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HANS ALLMÉR

Abstract Digital devices reshape the servicescape of wellness, helping people, e.g. young elderly, to benefit from digital wellness services (henceforth DWSs) provided in a digital servicescape. This paper builds on five prior studies and explores: (i) what requirements young elderly have, in order to benefit from DWSs, and (ii) what service providers should consider, and pay regard to, when they develop and offer DWSs to young elderly. Hence, this paper argues for DWSs to be subsets of a digital servicescape. This research developed a model for how different parties, e.g. young elderly, their friends and relatives, developers, providers, but also the society per se, could gain from the DWSs. The DWSs create opportunities for a win-win-win situation. Important for the young elderly are motivation, trust, and credibility. Important for developers and providers are to motivate the users, to create trustworthiness, to provide user guidance, and to develop through co-creation.

Keywords: • Personalized marketing • Privacy concerns • Personalization-privacy paradox •

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1 Introduction

Wellness is a conception that combines many aspects on several levels and dimensions. "Wellness is a multidimensional state of being describing the existence of positive health in an individual as exemplified by quality of life and a sense of well-being" (Corbin & Pangrazi, 2001, p. 3). As people grow older, they often want to use new technology even if there could be problems that originate from the fact that young people often design for young people. Still, there are quite a lot of technical devices and applications available for young elderly (60 – 75 years), and seniors (76+), that they would gain wellness from using. Campbell (2015) highlights that even though people age in their own manner, with different health issues to cope with; there are some features about aging applicable to most people. Vision and hearing are reduced, motor skills are declining, and cognition and memory might vary a lot. Further, they have often grown deep relationships over time that they want to keep and maintain, but they are more geographically restricted than younger people generally are. Hence, virtual contacts would be a great opportunity if they would find the technical solutions useful. It is important to keep in mind that elderly people could be used to technology, but could still need some guidance and support. Campbell (2015) describes an older man, who wanted to read further from various links but did not understand how to open them, because he was not used to the interface. He proposes some reminders for those who develop technical solutions for elderly e.g. "avoid small-screen devices", provide sizing opportunities, "reduce the distance between interface elements that are likely to be used in sequence", "enable connection with a smaller, more important group of people", "during longer tasks, give clear feedback on progress and reminders of goals" (ibid.).

Wellness is an ongoing process in which different dimensions interact with each other and shape a holistic picture of individuals. Along the years, many have dealt with wellness e.g.:

- Dunn (1959, p. 447) proposing that "High-level of wellness for the individual is defined as an integrated method of functioning which is oriented toward maximizing the potential of which the individual is capable, within the environment where he is functioning".
- León et al. (2016, p. 1) stating that wellness is about "dynamic balance of physical, emotional, social, spiritual, and intellectual health".
- Smith Maguire (2007) proposing wellness to aim at offering and achieving a better life in balance.
- Hattie, Myers, and Sweeney (2004) adding environmental as a seventh dimension, to the six dimensional model of wellness by Hettler (1976), which originally contained social, intellectual, spiritual, physical, emotional, and occupational aspects.

For young elderly, digital wellness services (henceforth DWSs), i.e. apps and devices, could be an appropriate instrument for achieving wellness adapted to individual needs and requirements. Services exist together, and alongside, with physical products and

constitute the core of the offer to customers "customers consume and use goods, services or any resource as service to achieve something" (Grönroos, 2015, p. vii). "Service is a simple, yet powerful and multifaceted construct and that it is the correct designation, not only to characterize emerging and converging marketing thought, but also to accurately inform and motivate the associated research, practice, and public policy" (Vargo & Lusch, 2008a, p. 36). Service as a phenomenon is complicated to define as the term has many meanings (Grönroos, 2015). The foundation of a service lies in that it is intangible and therefore the customer cannot see, touch or smell services (Solomon, Marshall, Stuart, Mitchell, & Barnes, 2013). The latter becomes particularly interesting seen in the light of digitalization, and how these potential shortcomings could be dealt with online. Studying wellness and services in connection to social, cultural, psychological, cognitive, and biological aspects of aging would be a start for example by putting forward the importance of assistive technology, where devices and applications can decrease elderly or ill people's need for help and assistance (Bagwell, 2016). Further, DWSs for young elderly can make a positive impact on their health that will reduce the probability of getting serious illness, and there is a need for developing DWSs (Carlsson & Walden, 2015). Marklund (2016) argues for the importance of a holistic view on wellness, since it is not only one single factor affecting peoples' wellness, rather a combination of different factors. Exercising both body and brain is crucial and must be done properly; otherwise, there is a serious and increasing risk for illness and premature death. Hence, the research questions are:

What demands and needs are required from young elderly as customers of DWSs?
What should providers consider when offering DWSs to young elderly?

