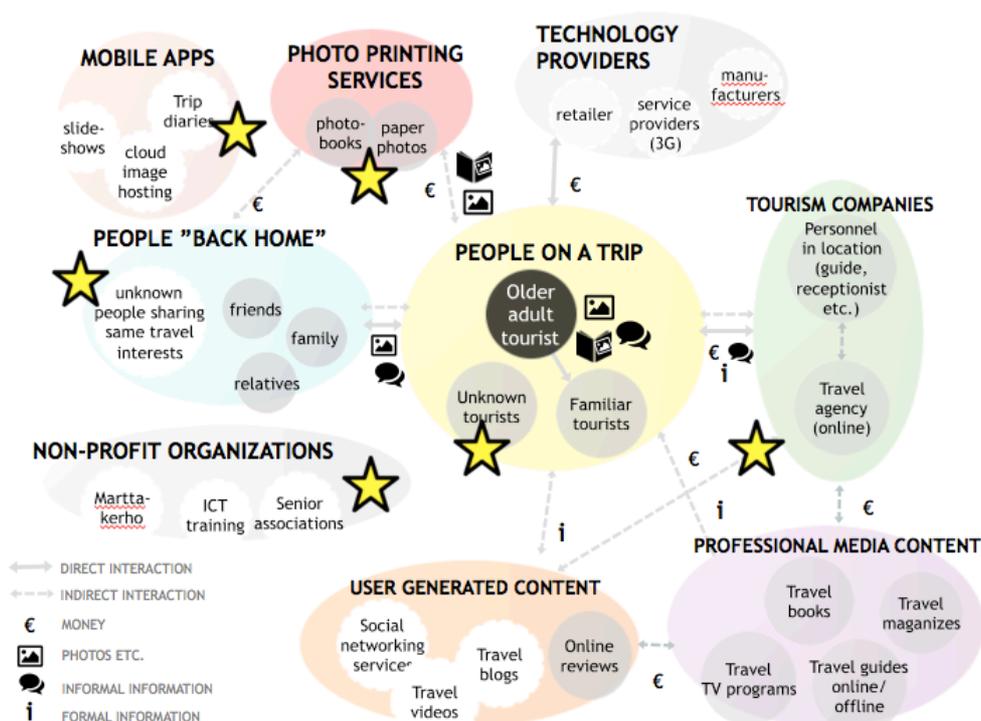


Figure 17: Systems diagram

Yellow areas portray people directly involved in the travel experience. Older adults may travel alone, with a spouse, or in larger groups. However, there might also be strangers that share the trip. To others who were not part of trip (blue area), the experiences are usually only shared when asked.

Blue areas represent the people who receive information about the travel experiences, but are not involved in the travel experiences. Usually experiences are told verbally to people who ask about the trip. However, there is a shared doubt that younger generations would be interested in their experiences.

Red areas refer to different photo services such as printing photos and photo books. Ordering paper photos has decreased following the introduction of digital cameras, but longing for the emotional value of physical photos still exists. Printing digital photos is a more selective process than before. Photo books, on the other hand, were mentioned frequently in the interviews, either as something the informant had already done or would like to do in the future. Photo books are shared with fellow travellers who have been involved in the travel experience in first place.

Green areas combine all the actors in the travel industry, such as travel agencies organizing the trip or service providers at the location. These actors are not directly and intentionally involved in the practices of capturing travel experiences. Giving feedback through a customer satisfaction survey after the trip is the only mentioned practice for sharing own experiences with the travelling industry. Feedback is usually shared only in extreme situations when the service was perceived as really good or really bad. No identified relationships exist from the tourism industry to either technology providers or photo services.

Purple areas describe all the professional media content that the participants mentioned during the interviews. These offer information and inspiration before the trip, but also stimulate spontaneous reminiscing after the trip. Usually this professional media content, such as travel magazines and books, are paid content purchased by either the customer or a sponsor company.

Orange areas distinguish user-generated content (UGC) from professionalized media content. This refers mainly to user-generated reviews about the destination, such as hotels and restaurants. These services are usually free of charge, so only information is exchanged. Sharing personal reviews was rare among the participants, and they were critical towards user-generated content because of what they saw as its subjective credibility.

The systems diagram was very important to gain a wider perspective on the opportunities for a new service concept that promotes the use of mobile devices in capturing and sharing travel experiences. This tool helped to identify new relationships in a network that could facilitate the implementation of the service concept. Although this is out of the scope of this thesis, it is worth mentioning that the created systems diagram was used during the AHEAD project consortium meeting to ideate potential stakeholders.

4.3.4 Findings and reflections from the “understanding what is” mode

The “understanding what is” phase resulted in findings which are presented in the form of design principles from the insights gathered in previous phases. Design principles are action- and future-oriented statements derived from research insights and prescribe the process by maintaining the linkage to real observations (Kumar 2013, 189). The insight statements were used as inspiration for extracting underlying design principles. Next, the design principles are presented and main insights relating to them are described.

Inspire learning by reflecting on past. All comes down to inspiring learning and supporting it by finding familiar connections from the past. In most cases either mobile devices are already being used or there is at least a high interest regarding them, but at the same time many do not know how or where to start. Using metaphors and examples help users to understand the main concepts and lower reluctance to start learning and using.

Complement online with offline. This design principle is the basis for reminding to focus on the intersections of online and offline. It has two main implications. First, it serves as a reminder about the importance of having physical memories in the form of photo-books or shared photo watching evenings. However, the path to creating these offline captions and stories from the digital camera and mobile devices is unknown for many older adults. However, there is interest for the process of turning digital memories into printed artefacts. Secondly, the opportunities of the digital world do incite interest in the participants, but not at the cost of real connections. Therefore, the online and offline worlds should build on each other in a way that feels natural and familiar to people who consider themselves alienated in the digital world.

Foster collective experiences. Fostering collective experiences emphasizes that no man is an island. Trips are often experienced with others, but there awareness is lacking in terms of ways to keep these collective experiences vivid. Cloud services are unknown and Facebook divides opinions due to of lack of awareness and trust. Finding ways to share photos and experiences with others on a trip would be considered valuable for the individuals interviewed.

Facilitate actors to support capturing experiences. A systems diagram helped to identify many entities and actors who are not part of helping to capture travel experiences and learning to use mobile devices. Finding mutual benefits might raise interest among travel agencies or even photo printing services. Ideation should also take into account these other actors and their needs.

Place accessibility as a self-evident basis to build on. Finally, age-related changes such as vision and mobility must be taken into account. However, they should not become the main focus of the design project, but rather a self-evident basis to build on. Universal design is reflected when creating and piloting the service concept.

These brief but practical design principles enabled the author to focus on the most relevant challenges and opportunities. The design principles were shared with the project consortium to support the process of creating a training methodology and mobile application. However, they should continue to be emphasized throughout the process, not just used for guidance during the initial phases.

4.4 Exploring what if

When the current reality has become familiar, it is time to look at the future to pursue opportunities. Liedtka & Ogilvie (2011, 23) remind their readers that it is important to first focus on understanding the current situation and context of the design challenge before starting to develop solutions for the future. Kumar (2013) describes this mode through mind-sets such as “standing in the future”, exploring concepts, discovering real value, and questioning as well as testing assumptions. Liedtka & Ogilvie (2011, 45) state that ideation needs to be driven by the data in a way that allows framed insights to be used as fuel for the ideation stage. The insights and visualizations created earlier are used as a basis for ideation in the “what if” mode. The technique of asking “how might we ask questions?” was used (IDEO 2013). Because the interviews did not generate much information about the dreams of older adults, the author wanted to organize a generative workshop with individuals in their third age (Sanders & Stappers 2013). It was anticipated that an outcome of this approach would be an initial service concept that could be then put through the process of pilot testing.

4.4.1 Generative workshop with people in their third age

This thesis follows the guidelines of Sanders and Stappers (2013) in exploring how older adults, who often consider themselves as outsiders in the digital world, could be encouraged to express their needs and dreams. Involving them in the design process, even once, might

improve the chances that the designed service will create value in their lives. Generative design research is based on the principle that everyone can be creative if they are given the tools and techniques to express their wants and needs, as well as their dreams (Sanders and Stappers 2013, 20).

To generate more understanding about the needs and dreams of documenting travel experiences, a workshop was organized with people in their third age. The objective of the workshop was to tap into the current challenges and motivations for capturing travel experiences. Additionally, the workshop was designed to generate ideas about what would their dream travel story be like. A final goal of the event was an introduction of the possibilities for digital technologies because the workshop was organized as a two-hour kick-off event for coming training courses related to the AHEAD project.

The workshop was held on the 23rd of January 2015 at Laurea University of Applied Sciences in Espoo. 19 people aged between 61-77 years old participated in the workshop. The average age of the participants was 71 years. 15 of the participants were women and four were men. Participants were recruited via an online form from amongst the initial interviewees and their friends. In addition, local senior and retirement associations were contacted to share an invitation to the event. All participants were from the Helsinki Metropolitan Area. Participants were active and liked travelling. Except for one, all participants had basic computer skills and 9 of the participants already owned a tablet device.

The workshop began with a brief introduction to the AHEAD project and the upcoming mobile and digital storytelling course. The purpose of the workshop was explained as a kick-off for the coming training courses (i.e. piloting of the service concept). Participants were offered an opportunity to influence the content and execution of these training courses. To foster creativity through collective experiences, the participants were divided into three groups. Each group had its own facilitator. The author of this thesis and two colleagues acted as facilitators. The two additional facilitators were individuals in their third age. The collective mind-set during the workshop emphasized the importance of creativity.

The workshop followed the framework of participatory and generative design research introduced by Sanders and Stappers (2013, 75). The steps of this framework are:

- 1) Immersion into current experiences
- 2) Activating feelings and memories from the past
- 3) Dreaming about the possible futures
- 4) Generating and expressing new ideas related to the future experiences

The aim is to help participants along the path of expressing their inner wants and needs. These steps fit well together with the customer-dominant logic (Heinonen et al. 2009) because they take into account both the past and future of the participants in addition to the present situation. Other frameworks used for inspiration for the workshop were the customer journey map and the value proposition canvas. A customer journey map was used to structure the input of the participants in clear stages of before, during and after the trip. The value proposition canvas, presented by Osterwalder et al. (2014), was used as a starting point for dividing the input from participants into pains and gains.

The canvas used in structuring the workshop is presented in Figure 18. The canvas is divided into four columns. The first three columns present the journey in terms of what happens before, during and after the trip in relation to preparing, capturing, storing, and sharing travel experiences. The blue fourth section is for ideating how the participants would like to document their future trip in an ideal situation. It is metaphorically presented as a gift that could be offered as a value proposition similar to the model of value proposition canvas by Osterwalder et al. (2014). Horizontally the canvas is divided into two sections: green for gains such as motivations and red for pains such as frustrations and challenges related to activities.

