Digital Transformations in Care for Older People: Critical Perspectives

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Chapter 1

Introduction

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Chapter 1

Introduction

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Introduction

The two key drivers of societal change in the 21st century are the significant and rapid changes in technology and the demographic changes associated with ageing societies (Peine et al., 2021). Digital technologies shape our embodied lives and affect our knowledge of the self and the world in various ways. Phenomena such as the acceleration in computational power have brought rapid growth in the use of information and communication technologies (ICTs) in different domains, including services for older people, where an array of devices and information systems are currently used. A rapid digitalisation is also reflected in the policy level through the active promotion of e-inclusion of all citizens in the knowledge-based economy by the EU, among others (European Environmental Agency, 2020, p. 28). This is telling of the weight and hopes put on technologies to resolve complex problems faced by ageing societies (Mantovani and Turnheim, 2016).

The digital transition in the care for older people is driven by policies that aim to provide services to a growing proportion of population through digitalised service platforms, and as (cost)efficiently as possible. The Western welfare states are ageing fast, and the relative share of the total population of people aged 65 and over in Europe is projected to reach 29.4% in 2050. This is likely to have profound implications, not only for the lives of individuals, but also for governments, business, and civil society. Ageing impacts health and social care systems, labour markets, public finances, and pension entitlements (Eurostat, 2020). In an effort to increase service efficiency, states are becoming increasingly reliant on digital platforms, tools, and applications. At the time of writing of this book, the COVID-19 pandemic, with its recommendations on social distancing, has further accelerated the digital transformation and use of digital technology in care service provision, for one by large-scale introduction of the practices of telecare and telemonitoring in services for older people.

Digitalisation has consequences on how ageing is depicted at the policy level. At the same time, policy formation entails assumptions on how the actors involved in care for older people are perceived in the society – including both those delivering and those receiving care services. In governmental policies on ageing, digital

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technologies are often depicted as a tool to support and secure the lives of older people in their private homes and institutional care facilities. Technologies are designed to support everyday functions and social relations and to provide services and entertainment in a digitalised form for those living in private households. However, the heterogeneousness of older people as a population group and the digital competence expected of care workers are often lost in these visions. This creates a risk of deepening the existing inequalities among the groups of older people and care workers as actors in the health and social care service system. In the case of care for older people, the key question often seems to be how to deliver high-quality yet cost-effective and equally accessible services to the ageing population. The premise of the chapters in this book is that this rationalisation is narrow and based on stereotypes and insufficient understanding of older people and care workers as technology users. As a consequence, policies can disregard the structural and social complexities involved in the practical implementation of digital technologies in care for older people. The purpose of this book is to give deeper insight into the current debates on the topic.

Digital technologies and care for older people

In this book, our understanding and definition of digital technologies is broad. In line with Peine et al. (2021), the aim is to avoid deterministic notions of technology that ignore sociocultural power relations and stereotypes of their expected users. To do this, we suggest that the study of technology and ageing should not be reduced to technologies explicitly dedicated to care but to also include everyday technologies that are used to support care relationships and care work. The former, the design of gerontechnologies, that is, technologies specifically designed for older people, has already been studied to some extent. It has been critically acknowledged to display an interventionist agenda, whereas the latter, the use of everyday digital technologies in care for older people, as Peine et al. (ibid.) suggest, remains less explored and debated by academics and policymakers.

Our focus in this book is on digital technologies present in the everyday lives of care professionals and older people that have become increasingly entangled with digital technologies. This entanglement concerns devices, applications, and software such as mobile phones, tablet computers and telecare devices, and emergency response technologies, but also more targeted, assistive (health) technologies designed and produced for the purpose of self-monitoring and medication, among others. A majority of these devices and resources generate, store, or process data, and can thus be understood as digital technologies. Today, these technologies are part of the lives of older people and care professionals, especially in the provision of long-term care for older people in both institutional settings and private homes, both of which are contexts that the chapters in this book address.