2   Related work

Harris and Goode (2010, p. 231) define e-servicescape as "online environment factors that exist during service delivery". Hopkins, Grove, Raymond, and LaForge (2009) state that the e- servicescape is a site on the Internet where customers and service providers interact. The digital services can be provided by using various devices e.g. computers, tablets, smartphones, and activity bracelets. A digital servicescape, for enabling physical wellness apps, can be developed and designed for training, sleeping, and measuring various body functions. Apps provide information to the user and can encourage physical training by sending a reminder to the user, or by showing how the users' fitness develops over time. Intellectual wellness can be strengthened by providing the apps that encourage training of the brain. Emotional wellness are apps providing e.g. possibilities for the user to show emotions like happiness, sadness, loneliness, and participation in other people's feelings. Chiu and Hu (2015) argue that well designed app technologies can be beneficial to what they describe as older adults as it can strengthen physical and psychological well-being in a cost-effective way. Platt, Outlay, Sarkar, and Karnes (2015) propose the wellness app technology to be an important and promising tool to help people maintain good health, to decrease human suffering and in parallel decrease costs for healthcare. Harris and Goode (2010, p. 231) define e-servicescape "as the online environment factors that exist during service delivery". Hopkins et al. (2009) argue that the e- servicescape is an Internet site where customers interact with a company. The interaction includes the companies' design and features. Harris and Goode (2010, p. 239) discuss different terms regarding offers

provided on internet, e.g. e-servicescape, online servicescape, and online environment, and state "Nevertheless, we are favourably biased toward the term 'e- servicescape', since the label emphasizes the context of online exchange and highlights that purchasing online involves element of self-service, even when products are purchased".

In an e-servicescape, the physical-to-virtual transfer of activity requires providers to rethink the traditional rules for building trust and loyalty in order to meet the needs and demands of prospects and customers (Rivard, 2012). It is important to strive towards message credibility that is comparable with the sender's credibility, since trust is necessary in an e-servicescape. Otherwise, the customers will probably reject the offered services. Papadopoulou, Andreou, Kanellis, and Martakos (2001) highlight trust, and state that trust are closely connected to both relationship marketing and servicescape. Doney and Cannon (1997) identified five trust- building processes: Intentionality, capability, prediction, transference, calculative; Papadopoulou et al. (2001) added credibility to the list. The trust building processes are: (i) to make a promise, (ii) to enable a promise, and (iii) to keep a promise (Papadopoulou et al., 2001).

To create trustfully electronic servicescapes, Papadopoulou et al. (2001) propose that Websites should be transformed to customer-centric e-servicescapes that offer digital experience as a way to develop indelible relationships between business and customers. Trust can be transformed through customer networks by recommendations from others, and lead to customers who are willing to try digital services. Trust will develop over time with increased customer loyalty when customers are repeatedly satisfied with their servicescape interactions. "Each time a promise is made, enabled and kept, it is evaluated with the intentionality, the capability and the credibility process confirming the customer´s trusting beliefs in the business benevolence, competence and credibility. The level of trust is also related to the experience that the customer gains within the e-servicescape" (Papadopoulou et al., 2001, p. 327).

The design of user interfaces plays a central role on digital devices (Al-Showarah, Al-Jawad, & Sellahewa, 2014). The interfaces must be designed so that elderly people can benefit from their offerings. The demands and requirements on the digital devices, e.g. smartphones could vary depending on user preferences such as age according to Tsai, Tseng, and Chang (2017). Elderly compared with children and adults, often respond more slowly when using smartphones, which providers need to take into account when developing interfaces. Smith and Chaparro (2015) claim that there are differences between elderly and other groups that must be remembered during development of digital devices for elderly, i.e. elderly use smartphones less than others due to touchscreens' shortcomings. The size, spacing and location of the target influences the performance and the performance is greater with audiotactile feedback in comparison with tactile and auditory (Hwangbo, Yoon, Jin, Han, & Ji, 2012).