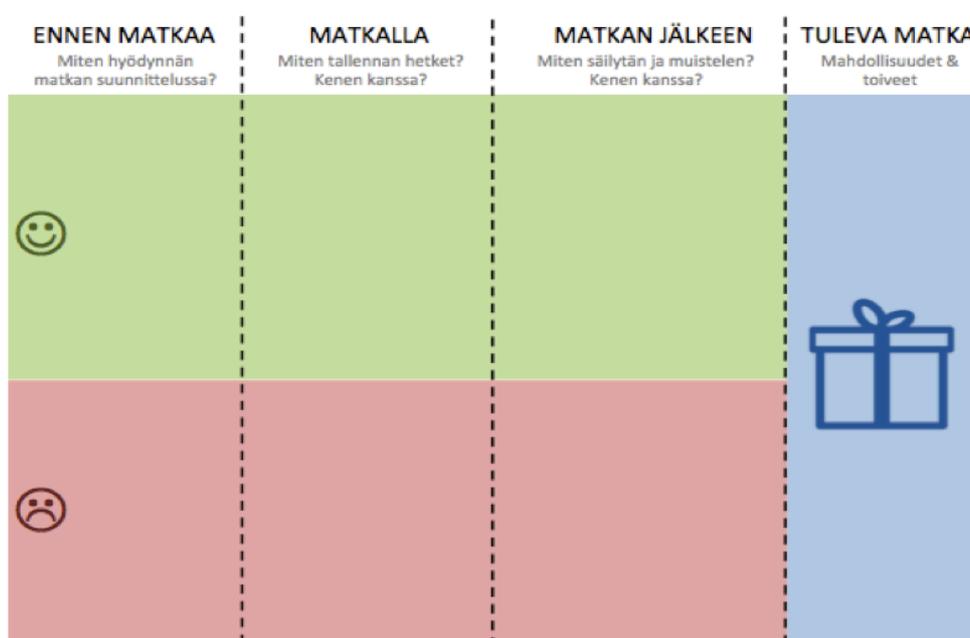


Figure 18: Canvas for the workshop

The workshop proceeded in three main phases implementing the framework of Sanders and Stappers (2014). The flow of the workshop is visualized in Figure 19. An initial task was given to the participants when they arrived. Participants were first asked to mark on an A4 sheet

their current ways of capturing and sharing travel experiences (see Appendix 6). The sheet was structured according to the insights gained from the interviews, but participants were able to add additional habits too. The purpose of the task was to introduce the participants to the topic and gain information about their habits.

The second task was to reflect on the challenges and opportunities in documenting travel experiences before, during, and after a trip. In small groups, participants shared their habits with others by using the completed A4 sheets. During this exercise, participants wrote down the main pains and gains on post-it notes with the help of facilitators. After this, facilitators presented the main topics to other groups and encouraged discussion between groups. The final task was a combination of activating feelings and memories from the past while dreaming about the possible futures. Participants were given tablets that contained a time travel album of photos. These albums represented the evolution of capturing, storing, and sharing travel experiences all the way from the black and white photos, postcards, and photo albums to the digital era. The photos from this time travel are included in Appendix 7.. Participants paired up and manually browsed the photos in chronological order from past to present. Many of the possibilities were not familiar to the participants, such as social media sharing or geotagging of photos. While browsing, participants were asked to record on post-it notes how they would like to remember their next trip if anything is possible. Facilitators gathered these notes in blue “gift” section of the canvas and shared them with all groups. Open discussion about the topic was encouraged.

After the main phases of the workshop, the participants were given a learning card where they could mark and write suggestions for the content of the upcoming training course. The learning card contained topics such as learning to take better photos, editing photos, storing and transferring photos digitally, getting to know different applications, sharing publicly and privately, and creating a digital story. Most of the participants marked almost all the provided topics, which provides support for the designed service concept proposed in this thesis.



Figure 19: Flow of the workshop

The workshop reached its goals. Compared to the interview method, this collective method enabled access to more emotional and social ideas for the future. Focusing on activities related to capturing, storing, and sharing travel experiences before, during, and after the trip

gave structure to the expression. Discussions about the current pains and gains, combined with snapshots from the past and future, helped the participants to express themselves. As Liedtka and Ogilvie (2011, 23) state: “The clues to the new future lie in dissatisfaction with the present”. The insights gained from the workshop were added to insights gained earlier in the “what is?” phase. The main findings are presented in Figure 20 within a framework that takes into account both the past and the future. This visualization was also shared with the AHEAD project consortium to generate ideas for a business model of the project outcome.

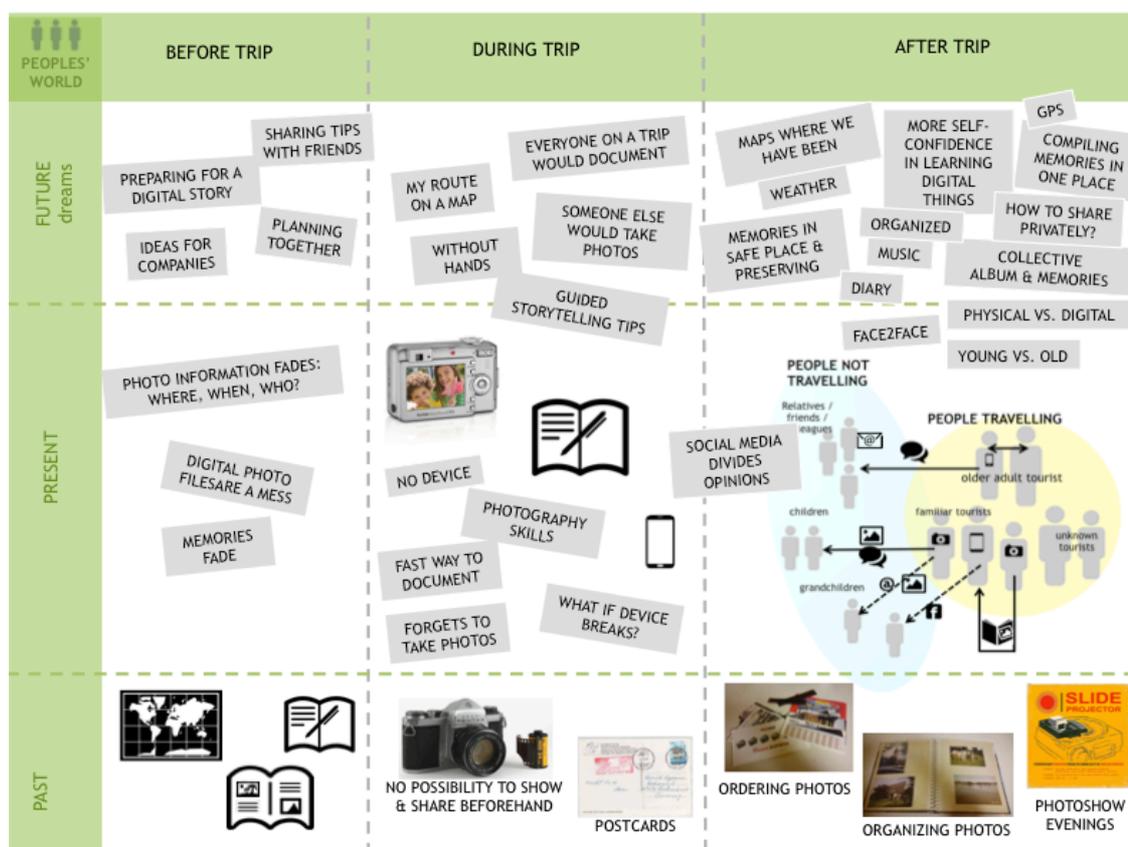


Figure 20: Findings from the generative workshop

The key insights discovered or validated during this exercise were:

- Travelling context, especially photos, is validated to create an inspiring learning context. The skills learned are also considered valuable in documenting other life experiences.
- Interest revolved mainly around photos as a way to capture travel experiences, but adding captions to photo information was also important, as were tips for taking better photos with a digital device
- Slideshows generated with pictures and music caught attention, but there is a perception that creating these slideshows must be very hard. Narrating their own voice

to the stories was described as “weird” by the participants, but recording voices from the destination such as bird singing was considered interesting.

- Most of the ideas and hopes stated quite functional benefits, such as remembering where a photo was taken, who is in the photo, and when it was taken. Clear need was expressed to learn to archive and transfer digital photos. There was also interest in digitizing old paper photos.
- Seeing the taken photos on a map (geolocation) created a big surprise, a “wow-effect”, but none of the participants knew how to get the information to photos. Also, going back to the location virtually with the help of satellite map or Google Street View map was of interest to the participants.
- Creating complete stories from photos interested fewer people than expected. Making stories requires effort, participants wondered if these stories could be somehow created automatically. Some of the participants were more interested in just storing and sharing individual photos, perhaps as photo collages. Participants wanted to control with whom the photos are shared.
- Motivating everyone on a trip to take photos for a collective album or story was considered valuable and novel.
- The level of skills in using mobile devices is quite low. More time should be devoted to introducing the basic functions of mobile devices and the underlying logic of the programs. Workshops to learn basics might need to be organized before a trip.
- The fit between already existing mobile applications and the experience of using them needs to be experimented more in real piloting activities with for example cloud services, photo applications. The assumption that current solutions are not user friendly needs more proof to be validated. Observing the usage of these solutions can validate the need to design new or modify existing ones.
- Participants were members of many official or unofficial associations and clubs, which could be potential customers for a service.
- The kick-off validated the importance of social events in learning. Participants got to know about the digital world in small groups. It was also important for the participants to realize they are the only ones not familiar with mobile devices. Moreover, seeing others belonging to the same cohort might motivate to learn. Peer-to-peer learning needs to be the core of the service concept.

Improvement areas for the facilitation of the workshop would be to allocate more time for reflecting on the key topics and discussions with the participants. For example, the “5 why’s” method could have helped to dig deeper to more latent needs. The generated hopes and wishes could have also been further developed with the participants into service ideas. Prototyping exercises with different tools such as role-playing or Legos might be a good addition to

future agendas. This also indicates the importance of the make level of expression, not only the say and do levels (Sanders 2013, 66).

Participants gave mostly positive feedback about the workshop experience. The one negative aspect that was mentioned was the short time to discuss and learn more about the topics. All in all, the workshop became more than a way to generate ideas for the service concept. It became also an educational strategy to motivate learning to use mobile devices. Capturing, storing, and sharing travel experiences were each validated to be inspiring contexts for exploring a technical topic. All participants in the kick-off registered for a five-time course that was planned as piloting for later stages of the AHEAD project. The three-step approach on this workshop appeared to work well as a kick-off exercise for learning to use the mobile devices. Learning how to do something valuable with a mobile device was more motivating than focusing on the technical functions of the device. It is important to invest time in showing people what is possible in the digital world. One participant wrote in the anonymous feedback form: “this gave me hope and motivation to learn”. Therefore, the exercise was taken into use during all the piloting courses that followed the results of this thesis. However, reflections on these are outside the scope of this thesis.

