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Ageing and Equality in a Digitalising European Union – A Critical Discourse Analysis of EU Policy and Stakeholder Perspectives

By

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Abstract

This thesis interrogates discourses on older adults and digital technologies in European Union (EU) policy and explores discursive interactions between EU policy on ageing and digitalisation, and viewpoints of older people and caregivers towards digital technologies. Using Critical Discourse Analysis (CDA), specifically Fairclough's Three-Dimensional Framework, the research explores textual features of written policy and scholarly texts, and their effects on discourse and socio-cultural practices.

To facilitate comparison of institutional discourses with those of older adults and caregivers as key stakeholders, who frequently experience exclusion from policymaking on ageing and digitalisation, three literature corpuses were identified: EurLex policy documents (35 texts, 3315 pages); ProQuest Central (53 journal articles, 869 pages); ProQuest ASSIA (21 journal articles, 241 pages). Publications were restricted to the years 2012-2022.

The analysis uncovered discursive diversity between the corpora. Although EU policy discusses older adults through narratives imbued by economic and market imperatives, themes of social inclusion, agency, active ageing and ambient assisted living supported by digitalisation are strengthening, albeit with discernible emphasis on socio-economic productivism. Stakeholders emphasise inclusion, autonomy and agency, alongside participation in policymaking and digital development. While inter-corpora convergence regarding inclusion and non-discrimination exists, EU discourses integrate productivism and youth-centric priorities. This misalignment indicates that older people's interests are likely of secondary importance in contemporary policy.

This thesis advocates for comprehensive participatory mechanisms in policymaking for carers and older people to make decisions 'about themselves, by themselves'. It cautions against potential further discrimination through policy designs emphasising productivism and

encourages a human rights approach instead. By highlighting discursive disjointedness between institutional and stakeholder narratives, this research constitutes an original interdisciplinary approach to CDA on ageing and digitalisation narratives in EU policy and stakeholder discourses.

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Glossary of Terms

Terms (Also Referred to, or Abbreviated as:)

- Ambient Assisted Living - (AAL)
- Artificial Intelligence - (AI)
- Augmented Reality - (AR)
- Charter of Fundamental Rights of the European Union - (CFR)
- Computer Assisted Qualitative Data Analysis Software - (CAQDAS)
- Convention for the Protection of Human Rights and Fundamental Freedoms - (ECHR / European Convention on Human Rights)
- Council of Europe - (CoE)
- Court of Justice of the European Union - (CJEU / ECJ / the Court)
- Critical Discourse Analysis - (CDA)
- European Accessibility Act - (EAA / Accessibility Act)
- European Care Strategy - (ECS)
- European Coal and Steel Community - (ECSC)
- European Commission - (The Commission)
- European Court on Human Rights - (ECtHR)
- European Disability Strategy - (EDS)
- European Economic Community - (EEC)
- European Health Data Space - (EHDS)
- European NGO Federation for Relief and Development - (CONCORD)
- European Pillar of Social Rights - (EPSR)

- European Union - (EU / EU 27 Member States / EU Member States / the Union / the EU)
- Fundamental Rights Agency - (FRA)
- Green Paper on Ageing - (Green Paper)
- Information and Communication Technology - (ICT)
- Internet of Things - (IoT)
- Network for Technology Innovation and Translation in Ageing - (TITTAN)
- Next Generation Access Infrastructure - (NGA)
- Non-Governmental Organisations - (NGOs)
- Older Adults - (Older people / people in later life / people in their golden years)
- Patient Public Involvement - (PPI)
- Preferred Reporting Items for Systematic Reviews and Meta-Analyses - (PRISMA)
- Public Private Partnership - (PPP)
- Smart and Healthy Ageing through People Engaging in Support Systems - (SHAPES)
- Social Dominance Orientation - (SDO)
- Social Dominance Theory - (SDT)
- Staff Working Documents - (SWDs)
- Technology Acceptance Model - (TAM)
- Treaty on European Union - (TEU)
- Treaty on the Functioning of the European Union - (TFEU)

- United Nations Convention on the Rights of Persons with Disabilities - (UNCRPD / CRPD)
- Universal Declaration of Human Rights - (UDHR)
- Virtual Reality - (VR)
- Wearable Devices - (WDs / Wearables)
- Web Accessibility Directive - (WAD)

"With regard to older people, ageism is based on a view that focuses on disabilities and implies 'inferiorization' and 'patronage' (Neves & Amaro, 2012, p. 3), uses practices that deprioritize, disregard, or even exclude older people (AGE Platform Europe, 2016), and influences digital usage habits (e.g. Comunello et al., 2017; Lagacé et al., 2015)."