Regarding the use of the term ‘older people’, the scope of this book is also purposefully wide. While the chronological age of 65+ is the most common denominator for defining ‘older people’ in social sciences, as it is for the majority of

the chapters in this book, it is important to emphasise that as a concept, 'older people' involves a variety of groups ranging from active retirees living the 'third age' to frail individuals in need of round-the-clock care. To avoid language that has connotations to discriminatory and negative stereotypes of older people, the terms such as 'elderly' and 'seniors' have been omitted from the book apart from references to, e.g., legislation or proper names of institutions where they appear.

Research on ageing and (digital) technologies

A combined focus on the phenomena of digitalisation, ageing, and care (for older people) has been the topic of a number of edited scientific collections over the past decade. Increasingly, these publications have taken a critical, interdisciplinary approach on ageing and technology, bringing together scholars from social and health sciences, gerontology, social policy studies, digital sociology, anthropology, and technology and innovation studies, among others. Consequently, many of the publications have rightly emphasised the need for interprofessional and interdisciplinary approaches to innovative technologies, some with the practical aim of helping care professionals to select the appropriate technology for their needs (Chau and Osborne, 2018) or to deliver care in a more efficient manner, while others have taken off from a sociocultural point of view with the aim of widening the current cultural and scientific understanding on the diversity of older people as 'a group' of technology users (Neves and Vetere, 2019; Prendergast and Garattini, 2015). Meanwhile, others have contributed to the discussion on the policymaking and discourses that frame public debates on ageing and technology (Dominigues-Rue and Nierling, 2016).

In terms of theoretical perspectives on ageing and technology, science and technology studies (STS) has been a particularly fruitful starting point for some of the recent publications (Henwood and Marent, 2019). In short, publications emerging from this background have emphasised the need to understand the user's role in innovation processes and to challenge deterministic understanding of the domestication of technology in everyday life (Östlund et al., 2015). Lupton (2018), among others, has conceptualised digital (health) technologies as sociocultural artefacts and emphasised a need to investigate and identify the social, cultural, and political underpinnings of digital health. Most recently, Peine et al. (2021) have merged the social scientific study of technology and ageing under the concept of *socio-gerontechnology* by conceptualising ageing as a socio-material phenomenon and drawing from STS and the study of ageing and technology. Studies emerging from this exciting line of theorisation emphasise that the meanings and uses we give to digital technologies are always underpinned by tacit assumptions, norms, meanings, and values. As a consequence, the design and use of digital technologies are subject to human decision-making and invested with their makers' established ideas of their users – who may accept or reject, resist or ignore these technologies, within the limits of the affordances of the technology in question.

This perspective indicates that there is considerable scope for human interpretative flexibility in the use of technologies. In everyday life, people are, and often must be, creative with technologies as they come across a number of digital devices and applications that have different functionalities and affordances. The everyday lives of older people and care workers are thus characterised by growing ubiquitousness and interruptions, opportunities, and obstacles in a service environment that is all too often characterised by scarcity of time and unpredictability. As digital technologies become increasingly embedded in the everyday practice of care, our book suggests that studies on care for older people should also recognise this embeddedness. Care work is a joint accomplishment between various actors that, as the chapters in this book demonstrate from different viewpoints, requires continuous organising, synchronisation, and a common orientation from those involved. Regardless of the type of technology in question, this book aims to underline how care at its essence remains reciprocal and relational, and how the growing embeddedness of digital technologies reworks and (re)creates the relationality of care between human and non-human actors alike in ways that are not self-evidently positive or negative.

Besides advancing the current understanding of the human-technology relationship, previous research on ageing and care underlines that the various and often contradictory consequences of the embeddedness of digital technologies in care for older people should be noted in policymaking and active ageing programmes (Gallistl and Wanka, 2019). All too often, care policies envision solutions to problems, overshadowed by technological determinism, and without consideration of the agency of those involved. In this book, we propose that there is a need to discuss digitalisation of care for older people through revisiting the existing theorisation and through formulating new frameworks of study in efforts to critically assess service providers', care professionals', and older people's opportunities for digital agency. In their part, the chapters in this book demonstrate how *digital agency* locates at different levels, such as policy and culture, (work) community, and the individual.