4.4.2 Framing opportunities to a service concept

All the gathered and framed understanding was used to generate ideas of opportunities for a service concept. Insights were also used throughout the process to evaluate the ideas and the service concept. Generating ideas from the insights was not a one-time event or a systematic process where a light bulb goes on above the person’s head. It was a continuous process of creating and refining ideas and solutions. The author analysed and ideated opportunities and solutions throughout the process. Liedtka and Ogilvie (2011, 27) describe this nicely by saying “ideas begin to pop up into our heads of their own volition”. These ideas were collected for review and later refinement. In the end, the captured opportunities and solutions were reflected back on the insights and frameworks. Next the process of proposing a service concept is presented.

The technique of “how might we”, coined by IDEO (2013), was used to ideate opportunities from the insights. Insights were clustered into themes that represented the particular challenges in the lives of third-age people related to capturing and sharing travel experiences. Also broader topics such as challenges in the ICT adoption were explored. The formed “how might we” questions and their solutions are presented next.

1) How might we introduce the mobile devices and applications in a way that is inspiring, relevant, and builds on social elements? The analysed data and literature review emphasize that the launch of popular and easy-to-use mobile applications is not useful when older adults do not find them or want to learn to use them. Many don't know about the mobile applications or how to use them. Interest towards buying a tablet is high, but knowledge and self-driven learning are challenges. Belief in one's own ability to learn to use a device is crucial. Proposing opportunities for this challenge might offer additional opportunities for other life-stages. Some of the main ideas to overcome the barriers of awareness and interest toward mobile applications are listed below:

- Tablet and smartphone seller offers a course that is linked to a small learning trip.
- Peer-to-peer learning: affiliate marketing and teaching in "Tupperware" style parties.
- An online community used by the group who are travelling together for communicating and sharing before, during, and after the trip.
- Travel agencies guiding how to use mobile devices in the context of travelling. For example teaching about digital storytelling, elements of a good story, photography tips, or even basic usage of tablet for searching information and maps.
- Co-design pilot with already existing mobile application developers to take into account the needs of people not yet familiar with mobile devices.

2) How might we inspire and remind to capture experiences when travelling? This question relates to the challenge that people do not know how to take photos and video or they feel as though they do not have skills for it. The question also aims to overcome the barrier that people are not interested or simply forget to take photo or /video during the trip. Without material, no digital or printed stories can be created. Suggestions to address this question are listed below:

- Before a trip, host courses to practice photography and storytelling; this will allow users to get used to the idea of documenting a trip.
- During a trip, mobile devices would send notifications and ideas for taking photos when a person enters a specific destination e.g. castle, restaurant.
- Sending digital postcards or even printed postcards to others back home or even for personal enjoyment.
- A mobile application with ready-made story ideas for the trip that can be completed like puzzles.
- Tour guides offering their services for capturing photos. The group could get photos from the tour guides/travel agency.

3) How might we support and motivate to create and share captured experiences such as digital photos or stories?

- An online community or mobile application that gathers photos automatically from the mobile devices of the participants (during the trip) to one shared place.
- Stories from the trips are co-created by the participants from shared photo folder or gallery. All participants could write captions for the photos and create a story outline one after another to form a shared story. Everyone can order printed products from the photos.
- Travel agency promise discounts and offers if the photos and travel stories are published as marketing tools.
- Travel agency or other sponsor gets its logo attached to the created digital slideshow, story, photo album, or printed photo-book.

From these ideas, the foundation for the service concept was created. It is important to understand that the objective of this thesis is not to design a digital service concept, but rather a service that has digital elements. Therefore, the ideas can be embedded into a service process that spans across time and space rather than being just one product or service interaction.

4.5 Presenting the service concept “Digipaja”

The objective of this thesis was to design a service concept that introduces the possibilities of mobile devices and applications for older adults. From the identified opportunities presented earlier an initial service concept idea was designed. The service concept proposed here is best captured by the Finnish word “Digipaja”. Digipaja translates to mean “Digital Workshop”. Digipaja facilitates the adoption and learning of mobile devices in inspiring social events hosted by individuals or organizations. These social events are located in different learning contexts depending on the host and sponsor of the service. The business logic for these events and their program is based on paid licence agreement with the host of the events. These events may have also sponsors of different fields, who get their digital services more known.

This thesis is based on the AHEAD project that focuses on teaching how to capture experiences with mobile devices when travelling. Travelling provides an inspiring context for introducing the possibilities of mobile devices. Figure 21 visualizes the logic of the service concept. In the concept presentation that follows, travel agency is used as an example of a host and senior club/association as a customer. Capturing travel experiences can include anything from taking good photos or video, editing taken photos, turning them into stories or learning how to preserve them for future in a form of printed photo book. Because of this the model in-

cludes also photo services and mobile application developers sponsoring the events with offers.

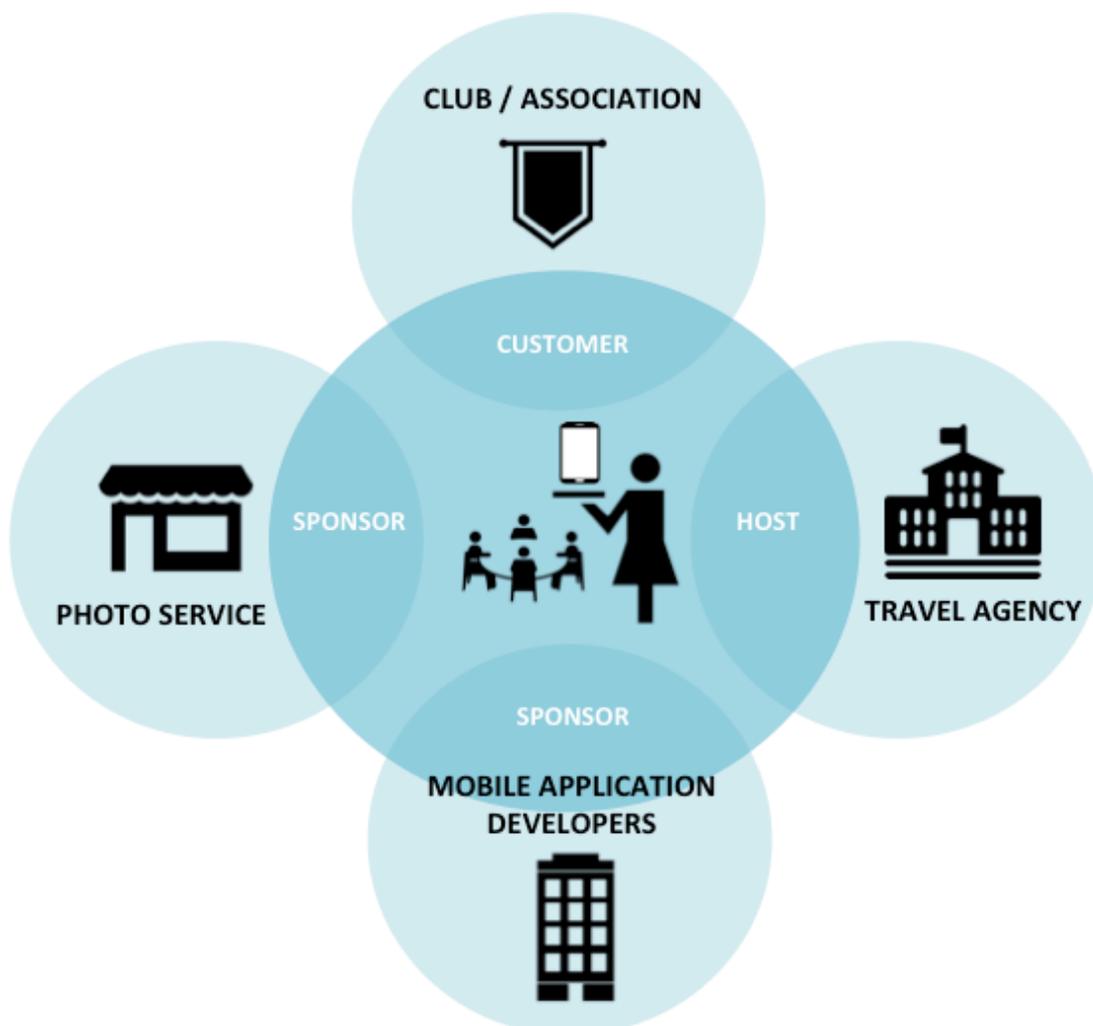


Figure 21: Model of the Digipaja service concept

Napkin pitch proposed by Liedtka & Ogilvie (2011, 208) was chosen as a framework to quickly synthesize the key information of the concept fast to others like drawing on a napkin at dinner table. Napkin pitch in Table 3 summarizes the key customers / users and what unmet needs the service is going to help them with. It also includes other entities that are competitors or partners. The core of the service concept can be described as a social event that encourages learning the use of mobile devices with like-minded others. In this thesis, travel agency is used as an example of a host, but also individuals can host these events. With the visual and inspiring learning materials and workshop guides everyone with basic skills in using mobile device will be able to host the event.

<CONCEPT NAME> DIGIPAJA (HOST TRAVEL AGENCY)	
Unmet needs and customers	Approach
<p>Social and active person who feels she/he is dropping out of the digital world, but does not know where to start.</p> <p>Associations and clubs (e.g. Retirement associations) needing interesting events for members.</p> <p>Friends and family of a person who needs encouragement into the digital world.</p>	<p>Everyone can host Digital Workshops in a specific topic at their home or other location.</p> <p>Resources: inspiring learning material online/offline, workshop guides, ideas for ways of learning. Key idea is to use the skills and capabilities of the hosts, but it is also possible to order a professional trainer host who works as a facilitator.</p> <p>In the future the approach might offer an online community for members.</p>
Benefit	Other Service Providers
<p>Feeling accomplishment by learning how to use mobile devices for tasks that are personally relevant and sharing the learning experience with others. Feeling connected to the world - up-to-date, challenging your mind.</p> <p>Capturing travel experiences and learning how to express yourself / share experiences. Being relevant by helping favourite tourism service providers & destinations in marketing</p> <p>Friends & family: gift for parents, grandparents to make them more independent with technology.</p> <p>Community: spreading the awareness and interest toward mobile devices and skills to others. Fostering active ageing and empowering people to use digital services.</p>	<p>Other entities providing similar service: Private companies offering IT help, mobile operators, consumer electronic stores, non-profit associations, municipalities, libraries, educational organizations (not in course format).</p> <p>What other partners are essential to the concept's success? Non-profit or profit companies hosting the Digital Workshops - depending on the context.</p> <p>In travelling travel agency, tour guides, destinations, photo printing services, mobile applications. Benefit: supporting customer in using their digital services, word-of-mouth, new services.</p> <p>Mobile application developers who want to understand the user experience and needs of older users of technology.</p>

Table 3: Napkin pitch for the service concept

The concept of Digipaja, can be stretched to many learning topics tailored to the needs of the participants. The ideas presented as service poster in *Virhe. Viitteen lähdettä ei löytynyt*. are examples of learning topics derived from the generative workshop organized with people in third age. These learning topics are broader than capturing travel experiences, because the insights revealed that there is big interest toward the broader possibilities. Another learning ideas were for example how to organize the digital life, Facebook, games or even track activity and health. The service poster also aims to get people interested in hosting an own Digipaja. In these events people who don't yet have an own device can try out them. Care for my mobile was added a special event to go through the device for potential trouble-shooting or updates. Repetition in learning things is important for older adults so recap events were added to the service poster. Fostering the principle of participation customers would be encouraged to add their own ideas about the topics of Digipaja. Insights from past studies or from this design process indicate that the family, especially children, of the older person are

often the ones who buy devices or encourage to use one. Therefore, a gift card was added as a possibility to give Digipaja events as a gift.