(Rosalez & Fernández-Ardèvol, 2020, p. 1074).

Chapter 1: Introduction

1.1 Introduction

This chapter considers the emergence of digital technologies in the 21st century as ubiquitous tools by which everyday life is lived for most people, establishing an unprecedented socio-technological revolution that has yielded profound effects upon the population of the EU, and older adults in particular (Vincek et al., 2024). It expounds upon the materialisation of an ageist model of digitalisation, giving rise to a novel form of discriminatory and socially stratifying phenomenon in society through the structures and systems of the 'Digital Divide' (Krueger et al., 2018). The European Union (EU), through the policy-making powers invested in the European Commission (hereinafter referred to as the 'Commission'), is responsible for policies that influence the dynamics of demographic ageing and the trajectory of digitalisation (European Vienna Centre, 2013). This chapter explores the interplay between ageing and simultaneous digitalisation in the EU, with a focus on the experiences of older people in modern digital society.

It also discusses the digital aspects of intersectional discrimination faced by older people through ageist and ableist social barriers to equitable digital accessibility and inclusion (Mubarak & Suomi, 2022). Significantly, it highlights the emergence of ageist discourses from the processes of digitalisation that meld with traditional discursive narratives of age-based discrimination (Rosalez & Fernández-Ardèvol, 2020), compounding the alienation and disenfranchisement experienced by older people in the digital era. It draws attention to the power of social discourse in modern society (Van Dijk, 2000). Accordingly, it underscores the necessity of understanding and discerning the extent to which the opinions and discursive narratives of older adults and caregivers towards contemporary interactionism between people in later life and digital technology are informed by Commission policy. On this basis, it

considers the identification and empirical analysis of areas of concordance and divergence in viewpoints and desired outcomes between the Commission, older adults and caregivers, with the latter two as key stakeholders, on the topic of digital technology utility and interaction for people in their golden years, to be of utmost importance in the creation of equitable person-centred policy in this domain.

The subsequent sub-sections of this chapter explore fundamental dimensional aspects of the research problem and bring their relevance to the purpose of this thesis. Further, they address social discourses and narratives pertaining to intersectional aspects of discrimination frequently faced by older people in a digitalising society (Yeung & Breheny, 2022), namely in the form of digital and ableist inequalities (Van Der Horst & Vickerstaff, 2021). In addition, contemporary forms of ageist disempowerment and the subsequent deconstruction of individual autonomy and agency of older people through intolerant social discourses and narratives towards old age and perceived incompatibility with digital technologies are discussed (Wu et al., 2015). This chapter outlines the driving research question underpinning this work and provides a roadmap for the layout and structure of the thesis. Further, it introduces the rationale for this research and gives context to the drawing together of variegated literature, discussing the place of older people in a digitalising society by exploring the evolution of ageism, digital technology, disability policy and intersectional discrimination. It conveys the interdisciplinary basis of the research, situating it between the disciplines of psychology, law and social science, and it sets down the architecture of the thesis by signposting the structure of the project while disseminating the justification for the methodological approach employed herein.

1.2 Older People in Contemporary Digital Society

Older adults residing in the EU occupy a peculiar and unique position in modern society. The social locus of older people assertedly represents a point of convergence for a variety of societal phenomena in the form of discourses, narratives (Lee & Hoh, 2023), perceptions and interactionism, that emerge from a historically complex relationship between society and persons in later life (Salvador & Sampietro ed., 2024). Some social discourses, particularly in relation to the mental and physical health of older people (Søraa et al., 2021), have arguably contributed to widespread, invalidating and generally unfavourable views of, and communal approaches to, demographic ageing. Moreover, as dynamics of social, economic, private and political life are drastically altered through the monumental paradigm shift of digitalisation, older adults are often adversely affected by an increasingly unfamiliar digital society (Ball et al., 2017). To this end, the digital revolution has contributed to unprecedented social change and rapid technological progress (Kraus et al., 2021), occurring well within the confines of an average human lifespan, and marking a momentous departure from normative historical trends of development that were often previously measured across multiple generations.