Proactive feedback can be seen as guidance if common problems that users experience are taken into consideration, so feedback could be given to provide help in advance. Electronic feedback could increase or decrease the gain of the amplifiers (Black, 1934). "When there are only two parts joined so that each affects the other, the properties of the

feedback give important and useful information about the properties of the whole" (Ashby & Pierce, 1957, p. 54) the proactive feedback is built in with the user interface. "The user interface is constantly making progress and ubiquitous nowadays, however its design currently is still lack of concern towards usability and accessibility of the elderly" (Hsiao, Lee, Yang, & Chen, 2017, p. 158).

Motivation occurs when an individual directs behaviour towards a goal (Nationalencyklopedin, 2015). Further, it is about forces that initiate, give energy, guide, and maintain behaviour (Vroom, 1964); goal setting is important for task performance whether an individual gives up or completes a task (Locke, 1968). Two behavioural elements deal with motivation; the individual's choice of path among alternatives and amplitude / vigour of the action, for its tendency to persist over time in the chosen path (Atkinson, 1957). There are three types of motivation: Internal motivation, external motivation, and amotivation. The psychological needs mediate between the first and the third element, and are of three types: Autonomy, competence, and relatedness. The outcomes are of three types: Affective, cognitive, and behavioural. Motivation can be divided into three main groups: Internal motivation, instrumental motivation, and motivation as an interaction between the individual and the environment (Alvesson, 2013). Internal motivation emphasizes the individual's internal needs and forces; instrumental motivation stresses a perspective of individuals trying to achieve rewards and avoiding punishments, and an interactive motivation approach involving norms, reciprocity, and identity. In the human mentality three levels occur: Human nature, culture, and personality. Human nature is universal and inherited, culture is for a specific group / category and is learned, and lastly personality is specific to the individual and is inherited and learned (Hofstede, 1994).

3 Method

This research carried out five studies, in which three methods were applied; the first study, one survey and a focus group; the second study, two surveys and two focus groups, the third study, a survey, the fourth study, a literature review, and the fifth study, a focus group. The first three respondent groups consisted of different network members. There were 32 respondents in the first group, 15 in the second, and 16 in the third group, in total 63. The first group was mostly retired people, who bowled together weekly. The second and third groups contained two different groups of retired people, who played boule together. Three surveys and focus groups conducted in 2012 and in 2013, collected data about the respondents and about their IT use and preferences. A literature review was conducted with the purpose of finding patterns about what is put forward regarding servicescape, e-servicescape, and information system. A complementary survey, and yet another focus group (D), based on the above studies, were carried out.

4 Findings

The four surveys concerned Internet services, i.e. whether or not the respondents were interested in making use of others' knowledge, and of sharing their own knowledge with others. Generally, the respondents were not particularly interested in sharing their knowledge online, except as regarded knowledge connected to their professional skills (49 %) and travelling (56 %) (Allmér & Råberg, 2013).

The results from the interview with focus group A, showed that the group mainly used the Internet for searching for information, and that very few shared information, knowledge and/or opinions. They commented that in some cases they were forced into using services on the Internet (e.g. bank services, healthcare services, and communication with organizations and authorities). All of the respondents mentioned bank services, since many banks are closing their physical offices, decreasing opening hours and personal services, increasing the costs for services in bank offices and more, all of which are forcing customers to use Internet services whether they want to or not (Allmér & Råberg, 2013).

Group B focused on why they do not utilize services available through the Internet today. The results showed that they were extremely concerned about having a personal connection with the people taking an active part in services on the Internet (e.g. when discussing health issues they want to see, and have direct communication with the expert/doctor, and preferably, a history with that person). They needed to feel confident in whom they interact with, what kind of knowledge that person has, what kind of previous record of accomplishment that person has, and what will happen with the information they are willing to share and discuss? They also felt worried about entering new services, as a whole, even if it was just for trial reasons (Råberg & Allmér, 2013).