Figure 22: Digipaja service concept poster

4.5.1 What: Value Proposition Canvas

To dig deeper to the essence of the service concept a value proposition canvas *value proposition canvas* developed by Osterwalder, Pigneur, Bernarda, and Smith (2014) was chosen as a tool. A value proposition canvas (see Figure 23) consists of a two perspectives. On the right side, the “gains,” “pains,” and “customer jobs” are presented. On the left side, the proposed package of “products and services” that create gains - “gain creators” - and relieve pains - “pain relievers” - is presented. For the research presented here, the strategic intent of this particular service concept is to empower people in their third age to take a more active role in the digital economy, fostering their active ageing through the learning and use of innovative technologies.

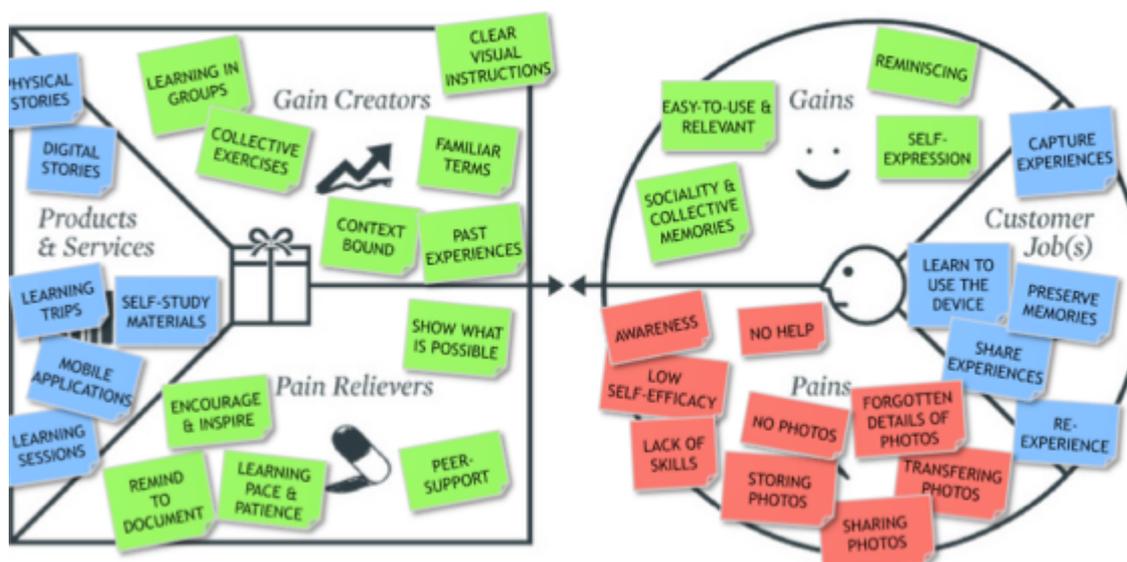


Figure 23: Value proposition canvas for Digipaja

Key insights about customer profiles are collected onto the right side of the canvas. Customer jobs represent the jobs-to-be done of a certain customer profile and list what the customer wants to achieve in the end. Learning to use the mobile device is the over-arching goal. Other goals related to the trip itself include capturing and sharing experiences, as well as preserving memories for future. However, there are also a variety of pains encountered with these particular jobs. The main barriers when using mobile devices are lack of awareness of what is possible and lack of confidence in learning how to use one. Older adults may not have support for learning how to store photos, share photos, or even take photos. On the other hand, identified gains build on the social motivations to learn and document travel experiences. Stating functional benefits, as well more emotional ones such as self-expression, are important to understanding the positive aspects of the customer's experience.

On the left side of figure, the products and services consist of both tangible and intangible components, as well as physical and digital elements. Again, this half of the value proposition canvas is focused on ways to maximize the customer's gains while minimizing potential pains. For example, learning sessions can be used to introduce the use of mobile devices to capture experiences. Learning with others in small groups is a strategy for fostering peer-support. Self-study materials support the learning process between sessions. During the trip, the experience itself will inspire and encourage documenting moments and mobile applications provide tools to capture, store, and share travel experiences. They also include other applications related to the context of travelling, such as translation guides and maps. In addition to the social learning experience, the outcome of the Digipaja service concept is either a physical printed story or a digital story made possible through the use of mobile devices. A value

proposition canvas is used to communicate the Digipaja service concept to other stakeholders as part of the network offerings.

4.5.2 With whom: Prescriptive Value Web

The developed service concept of Digipaja consists of many different actors, which makes explaining it a complex task. Many different entities play the role of actors throughout a service process. These actors might be customers, organizations, and even service providers. The designed service concept of Digipaja can be considered innovative because it connects these actors and resources in a new way that transforms the traditional roles of the actors. Additionally, Digipaja connects four fields that have been largely detached: 1) the travel industry, 2) mobile applications, 3) ICT training, and 4) photo services. In this thesis case “host” is the travel agency who orchestrates the service concept. Kumar (2013, 261) recommends using a prescriptive value web visualization to transform abstract and complex service concepts into more concrete and understandable ideas. Value webs can also generate new ideas for the service concept. A prescriptive value web is built on the systems diagram presented earlier in **Virhe. Viitteen lähde ei löytynyt..** A prescriptive value web adds descriptions to the value flows that might be created when the designed service concept is implemented. Polaine, Løvlie, and Reason (2013) refer to a similar tool as a “service ecology map” which represents the complex system that the service is part of. According to Polaine et al. (2013, 12), a service ecology map gives “a bird’s-eye view of the ecosystem a service exists within.”

Figure 24 describes the ecosystem within which the Digipaja service concept is embedded. The diagram makes explicit the value that is proposed between the different actors that are part of the service concept. The key relationships generating value are presented in black arrows. The more subtle value propositions happening in the background are represented by grey arrows. The nodes of the value web represent central actors, while small icons indicate the nature of the value that flows between the actors. The concepts affiliated with the icons are provided in the figure’s legend.

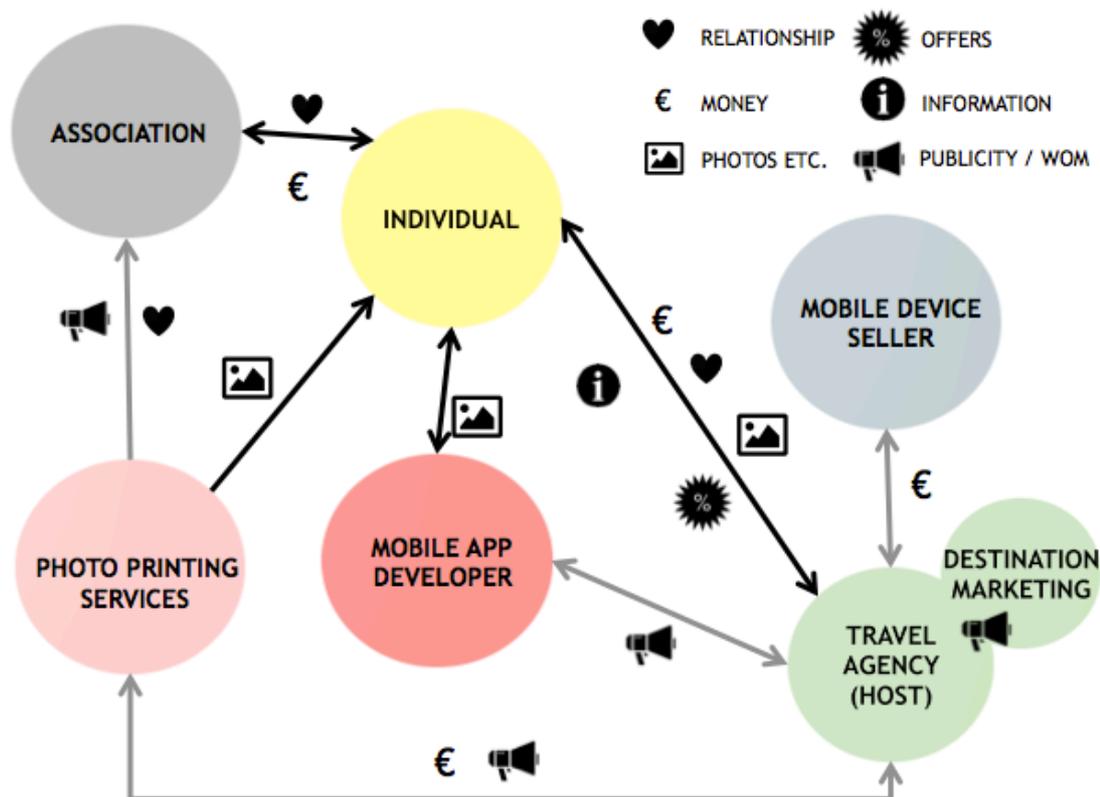


Figure 24: Prescriptive value web

The travel agency is the host of the service concept.

Travel agency as a host of the service concept offers up-to-date activities for its customers in an association. For associations the service concept might bring more members. While taking part in the activities of the Digipaja service concept, an individual gets information and inspiration to use mobile devices when traveling. The relationship also entails emotional and social elements, thereby becoming more important for the individuals. When the individual shares his travel stories publicly, he may get offers from the travel agency. Photo services consists of wide range of companies offering services for turning digital photos to either digital or physical products. In the beginning of the design process the following potential partners offering services to turn photos into digital or physical products were identified. Examples of major companies in photo services are Shutterfly, Ifolor and Photobucket. Examples of solely digital products are photo slideshows (Flipagram), digital storytelling applications (Shadow Puppet) and travel diaries and blogs (Journi).