Digital agency and care for older people

Technologies and their possible uses and implications are to a large extent constituted when they become used in practice. The same technologies may therefore cause very different effects, depending on the context and the user (Orlikowski, 2007). Taking a critical perspective on how digital technologies are currently being implemented in care for older people, this book pays close attention to how technology-based care interventions can limit or enable the agency of those involved in care for older people. This is not a question of technologies being bad, good, useful, or useless, but a question of how a specific technology is implemented in a specific context from the point of view of those involved, as Nierling and Dominiguez-Rue (2016) also underline. While we acknowledge that informal care remains the primary form of care for older people in most Western countries,

the focus of this book is on digitalisation from the perspective of formal arrangements of care provision on the one hand, and from the perspective of how dominant discourses and policies of care and technology frame and position older people as users or co-producers of digital technologies and services on the other.

Embedding digital technologies within practices of care is never straightforward. To engage with technologies in a meaningful way in a digital society, individuals need the ability to control and adapt to a digital world, that is, they need to have *digital agency*. The concept was coined by Passey et al. (2018) as a holistic and critical concept to offer policymakers, educators, and technology leaders a way to address social, civic, and economic well-being in a digitalised society. In this book, the problems that innovation, design, and technology implementation face are taken as a reflexive starting point to assess the potential implications of digitalisation in care for older people. More specifically, the book takes the idea of digital agency as a purposefully loose, overarching conceptual starting point from which to address the ambivalences that arise when digital technologies are introduced in care for older people.

While the concept of digital agency originally addresses actors involved in education and learning, it can also help to overcome instrumental perspectives on digital technologies as 'a solution' to 'the problem' of ageing when studying digital technologies in care of older people. Moreover, the concept offers an opportunity for social scientific reflection on the deterministic notions that are often attached to technologies and their users, especially as they appear in innovation and policy documents on care and ageing. In this book, we understand the concept to refer to health and social care professionals' and service users' digital competence, their digital confidence, and digital accountability. The goal of being able to use technologies for self-identified purposes and to be able to modify, develop, and therefore control and manage their use is a challenging one. Yet, this is what is increasingly expected of individuals in contemporary societies. In what follows, we elaborate on the possibilities the concept can open for the study of digitalisation of care from the point of view of older people and care professionals.

Digital agency of older people and care workers

Digital agency highlights some of the critical, key aspects to be considered when implementing digital technologies with respect to the heterogeneous nature of older people as a group of technology users. The benefits of digitalisation for the older population are typically described through improvement to well-being, quality of life, and through the support that they give to ageing in place independently and, as Timonen (2016) would phrase it, ageing successfully. As recent works by Neves et al. (2019) and Peine et al. (2021), among others, have pointed out, such an overly optimistic approach often relies on problematic, ageist stereotypes concerning older people as technology users – a question widely discussed in social sciences over the past 20 years (see Gilleard and Higgs, 2000; Chapter 5 in this book). As these studies have shown, overly optimistic assumptions on the benefits

of digitalisation often frame older people as frail and un-agentic, while failing to consider the diversity in later life in terms of race and ethnicity (see Chapter 4 in this book), gender, education, and chronological age, not to mention economic, social, and cultural resources that are critical to digital agency but unevenly dispersed among older people.

Digital technologies limit or enable agency of older people – sometimes in unexpected ways – as they are based on dominant discourses and expectations derived from innovation or ageing-in-place policies. Good intentions do not always lead to desired outcomes. Instead, the practical implementation of digital technologies causes rearrangement of responsibilities and interactions, and thus can negatively affect the agency of older people as stakeholders involved in the process. For one, the solutions to support individuals' independence in later life often come with the price of growing surveillance at home in consequence of 'dataveillance' technologies that blur the spatial boundaries between public and private spheres.

Whether it is in institutional settings such as nursing homes or in private homes, technologies can work to objectify their users. Interconnections between digital and social exclusion among older people can be manifold, as Buchert and Wrede (Chapter 4) in this book demonstrate. The same goes for the design and development process of new technologies in which older people are invited to join as co-creators, as Lolich and Timonen (Chapter 3) point out. Moreover, these processes can be biased and exclusive, as they tend to be based on ageist presumptions and embrace the agency of those in a privileged position, as Mannheim et al. (Chapter 5) suggest. However, technologies can also grant older people more leverage as active agents, as the example of the use of sensor floor in care homes, for one, suggests (see Chapters 6 and 7). From the point of view of agency, these examples all point to the need for critical assessment of the limits of pursuing older people's digital competence, digital confidence, and digital accountability as determinants of 'quality of later life' in digital societies.