Group C felt anxiety towards trying digital services and sharing information, but also worried about knowledge and opinions on digital service applications and social media. Primarily three things concerned the young elderly in relation to previous results. Firstly, they needed to feel secure about their data, identity, username, password, credit card number, comments and knowledge in that it would not be abused and/or hijacked in any way. They also needed to be secure about that they are communicating with the *right* person, and about that person's good intentions. Secondly, they needed a personal touch and guidance about digital services. Personal touch means recommendations from acquaintances, who they could contact before using the service, or could ask for help to find the right kind of service. Thirdly, they thought some service applications were so general and offered too many options, which only complicated things. Hence, they wanted to have the ability to decrease the number of options to solely those alternatives that they really wanted. They wanted to customize the service options through interaction with the service provider (Råberg & Allmér, 2013).

For group D the top-three reasons for using were help and support with technology, professional knowledge, planning, scheduling, and being reminded. The top-three reasons for sharing were professional knowledge, memory training, and health advice. The three

of least interest for using were (not / no answer) health advice, technology help and support, and planning, scheduling, and being reminded. The three of least interest for sharing were intermediation of work, technology help and support, and training coaches. Some conclusions could be made (Allmér & Marcusson, 2018):

- They have skills, such as knowledge and experience, as well as time to help other people. They do so in clubs and societies or with friends and acquaintances. When the parties know each other, the offers can be clear, transparent, and distinct. When offers are addressed to people outside these zones different problems can occur. The young elderly are keen to feel secure in a support situation and with a beneficiary.
- It was shown that clarity in how the offer is disseminated is of importance for the young elderly.
- There are two types of support that may be offered; time and skills. Time can for example be used for a walk in the park, a wheelchair walk, reading aloud from a magazine or a book, and as company to a museum, theatre, or concert. Skills can be knowledge and experience that are professional (e.g. tax returns) or that originate from hobbies and interests (e.g. fruit tree pruning and fixing the car).
- The young elderly need to feel secure in a support situation. They also argue that the person who receives support must bring about the type of security they need, which depends on several factors, e.g. are the persons known to each other, are there only the two persons in the situation, is it in one party's home, or is the beneficiary disabled? To strengthen this feeling of security an intermediary can play a role.

The literature review resulted in the supposition that a digital servicescape is possible. However, in some cases a detour is necessary since it is not possible to apply the senses smell, touch, and taste digitally (Allmér, 2014).

5   Discussion

This section discusses young elderly's views on DWSs (5.1) and presents a model of digital wellness services' servicescape (henceforth DiWeSS) (5.2).

5.1   Young elderly's views on DWSs

The findings have clearly shown that the young elderly commonly use IT, have Internet access, and are worried about the risks and threats that lie in wait for them online. They showed scarce interest to utilize others' knowledge and to share their own knowledge with others, with few exceptions. Hence, from this starting point it is obvious that the actual use of DWS solutions comes from some kind of motivation (Alvesson, 2013; Atkinson, 1957; Hofstede, 1994; Locke, 1968; Vroom, 1964) and it is just as obvious that usage depends on trust (Doney & Cannon, 1997; Papadopoulou et al., 2001; Rivard, 2012) for the provider, who are expected to create a safe and secure environment. It is utterly important that the young elderly feel that it is both secure and safe to use DWSs. Young elderly use digital equipment in their daily life and have access to Internet, which means

that the technology is no obstacle per se; it is rather their feelings towards the consequences that might come from the usage.

The worries connected to sharing online, and to using for example apps, must be overcome in order to make use of the possibilities that actually are available, and that can come in handy for a lot of purposes and reasons. Obstacles like anxiety about trusting others, including the technical facilities and apps online, must be handled from the providers' side for the young elderly to overcome their resistance and hesitation. What a proposition conveys must be obvious to the customer, i.e. to the young elderly, which is crucial for the provider to understand and to act on. To offer reliable and thoughtful guidance (Ashby & Pierce, 1957; Black, 1934; Hsiao et al., 2017), as well as a good usability (Al-Showarah et al., 2014; Hwangbo et al., 2012; Smith & Chaparro, 2015; Tsai et al., 2017) would make this possible, according to the research findings. One way of achieving this is to co-create trust and motivation with the young elderly, to invite them to participate.