Through the created digital or analogous stories, the travel agency, destination, and association each benefit in terms of user-generated material for publicity and word-of-mouth (WOM) reputation boosts. The logo and branding information of these actors is embedded into the

created stories. Therefore, they are more visible in the lives of the potential customers who may be planning trips of their own. At the same time, already existing customers become more aware of mobile apps and photo printing services.

Mobile application developers are also important partners, who get new users and word-of-mouth. Mobile application developers can also gain valuable feedback and recommendations about the app from a (new) user group. This same older user group might as well be the most profitable one willing to pay for quality and ad-free apps. In case English skills are low applications can be developed. This way older adults can even become co-developers of these applications. Mobile service sellers can also be included in the background activities of the value web. The interviews conducted earlier suggest that people in their third age are very interested in buying a mobile device, especially a tablet, but they often do not get the support they need when going through the purchase process. The host of Digipaja events could even offer a “Tupperware” style home parties where devices are presented and tested.

In summary, the Digipaja service concept value web discussed here is prescriptive in nature and created for the sole purpose of communicating the complex relationship inside the network. In this stage of the design process, value webs are used to evaluate the potential of the value propositions. In later stages, all the relationships in the value web should be more thoroughly examined. However, such testing is outside the scope of this thesis.

4.5.3 How: Service Experience Blueprint

After mapping the birds-eye view of the service context, the next step entails the description how the Digipaja service concept actually works in the travelling context. The service blueprint is a method used to construct a synthesis and visualization of how the service concept works from the point of view of both the customers and the service providers. Bitner, Ostrom, and Morgan (2008) emphasize the importance of making processes visible in the already fuzzy front end of service development. Polaine et al. (2013) suggest that the service blueprint consists of the customer journey, touch points with the service, and the service provider processes happening outside the forefront of the customer perspective. The developed service experience blueprint is presented in Figure 25. The service experience blueprint presented here has two modifications that make it distinct from a traditional service blueprint.

The first modification is the threefold presentation of experiences. The experience map is divided into three horizontal spaces that represent the customer’s world (green) and service provider’s world (blue). Between these spaces is an additional space where customers and service producers are in interaction. In traditional service blueprints, typically only the ac-

tions visible to the service provider are included. To implement the views of customer-dominant logic, a customer backstage - the "Peoples' world" - was added on top of the two traditional spaces. This adaptation allows for the inclusion of customer priorities outside the service interaction when planning the service concept. Giving visibility to the customer experience from their perspective can expose new opportunities for the service provider.

The second modification relates to the flow of the blueprint. The main stages of the service blueprint are divided according to the initial customer journey: before, during and after a trip. Service blueprints are typically limited to the before, during, and after contexts involved in utilizing the actual service. However, in this case, the experience spans across the time and space depicted by steps in the trip. This contextualization allows for focus on the already existing practices and structures that could support the realization of the service concept. Following the perspective of customer-dominant logic, the objective was to embed the elements of the service into the lives of people in their third age, not the other way around. The past experiences and life history were taken into account when designing the customer journey, as well as trips the customer might make in the future. The purpose of the blueprint is to provide an overview; therefore these elements were not included in the map. Working through the experience blueprint using an example can assist in communicating the elements and their relationships within the visualization.

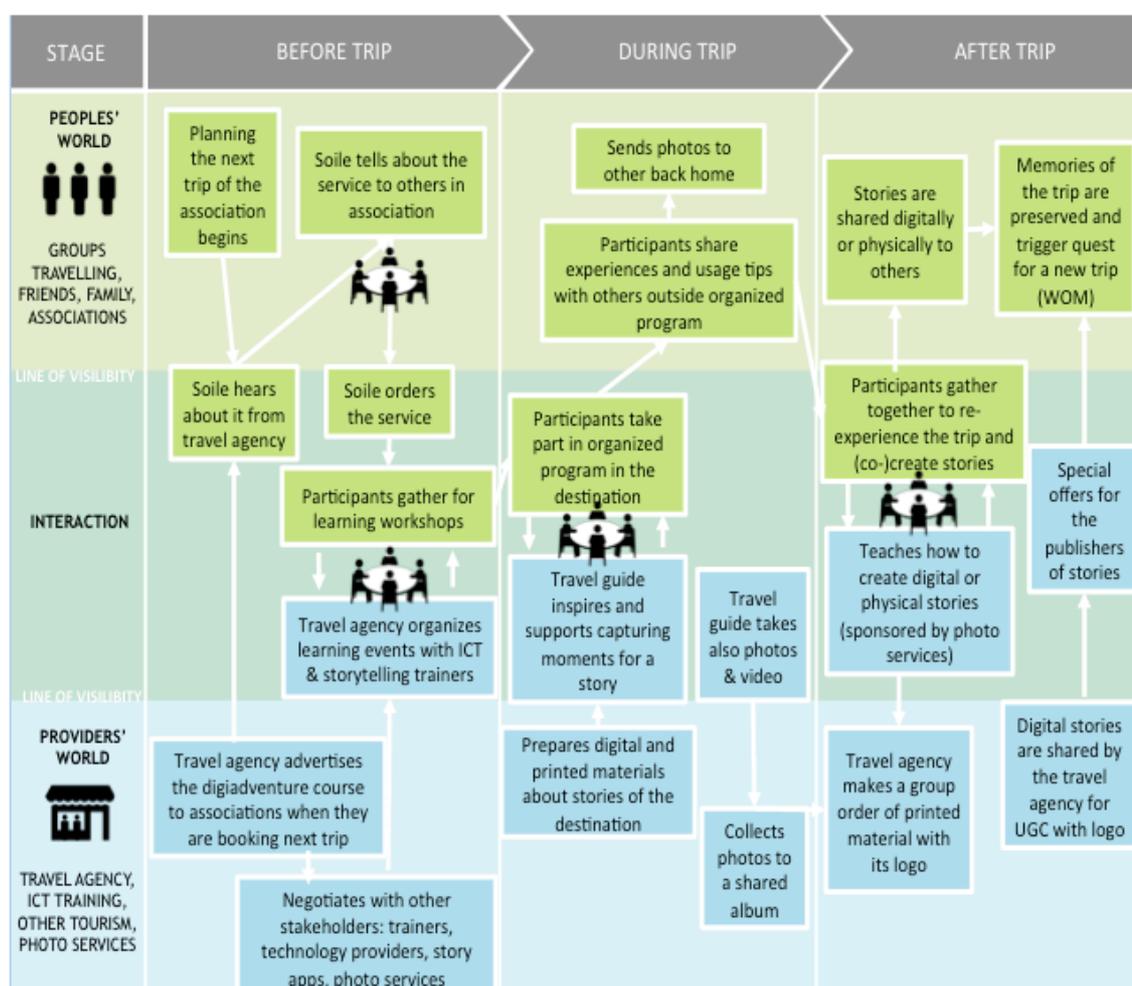


Figure 25: Service experience blueprint

In this example, the *first phase* consists of the pre-trip activities related to preparing for the trip. Soile will represent a customer persona who has an affiliation with an association. The members of the association decide to make a trip together, which leads Soile to search for information about group trips. Therefore, the first touch point with the service is through a travel agency recommendation. The travel agency offers Soile a package deal for her trip consisting not only of the trip, but also including learning sessions instructing customers on the use of mobile devices for capturing experiences during the trip. Soile gets excited about the offer and presents it to other members of the association. Easy-to-understand and inspiring flyers catch the attention of the members. Soile orders the whole package and even a tablet for her friend who does not yet own one. Before the trip, the group attends 1-2 workshops in order to learn to use the device, specifically to understand the possibilities for capturing the trip with its functions and different applications. Learning sessions are seen as inspirational and are then context-bound to discussions of the benefits a mobile device can bring to travelling. Participants learn how to use the mobile device for travelling related tasks (e.g. maps, searching information, dictionary). Meanwhile, learning methods should

emphasize the importance of peer-to-peer support in smaller groups. The main objective of these sessions is to build customer self-efficacy regarding mobile devices so that the learners are empowered to try out them. The customers should envision themselves metaphorically packing their digital suitcases - their mobile devices - with the applications they need during the trip. Ideally, tricks and tips for photography and storytelling should conclude the pre-trip sessions. The value proposition in this phase consists of learning, peer-support, and generally feeling capable of using the device.

During the trip participants take part in organized trips at the destination. The travel guide leading these excursions supports the value proposition to introduce and enable digital storytelling. Travel guides provide inspiration for capturing moments during the trip in photos, video and audio, and even collectively. The travel guide may also take photos to share with the participants. At dinner, the group can share their experiences and show the photos from the destination. Trip personnel can assist with trouble-shooting and help with any problems encountered while using the devices. The participants will return home with mobile devices - and likely cloud services - full of elements for a good story. The value proposed in this stage consists of getting inspiration, as well as capturing and sharing experiences.

After the trip, the travel agency invites the participants to a storytelling evening where they create and share stories digitally through the use of slideshows, photo albums, collages, maps, or blogs, or in analogue formats that might include photo books, printed photos, or cards. The advantages provided by social situations when learning can be optimized by this get-together. Participants may be introduced to a storytelling app from a partner company. The travel agency and other actors in the network will get their logo attached to the created stories. If permission is given, the digital stories are also published in the stakeholders' marketing channels. Information and positive experiences begin to spread via word-of-mouth and the relationship between the actors deepens. In the end, the value that is proposed consists of learning how to preserve memories in audio-visual or printed stories, expressing one's own experiences through the stories, and sharing those stories with others to enhance collective reminiscing.

Blueprinting the service is an important first step in forming a holistic view about the processes involved in the Digipaja service concept as older adults utilize mobile technology to get the most out of a travel experience. The service experience blueprint allows for strategic planning by creating a visual representation of the connections and complex relationships that would need to be orchestrated by the host of the service concept. However, the blueprint is only one snapshot of the service experience. The developed blueprint will be redefined and refined through an iterative pilot testing process of the Digipaja service concept.

4.5.4 Reflecting the concept

After the main aspects of the service concept are described it is important to reflect the designed service concept to the frameworks provided in the literature review and the design principles that were set in the beginning of the process.

The presented service concept can be considered innovative because it is based on a change in the role of the older customer, not the output. Again, for the purpose of this thesis, the objective of this particular change is to encourage people in their third age to take a more active role in digital economy. The customers' own resources such as knowledge and skills are the starting point of the service. In addition, Digipaja connects actors that have been largely unattached for shared value creation. In the discussion that follows, the Digipaja service concept will be elaborated upon by answering three questions: what, with whom, and how. Different tools from service design are considered as means for synthesizing and communicating the concept for further testing and piloting.

In the theoretical part of the thesis a framework for the context of the design challenge was built (see Figure 4). After that in the actual design process design principles were formed from the interview insights. The main statements from both are listed in Table 4.