The same notion of the need to understand situational context and underlying bias towards technology users applies to those working in the care for older people. In this context of work, digital technologies have been implemented, for one, to rationalise care tasks through means such as rigorous use of time management applications that help in segmenting care tasks and work processes into separate time units (Chapter 6). In hopes of stronger transparency of service provision, workers are also held increasingly accountable through means of digitalised recording (Hämäläinen and Hirvonen, 2020). Health and social care workers play a crucial role in the implementation of technologies into the everyday practice of care. Yet, their agency can be limited by numerous factors arising from unjustifiable presumptions on their digital competence to insufficient guidance at the workplace, and from changing of roles to differences in individual user preferences, not to mention the ethical dilemmas that digitalised care can raise in relation to the users' professional identities.

Previous research (e.g. Hämäläinen, 2020; Pols, 2017) has demonstrated over and over that digitalisation does not self-evidently support the professional,

ethical goals of care. Yet, deterministic notions of users' dispositions, as well as the affordances of technologies, prevail. The chapters in this book demonstrate how technologies challenge care workers' possibilities to manage and coordinate the work they do. They offer a variety of viewpoints on this, including how the socio-material contexts of digitalisation affect the temporality and spatiality of care work (Chapters 6 and 7), and how the adoption of new technologies requires turning the users' tacit and embodied knowledge into codified and transferable training and protocols (Chapter 9). The chapters also show how technology support at the workplace influences the workers' interests and competence as technology users (Chapter 10).

Digital agency and care policy

The assumptions concerning both care professionals' and older people's competence and capacities as technology users in the context of rapidly digitalising societies are essentially a question of their digital agency. A focus on agency in this book brings forth the ethical and practical questions of care professionals' and service users' digital competence, their digital confidence, and accountability. The factors affecting users' competence and confidence as technology users are crucial for creating the conditions in which individuals have control over and their capacity to adapt to changes in their social environment (Passey et al., 2018). The simultaneous processes of rapid ageing and digitalisation have resulted in health and social care policy reforms that do not self-evidently support the goal of improving older people's possibilities to meaningful agency in a digital society. Notion on 'innovations', 'co-creation', 'acceptance', and 'active ageing' that policy recommendations often propagate can be problematic when implemented, as Lolich and Timonen (Chapter 3) and Mannheim et al. (Chapter 5), among others, suggest. Critical engagement with policy development on digitalisation is therefore necessary to understand the societal relations of power that delineate the territory to employ citizens' digital agency.

In general terms, the book addresses critically the question of digitalisation in care for older people by bringing about both theoretical and empirical insights on digital agency from a variety of vantage points that can be useful in assessing the future directions of ageing in a digital society. This includes the interests and the agency of service providers, care workers, older people, commercial actors, and policymakers alike, and discussion on the co-construction of ageing and digitalisation as social phenomena. The moment to do this could not be timelier, as the COVID-19 pandemic has led to a partly forced digitalisation of essential services for all health and social service users. Overall, however, the pandemic has had a much greater impact on the lives of older people than any other age group. While the risk of illness and death typically increases with age, the lack of personal contact with family members, friends, and other acquaintances due to the risk of virus infection has, in many cases, led to severe social isolation of older people (Eurostat, 2020).

Although the contributions to this book have been written prior to the pandemic, the chapters give a timely overview of the manifold consequences of digital technologies that are increasingly implemented with the good intention to improve the lives of older people, the quality of care, as well as the conditions of care work. We believe that the chapters in the book manage to draw attention to some of the key factors behind successful technology introduction processes while pointing out stumbling blocks on the way of technology implementation, especially in a sense of the humane and the structural factors that can impair these processes, and raise existing disparities or create new ones among older people and care workers. Such a development would be particularly alarming as we have already learnt the pandemic is taking its toll especially on those who already find themselves in a vulnerable position, such as older people (Cox, 2020).