Group D stresses the necessity of guidance / support with technological issues as something that really has to be carefully handled. A provider should meet these demands, and by that also create trust (Doney & Cannon, 1997; Papadopoulou et al., 2001; Rivard, 2012). Digital servicescape designed to provide good usability (Al-Showarah et al., 2014; Hwangbo et al., 2012; Smith & Chaparro, 2015; Tsai et al., 2017) and guidance (Ashby & Pierce, 1957; Black, 1934; Hsiao et al., 2017) are likely to create security, trust (Doney & Cannon, 1997; Papadopoulou et al., 2001; Rivard, 2012), and motivation (Alvesson, 2013; Atkinson, 1957; Hofstede, 1994; Locke, 1968; Vroom, 1964) to use. It should be very clear that the responsibility to fulfil these demands is in the hands of the provider, who should meet these demands to the fullest.

5.2   DiWeSS' context model

The purpose was to put together findings from five previous studies (four papers / articles) regarding young elderly's DWSs into a model. Four research papers' key findings end up in a focusing on digital servicescape that is further developed into a focus on providing DWSs (apps and devices). In a digital servicescape, the provider and the customer / user meet in a moment of truth and a context of trust, and this is crucially important. It is in the digital servicescape the clash occurs, and therefore where the services offered will be accepted or rejected. The interface of the digital servicescape should emulate a place between the provider and the customer / user that works almost like a Velcro in order to build a sustainable relation between the different parts involved. On this basis, it can be argued for a need for a DiWeSS that emerges and appears as a subset of the e-servicescape. A digital servicescape has in comparison with a physical servicescape some limitations when it comes to what is possible to present (e.g. the sense of smell, touch and taste) on for instance a computer, tablet, or a smartphone. However, it could be argued that it is plausible to provide the feeling of a smell, touch, and taste even if it is not possible to the full extent. This in turn, affects the possibilities to provide DWSs, as it is hard to show people what the service actually can bring them.

The DiWeSS' context model (figure 1) puts forward three perspectives: on the one hand the developer and provider, and on the other hand, the young elderly. These three parts interact where the provider offers the DWSs with DiWeSS to the young elderly.
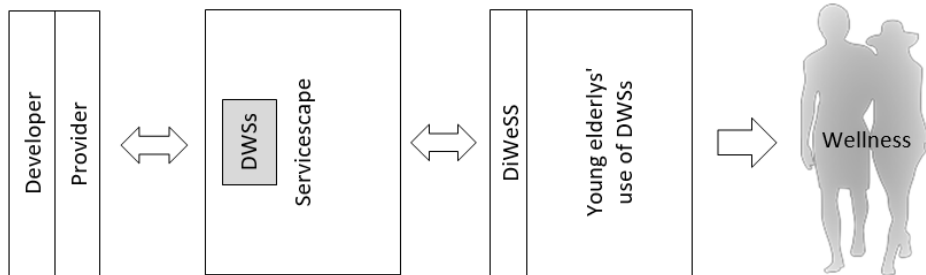

Figure 1: DiWeSS' context model

DWS with DiWeSS points towards a win-win-win-situation. On one side are the developers and providers, and on the other side are the young elderly with their needs in everyday life. Further, the part about how these needs are met with DWSs should be included in the model. To some extent, e.g. family, friends, and society among others, can also be considered as stakeholders. Companies and organizations that provide digital services, which meet the demands of customers, have the opportunity to make a profit, which means a win situation for them. Well working DWSs with DiWeSS will help people to have a more eventful, healthier and longer life, which certainly can be seen as a win for them. People that are healthier and satisfied with their life can have a positive influence on other people and therefore demand less service from society, which will be a win for the society per se.