Theoretical framework	Design principles
<ul style="list-style-type: none"> • Third age • Self-efficacy • Perceptions of ease of use, relevance, trust • Need for control and privacy • Understanding of concepts • Social heritage / identity • Mirroring offline / online • Social bonding and social bridging • Support from family and friends / "warm experts" 	<ul style="list-style-type: none"> • Inspire learning by reflecting on past • Complement online with offline • Foster collective experiences • Facilitate networks to support capturing experiences • Place accessibility as a self-evident basis to build on

Table 4: Reflecting the concept

Reflecting on these statements a visual value board was created to communicate the values of the service concept in relation to the factors that help to adopt new technology. Figure 26 presents the visual board that contains higher-level values from the service concept.



Figure 26: Value board for the service concept

Shared excitement emphasizes the importance of social elements in learning and in life general. It also points out that excitement drives motivation to learn more. Connecting generations helps to bring younger and older cohorts together in a form of digital interaction or a printed photo-book. In addition to building connections between generations it is inspiring to reflect on the past and especially the communities. Relating the new devices to familiar concepts from the past and showing the evolution to the current world is a good strategy to make new technologies understandable for the participants. This enhances the trust on the digital world and in own self as user of technology. Collective memories remind the emotional and social value of turning shared experiences into collective tangible or digital memories. Tools and in action words indicate to the importance of making digital technologies personally relevant in real situations. Digipaja service concept applied in travelling context creates inspiring real life situations where to learn to use the device and instantly see its benefits in action. These all values are realized through the feeling of being able to learn and use the device. Lifelong learning as a final value widens the scope to more sociocultural concepts such as active ageing and empowerment.

4.6 What wows and what works? - plan for piloting

The two design questions (what is and what if) have helped to create the first descriptions of the service concept. Next step in the design process would be to ask, first of all, what wows

the users and secondly, what really works. Although the scope of this thesis ends before these questions, a plan for piloting the service concept is presented. Liedtka and Ogilvie (2011, 31) emphasize that the objective for the “what wows?” stage is to find the sweet spot of the service concept and test whether the previously formed assumptions and hypotheses really come true. The “what works” stage, on the other hand, refers to learning about the service concept in real life pilots with the customers (Liedtka and Ogilvie 2011, 33). These two phases are going to be implemented parallel to enable fast trial-and error learning cycles.

Before presenting the piloting plan, the strengths and weaknesses of the proposed service concept are discussed. The biggest strength of the concept is a holistic perspective to supporting and encouraging the use of mobile devices in a novel context. Practice-based learning context inspires learning in real situations where also repetition of the learning is supported. Travelling provides a positive context that builds on emotional and social elements. According to the workshop held during the “what if” stage of the design process, learning how to capture and share travel experiences has potential in creating value in the lives of people in third age. The challenge of the service concept is the facilitation of these learning events. The networked perspective combines four fields: 1) the travel industry, 2) mobile applications, 3) ICT training, and 4) photo printing services. Being part of the value creation network requires commitment and interest toward the topic. To come up with a business model for Digipaja service concept might need negotiation between the partners, so that the earning logic satisfies all actors. Next step would be to draft a business model canvas (see Osterwalder and Pigneur 2010).

The service concept will be piloted during the AHEAD project training concept piloting work package. Piloting will not follow the service blueprint fully. During the piloting activities different elements of the service concept are prototyped and tested in real mobile device course called “Digipaja” (i.e. Digital Workshop). Figure 27 present an inspirational canvas for the piloting.

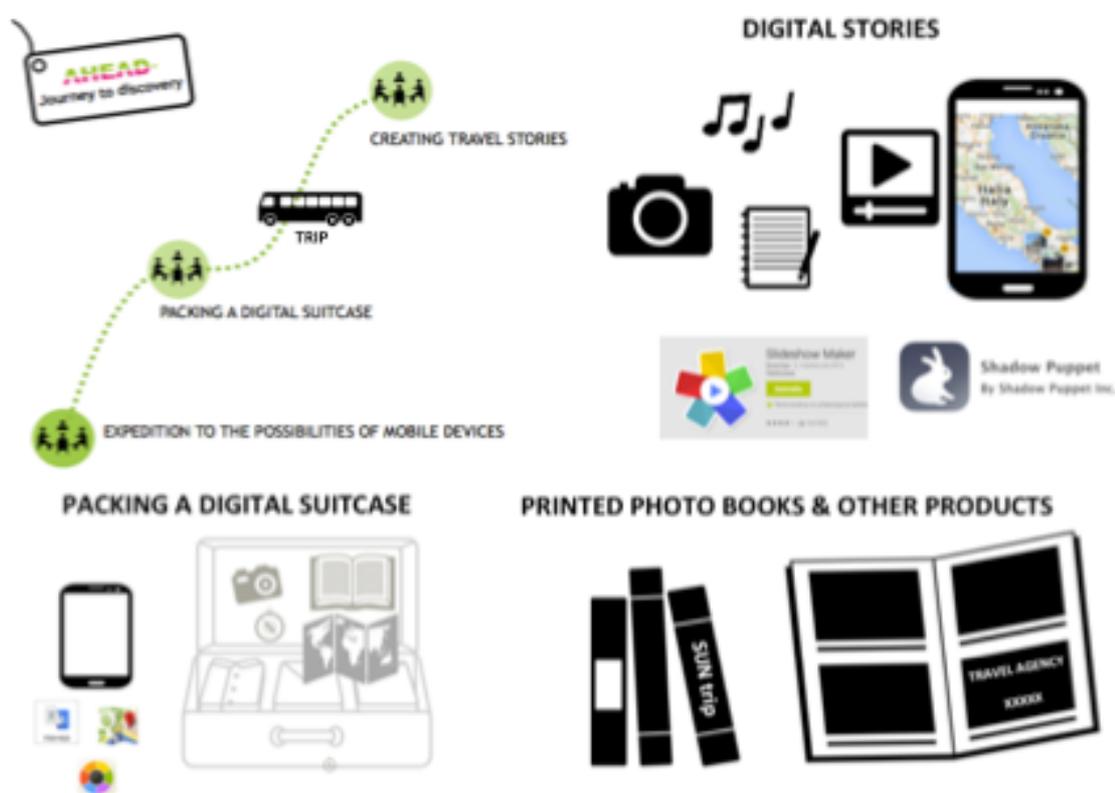


Figure 27: Piloting the Digipaja service concept

The AHEAD piloting activities will take place during February-May 2015. Three piloting courses are set up, each consisting of 10-15 participants. The piloting will be organized in three forms: 1) face-to-face teaching, 2) independent homework, 3) learning adventure trips. The course will contain learning objectives related to basic opportunities of the tablet (“expedition to the possibilities of mobile devices”), downloading mobile applications (“packing a digital suitcase”) and finally creating digital travel stories with already existing mobile applications. In the piloting course the stories are limited to digital ones, because of the AHEAD project purpose. The relationship between digital and printed stories is going to be one key assumption that needs verification.

In addition to the training piloting, the partners of the project organize workshops with key stakeholders such as travel organizations, adult educators and associations to get their feedback. A learning launch tool proposed by Liedtka and Ogilvie (2011, 210) is implemented during the piloting. Instead of presenting the assumption in a form of hypothesis, they are presented as questions. Examples of the main questions for the piloting are listed in Table 5.

Learning plan for piloting Digipaja (February-May)	
What is the entry level of using mobile devices?	Monitor the entry level: participants fill “learning cards” in the beginning of the piloting course.
What is important for them in their mobile devices?	Include expeditions to the app store and reflecting usage scenarios with others.
What are the key challenges / motivations of learning?	Observing the learning sessions, gathering feedback throughout the piloting.
How do they experience the current sharing options of photos/video?	Presenting and trying out the options: e.g. email, Facebook, google, dropbox.
What kind of stories they want to create?	Testing currently available apps: Slideshow Maker (Android) and Shadow Puppet (iOS)
How does teaching fit the travelling activities?	Organizing short trips to try out capturing experiences and creating stories during an organized trip.
What is the share of interested toward digital vs. printed stories?	Observing reactions toward digital stories, stimulating conversation.
Would they share their stories publicly?	Feedback about sharing own stories in the public AHEAD website.
What other things they want to learn to do with device	Open conversation with participants throughout piloting, feedback forms, wishes for topics in the beginning.
Learning plan for stakeholders	
Who are the key stakeholders part of the value network?	Value proposition workshop during AHEAD project consortium meeting (March 2015)
How travel agencies / photo printing services / ICT trainers / associations / mobile application developers perceive the service concept and its elements? Motivations to take part?	Stakeholder roundtable workshops (Spring 2015) . Business Model Canvas

Table 5: Learning plan for piloting

5 Conclusions

This chapter will summarize the findings of this thesis from the perspective of the poses research questions. The aim of this thesis was to explore service innovation opportunities from the third life stage in the context of capturing travel experiences with mobile devices. Objective was to design service concept from the identified opportunities. Three tenets determined the approach used to reach this goal: seeing old age in positive light as full of opportunities rather than challenges that need to be solved, focusing on experiences rather than technical innovations, and involving older adults in the service design process.

To reach the aim of this thesis the following research questions were posed:

- *How old age could be approached when designing services that have digital elements?*
- *What needs to be taken into account when designing services for and with older adults?*
- *What kind of service concept could be designed to support learning the mobile devices?*

This thesis drew from three distinct research fields, service marketing, design thinking and social gerontology. Challenging part of this thesis was to combine different fields and their concepts. Building the conceptual framework took time away from the practical work but in the end turned out to be important. Customer-dominant logic from the field of service marketing was used to describe and prescribe, whereas service design was used to interpret and visualize. The theoretical perspectives adopted in this thesis supported the practical goal of identifying opportunities from third life-stage to bridge the digital divide between younger and older generations. How this was achieved is discussed next in the light of the research questions.

The first research question set out to choose the approach and concrete term to refer to the people in this study. Question was, how old age could be approached when designing services. Many different terms were used in literature and practice to refer to the people such as older adult, senior, silver customer, elderly, retired, baby boomer. Until the author discovered the concept of third age, the thesis was a mix of different terms that did not feel quite right for this thesis. **Third age** was adopted in this thesis, because it helped to shift the focus from the chronological and physiological age to the social construction of older age as a life-phase in society. Third age offered a novel conceptualization toward old age by focusing on the aspects of being active and living a fulfilling social life after retirement. Its positive approach helped to redefine perceptions toward life transitions and social roles. Third age supported the tenet in this thesis to focus on the opportunities rather than challenges related to old age. Capturing and sharing travel experiences as a study context, enabled to focus on the positive sides of old age such as more free time to travel and interest toward becoming more up to date with the possibilities of mobile devices and mobile applications.

From this discussion a natural question arises: should age be an issue at all when designing services that have digital elements?