Yet, the practical solutions and creative ways that people of all ages manage to find to connect with one another and to participate in a digital society suggest that digital agency is essentially a question of providing individuals with the necessary competence, confidence, motivation, and resources to lead meaningful lives. Towards this end, both the empirical and theoretical social scientific research and socio-political analyses are required on the institutional, social, cultural, and economic processes that affect individuals' opportunities to a comprehensive digital agency.

Structure of the book

'The future is here' seems as timely phrase to characterise digital technologies in the context of care. Studying society and transformation of culture, its practices and policy, is comparable to taking a snapshot of a moving object. This is even more true in the case of studies with a focus on digital technologies. The chapters in this book bring together a collection of studies that address some of the key themes and theoretical vantage points concerning digitalisation in care for older people. The chapters present original and timely research drawn from four European countries: Finland, Denmark, Ireland, and The Netherlands. However, the conceptual viewpoints and also the practical examples and consequences presented by the authors reach beyond the national context of the studies in question.

In addition to this chapter, Part I of the book includes Chapter 2 by Eveline Wouters titled 'Healthcare and Technology: The Multi-level Perspective – Theories, Models, and Frameworks'. The chapter takes off from the notion that a growing number of literature have tried to explain what it takes to introduce and use technologies in the context of care for older people by using a variety of theoretical frameworks and models. These models have different scientific roots, including psychological, sociological, organisational, normative, and even mathematical backgrounds. The chapter gives a critical overview of the key models and highlights the complexity of assessing technology adoption in healthcare for older people. The chapter introduces models that attempt to explain technology acceptance from individual, organisational, and comprehensive viewpoints and brings to

the fore the factors that influence the digital agency of older people and healthcare professionals involved in these processes. According to Wouters, the models on individual behavioural change are mainly explained by psychological theorisation, while dynamic organisational change involving interaction between various stakeholders has been the focus of sociological theories. The chapter emphasises that especially the collaboration between new stakeholders offers many challenges and can explain unsuccessful technology implementation. To understand what drives professional practice in particular, a normative approach focuses on the assessment of the identities, interests, and ideals of technology users involved in implementation processes.

The rest of the book (Chapters 3–10) is divided into two parts. The chapters in Part II focus on the digital agency of older people and offer evidence based on empirical studies from three national contexts. The chapters discuss the role of older people as technology users, co-producers, and innovators, as well the ageist presumptions that these processes easily involve. In Chapter 3, 'The Ageing Entrepreneur: Co-opting Older Adults into the Siliconisation of Care', Luciana Lolich and Virpi Timonen draw on insights from a recent project in Ireland that had framed older persons as co-creators of a digital platform intended for production of new service concepts in eldercare. Drawing on governmentality theory, the authors develop a critique of the limits of the recent turn to co-creation, crowdsourcing, and claims to take innovative approaches to improve eldercare services. The chapter points to the need for a critical assessment of the normative nature of national and European innovation policy discourses on ageing, according to which 'good' ageing is too narrowly construed in terms of health, activity, and digital literacy of older people.

In a similar vein, Chapter 4 by Ulla Buchert and Sirpa Wrede, titled '"Bridging" and "Fixing" Endangered Social Rights in the Digitalising Welfare State: The Ambiguous Role of Third Sector Organisations in Supporting Marginalised Older Migrants in Finland', discusses the possibilities to attain equal social rights by the prioritisation of public service provision in Finland through digital platforms. The chapter suggests that in consequence of social policy reforms, a turn from 'street-level' to 'screen-level bureaucracy' in public service is gradually transforming the idea of social citizenship as a tripartite relationship between the state, the bureaucrats, and the citizens. The chapter builds on qualitative interviews with representatives of Finnish third sector organisations, focusing on their role in supporting marginalised older migrants in accessing and using public services through digital platforms. The analysis reveals a concerning turn in the organisations' role into surrogate bureaucrats who find themselves fixing rather than bridging the gaps in marginalised older adults' access to social services in a digitalised service environment.