6   Conclusions, limitations and further research

The first research question is about needs and requirements of the target group and the second research question is about demands on providers, both in the context of DWSs for young elderly. A short answer to these questions is presented in a program (figure 2). With the purpose to underline the keys to DiWeSS for young elderly, the most important issues are brought together in a program.
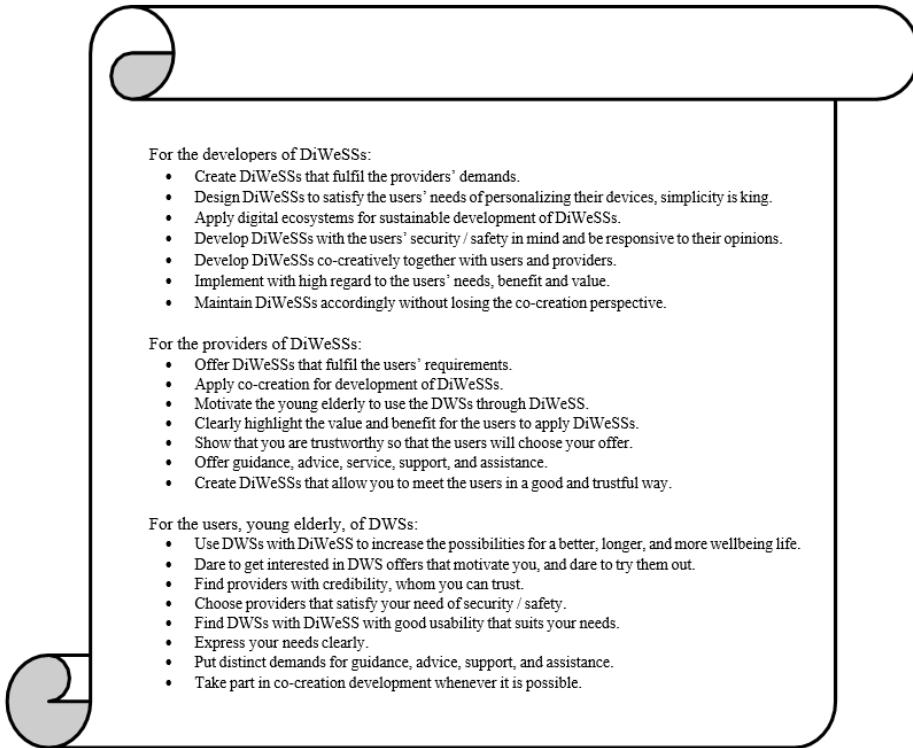
For the developers of DiWeSSs:
- Create DiWeSSs that fulfil the providers' demands.
- Design DiWeSSs to satisfy the users' needs of personalizing their devices, simplicity is king.
- Apply digital ecosystems for sustainable development of DiWeSSs.
- Develop DiWeSSs with the users' security / safety in mind and be responsive to their opinions.
- Develop DiWeSSs co-creatively together with users and providers.
- Implement with high regard to the users' needs, benefit and value.
- Maintain DiWeSSs accordingly without losing the co-creation perspective.

For the providers of DiWeSSs:
- Offer DiWeSSs that fulfil the users' requirements.
- Apply co-creation for development of DiWeSSs.
- Motivate the young elderly to use the DWSs through DiWeSS.
- Clearly highlight the value and benefit for the users to apply DiWeSSs.
- Show that you are trustworthy so that the users will choose your offer.
- Offer guidance, advice, service, support, and assistance.
- Create DiWeSSs that allow you to meet the users in a good and trustful way.

For the users, young elderly, of DWSs:
- Use DWSs with DiWeSS to increase the possibilities for a better, longer, and more wellbeing life.
- Dare to get interested in DWS offers that motivate you, and dare to try them out.
- Find providers with credibility, whom you can trust.
- Choose providers that satisfy your need of security / safety.
- Find DWSs with DiWeSS with good usability that suits your needs.
- Express your needs clearly.
- Put distinct demands for guidance, advice, support, and assistance.
- Take part in co-creation development whenever it is possible.

Figure 2: DiWeSS' program

If DiWeSS works for young elderly, it probably will work for other age groups as well. There are some implications for practise, and for further research, to highlight and discuss.

- Firstly, there is a need for deeper understanding of the benefits that a well-designed DiWeSS can bring to people in general, and to the group of young elderly in particular, as most people eventually will be among the group of young elderly.
- Secondly, there is a need to put research effort into the group of seniors, as it can be beneficiary to them too.
- Thirdly, there is an implication for putting effort into research on if it could lead to a win – win – win situation if young elderly are provided with DWSs through DiWeSS. If so, how should it be constructed?

For everybody it is nicer to get old if you are in good shape; to get a few more good years. A well-designed servicescape would be most helpful in order to support the use of DWSs. Therefore, use DWSs with DiWeSS!

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