From the experience of this thesis process the answer is not clear. In the underlying level of meaning making processes age is an important issue because it can affect for whom and with whom services are designed in first place. It also influences the self-concepts of people. Therefore, reflecting on the roles of the people in their third age was important. The attention of the process was not solely on the outcome, the service concept, but also on the social

processes and activities to get there, such as the meaning making processes depicted through words and images. From a more practical perspective ensuring that the service meets its requirements in accessibility and ease-of-use is important. These issues, however, should be seen more as a self-evident basis for everything than the objective of the design process. After all, the underlying pains and gains in the lives of different age cohorts might not be so different. What differentiates older generations from younger ones, is the need for someone to introduce the possibilities of the digital world and encourage learning. It all comes down to the mind-set of thinking some people feel they are native in the digital world, and some feel they are immigrants. To conclude, the author turns to answer that age should be an issue within the service design process so that actors and entities designing and offering services are aware of their preconceptions of old age. The perspective toward old age needs to be changed, which can happen only by bringing people together in a situation to design for the future. When this is not possible methods replicating this such as personas and role play should be used.

Third age was used to catch attention and raise questions of what third age really mean. The concept was not familiar to many, but after a short introduction people understood its meaning. In everyday conversations, however, it was hard to use. When telling about the AHEAD project to others, almost automatically the words senior project popped out. When asked the purpose of the project was shortened as a goal of inspiring and teaching seniors about mobile devices. Associations of this kind of elevator speech were often related to health challenges or elderly care services. There seems to be much to do before the perceptions change in a more fundamental level of the society. When communicating with people in third age, age was referred barely at all. However, the participants themselves often used older age or not being “those young generations”, as explanations why they would not learn to use mobile devices. It seems that the most crucial task would be to concentrate on changing the perceptions and beliefs older people have toward themselves. Maybe in the future, perceptions related to age lose their meaning in digital economy. Persona method from service design is from the experience of this thesis probably the most effective way to ensure that also the positive sides of old age are acknowledged. It also brings different cohorts closer to each other to form shared understanding in the service design process.

Second research question focused on the process by asking, *what should be taken into account when designing services for and with people in third age*. In the basis this question aimed to ensure that the approach to old age presented earlier would be implemented in the operational level of the service design process. This broad question was first explored in the literature review section by presenting recent studies about ICT adoption and use as well as key strategies to learn the use. Literature supported the importance of designing services that take holistic perspective to the use of mobile devices in different contexts. Approach

from universal design was kept in the background to remind about the important aspects related to designing accessible and easy to use services whether digital or not. In this thesis this was addressed but it is hard to picture how it is and feels to be older physically and mentally. More understanding of this would be needed, especially when continuing to the piloting phase it would be important to be able to step into their shoes. In the generative workshop with participants it should have been taken better account for example the font size of the materials and pace of the program. Knowledge about how the participants experience the use of already existing mobile applications will remain to be answered in the piloting phase of the service concept. Service designers should acknowledge also the complex factors that affect digital divide than building an easy to use interface. Understanding these complex factors needs studying the micro level barriers in self-concept of the person as well as in macro level social identity.

Concrete tools and methods for this research question were searched from the intersection of service design, generative design research and participatory design fields. When choosing techniques, tools and methods to either gather or analyse the data the question was proposed: will this tool, method, technique or visualization place (older) people in an active role? The importance of the people-centric perspective, a two-sided perspective to a traditional service design process was implemented, which made the existence of the customer's world more explicit because it was explicit in the design process.

Service design provided usable techniques and methods to gather, analyze, synthesize and communicate the insights gained throughout the process. First, however, it was hard to find methods to a situation where there is no service yet or not even a service provider. The main source of inspiration and information was the book, *101 Design Methods*, written by Kumar (2013). Following the mind-set of Liedtka and Ogilvie (2011) visualization and storytelling were the meta tools to understand the complex and implicit social world related to travel experiences and digital technologies. Thematic interviews were the first step to path of understanding the people. Although interviews could have had more participatory and even generative exercises, they succeeded well in providing an overview. From the used service design frameworks, personas were most important to keep a tight connection to the real people. They helped to guard not to fall to stereotypes of older people. Personas should be however always built on real data. In the end, any visualization or presentation will not compensate for real human interaction and the learning that can be gained from this.

The author was many times going to stop the design process with just the interview data, but the paradigms behind this thesis encouraged to gain more understanding of the wants and needs of the people in their third age. The generative design research framework proposed by Sanders and Stappers (2013) inspired to organize and facilitate a workshop with people in

their third age. Beginning from current experiences and delving deeper to memories from past experiences proved to be a valuable starting point for a workshop. The relationship of this approach to C-D logic could be explored more in the future. In the future the opportunities of involving people in third age deeper to the design process should be explored more. Next objective for a thesis or study should be “designing services by people in third age”. Practical implications for designing for and with people are synthesized into the following two statements:

“Travel in time”

In the beginning participants not familiar with the possibilities of digital technology should be presented the evolution from past to current. Evoking memories and feelings from past familiar experiences are important. The vocabulary and terms used should always be easy to understand through metaphors. Without knowing what is possible or knowing how to refer to things, people are not able to express themselves. Inspiring strategy is to build on nostalgic and familiar connections to past and then moving to surprising and wondering about the current as well as the future.

“Listen, reflect and encourage”

Investing time and effort to strengthen self-efficacy toward digital world and stating own wants and needs is important. Encouraging sharing and reflecting own experiences about digital technology with others helps to not only generate ideas but also strengthens the self-efficacy toward technology.

Last research question was, *what kind of service concept could support capturing experiences*. *Service concept* was defined as a mental image of the service and value proposition made concrete with visualization and prototyping tools (Goldstein et al. 2002, 121). An initial prototype of the service concept was designed to describe *what* the new value proposition offered to the customers consists of and *how* the company is planning to support this value creation. Innovation was another concept that needed redefinition. *Service innovation* was defined as an innovative way to combine resources and structures that support actors in their value creation. This definition shifted the focus from the technology to larger systems where technology is only one actor. As the aim of this thesis was on identifying opportunities from the lives of people in third age, it was important to focus on innovating the customer role, not the outputs (Michel et al. 2008). The approach in this thesis questioned the role of older adults as passive users or non-users of technology. A more active and participatory approach was applied. The observations supported that there is a need to focus more on this ignored customer group for example among mobile operators selling mobile devices. In addition to innovating the customer role, the service concept was seen as a networked constellation of value creation activities. Focus was on developing processes that co-create value with all par-

participating actors, both customers and partners. Value constellation describes a more complex and multitudinous network of actors.

Digipaja (Digital Workshop) service concept was proposed to take a holistic perspective to introducing the possibilities of mobile devices to people in their third age, who feel they need encouragement and support to use these devices. Digipaja service concept can be applied to other learning contexts as well. To communicate and further pilot the concept travelling was chosen as a context. A travel agency was presented as a host for the learning events. Travel agency facilitates learning sessions before, during and after the trip. Through these learning sessions customers are inspired and taught how to exploit mobile devices in capturing own experience. At the same time also the overall skills in using mobile devices are enhanced. A trip offers an inspiring context to learn new technology. Digipaja service concept connects actors and resources from different contexts to facilitate the adoption and learning of technology to support the customer in capturing and sharing travel experiences with the help of mobile devices. In the travelling context Digipaja has potential in connecting four fields that have been largely detached: 1) travel industry, 2) mobile applications, 3) information communications technology (ICT) training, and 4) photo services. From this interaction travel experiences turn into physical or digital stories that can be shared with others or with the travel agency. From the perspective of a travel agency or other tourism service provider the value creation context spans also outside the trip to the mental or shared memories from this trip. The service concept is proposed to build deeper relationships with older customers and thereby motivating also word of mouth of the travel experience. The role of a travel agency as a host for Digipaja service concept should be explored more in the future. Thus, the initial service concept will be tested and piloted later following the learning plan suggested in the end of the service design process. In the future also other learning contexts should be piloted. It is important to involve the potential participants to designing other kind of learning contexts and also keeping open to suggestions when implementing the concept.

The findings of the empirical study can be summarized through the design principles developed in this thesis. These design principles are action and future oriented statements extracted from real observations that can be used as guidelines for developing services that have digital elements also in other context.

- **Inspire learning by reflecting on past**
- **Complement online with offline**
- **Foster collective experiences**
- **Facilitate networks to support capturing experiences**
- **Place accessibility as a self-evident basis to build on**

The application and modification of these design principles in other similar kind of context could be explored more in the future.

The empirical study suggests two future implications for service development in practice. First of all, there is a burning need for an innovative approach in facilitating the adoption of ICT, especially mobile devices such as tablets in the third age. Lack of awareness and self-efficacy toward mobile devices were the main barriers of taking an active role in the digital economy. Thus, no technological development will alone bridge the digital divide between generations. Until the digitally native generations reach third age, it is important to focus on developing services that inspire and teach the benefit and concrete use of mobile devices and the applications inside of them. Need and interest toward learning to use mobile devices exist, when the beliefs of own ability to learn are addressed. Considering the social objectives of the project, empowering older adults in the world of ICT, fostering active ageing and relationships between different generations, the potential service could offer for example support in the processes of reminiscing travel experiences, forming new relationships or constructing a social identity as an active and up-to-date senior citizen. In this thesis travel industry was the main context for identifying opportunities, but also for example photo service providers and mobile application developers could use included in future research.

Second implication relates to the opportunities for identifying new service innovations from third life stage. This thesis supports the statement from Essen and Östlund (2013) that older adults could be a valuable starting point for creating new service innovations. This thesis aimed to provide more understanding about the possibilities of proposing older adults a more active and influential role as participants in the digital world. Observing the interactions between older adults and mobile devices and also helping them to express their needs and wants in the digital economy can provoke new ideas for future services and mobile applications. Empirical study supports the view from multiple researchers (e.g. Herstatt & Kohlbacher 2008; Wildevuur et al. 2013) that older adults are not a homogeneous group whose needs for technology are limited to coping with the challenges related to ageing. The needs are much larger, stemming from the joy of active ageing and lifelong learning. In the future these identified opportunities in third age might offer new avenues for facilitating value creation also in the lives of younger generations. As the pace of technological development becomes even more faster, everyone will become “first time users” of new technologies. In the end, the attitude and beliefs will make a difference, not the mobile application alone. New untapped needs could be identified from the third life stage. Digitalization has given opportunities to capture and share own experiences with others in multiple ways. However, awareness of these ways and embedding them to the everyday practices needs more emphasis. These same needs might be present also in the lives of the so-called digital natives. From this study an inspirational question is proposed: Are also your devices and drawers full

of photos that get buried in the digital world? If yes, do you know how you could transform these to collective memories that last? These questions are left to inspire future studies and service design projects.