Chapter 5, 'Ageism in Applying Digital Technology in Healthcare: Implications for Adoption and Actual Use' by Ittay Mannheim, Yvonne van Zaalen, and Eveline J.M. Wouters, concludes Part II by providing a comprehensive overview of the perception of age in relation to digital technologies and the manifestation

of ageism in healthcare. Based on evidence from recent studies, the authors introduce a pathway model to understand the relationship between adoption and actual use of technologies firstly through the stakeholders involved in implementation and design processes, and secondly through the design process itself.

Part III focuses on digital agency in care work. The five chapters in this part extend the perspective on digital agency from temporal, spatial, and organisational to professional factors that define the boundaries for care workers' digital agency. With examples of the use of social robotics, dataveillance technologies, and digital communication devices and applications, the chapters demonstrate how care professionals constantly work to find ways to manage their use of digital technologies with regard to the bodywork and interaction practices of professional care, and in relation to their preparedness and the organisational support they receive as users. The chapters provide critical perspectives to those involved in developing professionals' education and training, work practices, and regulatory frameworks of using digital technologies in care work.

Part III begins with Chapter 6 by Annette Kamp, titled 'Temporalities of Digital Eldercare'. The chapter draws from empirical study of sensory floors and virtual care in Danish eldercare services. It conceives their temporalities resulting from complex negotiations in socio-material contexts of care. The chapter illuminates how policy goals on establishing time savings in care work play an important role in shaping the use of digital technologies. To care workers, negotiations between multiple and conflicting temporalities and 'making time' are a daily accomplishment in the digitalised context of care work. Furthermore, the chapter points to the need to assess the unintended and contradictory outcomes that often result from implementing digital care. In Chapter 7, 'New Choreographies of Care: Understanding the Digital Transformation of Body Work in Care for Older People', Agnete Meldgaard Hansen and Sidsel Lond Grosen continue the exploration of digitalisation in the Danish context by applying the concept of 'choreographies of care'. Doing this, they bring to focus how the body work interactions in care with new technologies are 'staged' by the involved human and non-human actors, such as wash-and-dry toilets. Importantly, the authors point out how choreographies are used to achieve outcomes related to specific political and professional agendas such as the promotion of older people's increased self-care, their independence of care services, and the goal of person-centred care.

In Chapter 8, 'Sense of Belonging in a Digitalised Care Work Community', Mia Tammelin, Helena Hirvonen, Antti Hämäläinen, and Riitta Hänninen show how care technologies as well as everyday digital appliances used in Finnish service housing for older people affect the ways in which care workers build a sense of community and belonging in their workplaces. The authors suggest that in dispersed, round-the-clock care work communities, such as service housing for older people, digital technologies are used for many useful purposes, e.g. communication, silent reporting, and leisure activities, and that these technologies have the potential to create a sense of belonging between care workers and also between care workers and residents living in service housing units.

In Chapter 9, 'Sealing the Deal? Irish Caregivers' Experiences of Paro, the Social Robot', Perry Share and John Pender present results from a study exploring the impacts that incorporation of a social robot into dementia care setting has on everyday professional practice. The chapter departs from the rest of the book in that it concerns social robotics rather than digital (health) technologies and mundane digital devices. The authors use normalisation process theory to discuss the challenges in the way of new technologies to become routinely embedded in already existing work practices. The results suggest that training and evaluation in the effective use of new technologies can assist workers to develop modes of *collective action* around it and support the *reflexive monitoring* of the innovation. However, in the absence of guidelines or usage protocol, technologies easily fail to become part of the domestic setting of care work or fully part of its everyday practice and workflow, as was the case with Paro in this study.

The book ends with Chapter 10, titled 'Digital Skills and Application Use among Finnish Home Care Workers in the Eldercare Sector', by Eero Rantala, Sakari Taipale, Tomi Oinas, and Joonas Karhinen. It presents results from a large survey study that explores the role of digital skills, interest in technology, and social support in home care workers' use of digital applications at work. The authors use structural equation models to estimate the direct and indirect effects of available technology support, digital skills, and interest in technology on the actual use of various digital applications at work. Based on the results, they propose that technology support increases workers' interest in technology and improves their digital skills, which in turn promotes the use of devices and applications. In line with the previous chapter, the authors conclude that availability of technology support appears as a crucial facilitator for digital agency in care work.

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