Practical implications for AHEAD project also were formed, although they were not the focus of the service concept as such. This thesis provided information for the project consortium in form of personas, systems maps and evaluations. Moreover, the piloting the service concept can help the AHEAD project to develop a final service that has potential in the market. Gathering information for iterating the initial service idea further with participants will provide value to the project. Key findings from this will be shared in other contexts.

This thesis set out to drive change in the ways "being old" in digital society is constructed when developing new services that have digital elements. The effects of this thesis are small but small things might eventually turn to bigger ones. As a concluding statement, the author encourages everyone to explore opportunities for service innovation for and with people in their third age.

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Appendix 1: List of the participants in interviews

Nr.	Age	Gender
1	73	female
2	59	female
3	63	female
4	59	male
5	64	female
6	66	male
7	64	female
8	64	female
9	62	female
10	62	male
11	64	female
12	66	female
13	63	female
14	59	female
15	61	female
16	64	female
17	67	female

Appendix 2: Interview guide in Finnish

First tell a little about yourself

- Where do you live, with whom?
- How would you describe your close friends and family? Who belongs to it?
- Communication? How do you stay in contact

What is the role of traveling in your life?

- *[Clarifying questions if necessary:]*
- how often do you travel and where
- why do you travel / what motivates you to travel
- Who do you travel with (organized group tours?)
- From where do you get information about destinations? Do you follow any tourism-related: magazines, websites, programs?

Tell us about your most recent trip / most memorable trip. Clarifying questions, if necessary:

- **IN THE DESTINATION:** where did you travel? What did you do in the destination? What did you see and experience? Taking photos / videos?
- **BEFORE:** where did you hear about the destination? What influenced the decision about the destination?
- **AFTER:** do you look back on the trip (eg, viewing the images.), did you tell anyone about your trip? → to whom? Through what?

Sharing your experience

- Have you shared your travel experiences in general to someone?
- Would you be interested in sharing experiences of your travels or dreams to others? to whom? How about in the digital media / social media / internet communities?
- Would you be interested to read / follow others' travel experiences on the internet?

What kind of travel related future plans do you have?

- How do you see traveling changing in the foreseeable future?
- What kind of travel related wishes do you have (or in general)?

What are the technologies you use in your life? For what purpose?

- *Follow-up question if necessary:* phone? mobile? smartphone? computer? tablet?
- *If you do not use: Are you familiar with? Would you be interested in trying? What have you thought of the use/benefits? If you hesitate, what could encourage you to try out / get to know?*

If you use: specify:

- **Please show**, what kind of computer / smart phone / tablet you have and how do you use it in general? *if it is not possible to show it:* please tell us, what do you usually do with this device?
- **Would you tell us your story**, how did you become a smartphone / tablet user? How were your first experiences? → Were there challenges, what? How were they exceeded? What was easy?

The use of social media?

- Do you use it? For what purpose? (if necessary eg. searching for information? interaction?)
- *If you do not use: have you tried? Would you be interested in trying? If you hesitate, what could encourage you to try out / get to know?*
- In what social media services are you in? What do you do in them? interaction?
- **Would you tell your story** of how did you become a Facebook / other social media user? How were your first experiences? → Were there challenges, what? How were they exceeded? What was easy?

Appendix 3: Personas

Reetta

Reflective experimenter



Female, part-time retired, divorced travels 1-2 times/year

Reetta is an independent, thoughtful and open entrepreneur moving slowly towards retirement. She is a spontaneous traveller interested in experiencing how people in different cultures live their lives. She travels "alone in groups" or with close friends and family.

Reetta takes photos and keeps a diary about her travel experiences. Writing has always been close to her heart. She might share her experiences to friends and family, but her diary is mainly for herself. Before the trip she doesn't want to be affected too much about others experiences, but afterwards she enjoys comparing own experiences to others.

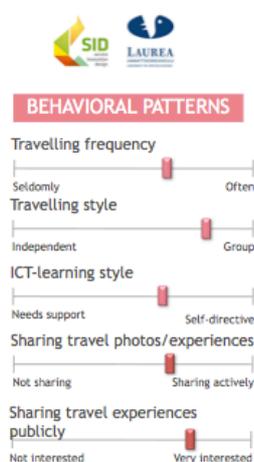
*"I have a notebook that is my travel diary."
"Are my memories safe in digital world?"*

GOALS

- ◆ Get stimulated about different viewpoints to life
- ◆ Have memories of life events
- ◆ Make experiences tangible and storable to reflect and re-experience them later.
- ◆ Organize different memories for easy retrieval.
- ◆ Share own life-experiences to others.

ICT USAGE

- ◆ Interested in technology as a means to experience life and keep in contact with friends.
- ◆ Snaps photos of certain situation either with a phone or a camera, depending on what is closest
- ◆ Transfers photos to computer with a cable or sending them to her own email.
- ◆ Has considered to start writing a blog about her life-transition towards retirement, but setting it up feels

OPPORTUNITIES

- ◆ Helping to compile and back-up photos and other material.
- ◆ Reading about the experiences of others.
- ◆ Sharing own life-experiences in a straightforward way.

Heikki

Personal Experimenter



male, retired, married, travels 3-5 times/year

Heikki is a former business professional living with his wife. His life is active full of hobbies and personal interests. He is educated, curious, opinionated and confident. Retirement has brought him more freedom and escape from hectic work life.

Travelling has always played an important role in Heikki's life. He has travelled to over 50 countries and seen a lot. He travels mainly with his wife or close friends. He tells about his travel experiences only when asked. He is not interested in sharing own experiences to unknown people.

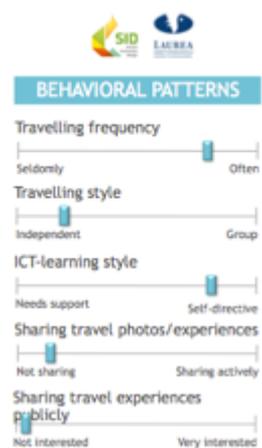
*"The images stored in my mind are the best memories."
"My experiences are personal, it doesn't belong to others where I've been."*

GOALS

- ◆ Live life to the fullest by focusing only on meaningful things and people.
- ◆ Foster real social contacts.
- ◆ Get novel experiences.
- ◆ Choose a good hotel
- ◆ Learn about new cultures through own passions: golf and food.
- ◆ Concentrate on experiencing without distractions
- ◆ Get reliable information about specific travel interests without complications.
- ◆ Preserve own privacy

ICT USAGE

- ◆ No special interest towards technology, satisfied with basic skills gained from work-life.
- ◆ Benefits are functional: information source and taking care of things.
- ◆ Tablet is used while travelling to check emails and destination information. Phone is used mainly as a phone.
- ◆ Photographing during trips is irrelevant, but sometimes regrets special moments haven't been captured.
- ◆ Uninterested towards Facebook and social networking sites.

OPPORTUNITIES

- ◆ Exploring travelogues written by same-minded travellers.
- ◆ Getting tips for coming travels about specific topics e.g. golf trips.
- ◆ Looking back at specific travel situations with the help of pictures shared by fellow travellers.

Appendix 4: Benchmarked context and services

Travel Journals / blogs	
Journi	https://www.journiapp.com
Travel diaries	http://www.traveldiariesapp.com/en/Tour
Travelpod	http://www.travelpod.com
Rantapallo	http://www.rantapallo.fi/oma-matkablogi/
Mobile applications for digital storytelling	
Slideshow Maker	https://play.google.com/store/apps/details?id=com.sc.oompa.slideshow
Flipagram	https://play.google.com/store/apps/details?id=com.cheerfulinc.flipagram
Magisto	http://www.magisto.com
Shadow Puppet	https://itunes.apple.com/us/app/shadow-puppet/id700902833?mt=8
iMovie	https://www.apple.com/mac/imovie/
Photo services	
Photobucket stories	http://photobucket.com/stories
Photobox	http://www.photobox.fi/
Smilebox travel	http://www.smilebox.com/travel-slideshows.html
Kuvat	http://kuvat.fi
Social Networking Services	
Facebook	www.facebook.com
Instagram	http://instagram.com
ICT training Services	
Enter Ry (non-profit)	http://www.enterseniior.fi
Taritel Oy (Profit, offer based)	http://www.itkoulutus.com
Uuspc (profit, offer based)	http://www.uuspc.fi/palvelut.html
Libraries in Metropolitan area (non-profit)	http://www.helmet.fi/fi-FI/Kirjastot_ja_palvelut/Opastukset/opastuskalenteri?s=tablet*
Services / content targeted to older adults	
ET	http://www.etehti.fi
Oma aika	http://www.omaikalehti.fi
Silver travel advisor	http://www.silvertraveladvisor.com
Kontiki tours (former MatkaSeniorit)	http://www.kontiki.fi
Mature travel blog	http://myitchytravelfeet.com/about/

Appendix 5: List of participants in workshop

Nr.	Age	Gender
1	66	female
2	70	female
3	70	male
4	70	female
5	68	female
6	70	male
7	61	female
8	66	female
9	65	female
10	69	male
11	71	female
12	79	female
13	70	female
14	76	female
15	77	female
16	76	female
17	65	female
18	77	male
19	75	female

Appendix 6: Warming up exercise during workshop

LÄMMITELYHARJOITUS:
Ympyröi, miten...
• tallennat hetket matkalla?
• säilytät ja muistelet matkan jälkeen?
Voit kirjoittaa kuvien viereen lisähuomioita tai merkitä kiinnostukseksi esimerkiksi tähdellä.

Kenen kanssa muistelet & jaat kokemuksia?

ETUNIMESI: **PEKKA**

KAMERA
TABLET KÄNNYKKÄ
TIETOKONE
TELEVISIO
SÄHKÖPOSTI
KARTAT
FACEBOOK
KUVA-ALBUMI

PUUTTUUKO JOTAIN? VOIT KIRJOITTA A TAI PIIRTÄÄ SEN TÄHÄN:
VERKKOSIVOSTA WWW

LÄMMITELYHARJOITUS:
Ympyröi, miten...
• tallennat hetket matkalla?
• säilytät ja muistelet matkan jälkeen?
Voit kirjoittaa kuvien viereen lisähuomioita tai merkitä kiinnostukseksi esimerkiksi tähdellä.

Kenen kanssa muistelet & jaat kokemuksiasi?

ETUNIMESI: **LEA**

KAMERA
TABLET KÄNNYKKÄ
TIETOKONE
TELEVISIO
SÄHKÖPOSTI
KARTAT
FACEBOOK
KUVA-ALBUMI

KESKUSTELUT MUIDEN KANSSA
PAPERIKUVAT
MUISTIINPANOT
KUVAKIRJA

PUUTTUUKO JOTAIN? VOIT KIRJOITTA A TAI PIIRTÄÄ SEN TÄHÄN:

TUOLIPÖYKÖT

Appendix 7: Photos from “time travel album” for inspirational workshop