The novel and rapid pace of social change prompted by digitalisation and an increasing symbiosis between digital technologies, society and even the corporeal individuals therein, has added further complexity to the challenges that older adults face in modern life (Hill et al., 2025). Traditional discourses advocating a wardship approach to old age, ones that often view older adults as requiring paternalistic treatment (Phelan, in Ayalon & Tesch-Römer Ed., 2018), necessitating their increasing disengagement from all aspects of normal life, now intersect with narratives of a digitally driven world where technologically savvy younger people are the pioneers of technology and economic progress. Old age is regularly perceived, and even openly described as, a socio-economic burden for modern societies (Cohn-Schwarz & Ayalon, 2020).

Digitalisation has arguably exacerbated traditional stigmas of long-established ageist narratives, creating non-inclusive digital forms of social interactionism alongside an emergence of youth-oriented discourses from a digitally driven society that adapts itself constantly to the needs and whims of younger users of connected technologies (Jose et al., 2022; Rosales et al., 2023). This is frequently bolstered by youth-driven economic priorities, ostensibly due to the lack of a collective 'older voice' for people in later life in an online age. From a whole-of-society perspective, ageist narratives are frequently echoed by private individuals, the employment sector, and in the linguistic portrayal of demographic ageing and older people in public policy (Marques et al., 2020).

Nuanced and multifaceted socio-technological challenges facing older adults in contemporary society are frequently compounded by corporate and market-based values that underpin and drive strategic efforts towards digitalisation (Rosalez & Fernández-Ardèvol, 2020). Ageist narratives in public policy and correspondingly age-oriented rhetoric from the private sector prioritising economic and profit-enhancement measures coupled with an emphasis on youth-oriented digital goods, services and employment, arguably sustain discourses hostile to the civic position of older people (Ibid.). These discourses can, in turn, transcend the breadth of social interactionism (Vaz et al., 2022), from official government protocol to the individual conscience of the layperson at the grassroots level in society. Although digital technology holds the potential to facilitate the empowerment of older adults and people with disabilities to enjoy enhanced access to public, social, private and political life, the established model of digitalisation and the development of connected devices and services has been devised and implemented with little emphasis on concepts of person-centredness and universal design (Mannheim, 2023).

The EU is increasingly concerned about an ageing population within Member States, with digitalisation being touted as a potential means of partially circumventing anticipated

future economic stagnation and labour shortages caused by a marked decrease in the number of working age persons in active employment in proportion to the per capita ratio of retirees in society (Peine, 2024). Booming trends in demographic ageing and increasing numbers of older people in an ageist and rigid digitalising society are arguably reinforcing and exacerbating traditional narratives of ageism (Rychtaříková, 2019). As such, tendencies towards demographic ageing in the EU have been depicted in textual linguistic phraseology as a generally negative phenomenon (Ibid.). Further to this, in the public and private spheres (Cortijo, 2019), it is evident that concerns over the maintenance of sustainable economic trends into the future ostensibly underpin a significant element of the socio-cognitive precepts that govern the design, development and integration of digital technologies. It is singularly uncommon to come upon popular narratives or discourses that characterise digital technologies as a social tool for equitable human utility irrespective of age or ability. Instead, dominant discourses in this domain are generally punctuated by economic considerations, often entailing a strategic public policy focus on youth-oriented consumerism and employment (Mulders, 2019).

Influential social discourses and their adjunctive corresponding thematic undertones that are connotative of maladaptive dispositions among older adults towards the adoption of digital technologies (Lythreatis, 2022), insinuate that people over the age of 65 are a net drain on society in every sense after they leave employment. These ageist precepts can flourish alongside official narratives that openly describe older people as a demographic burden that is dependent on younger persons for economic sustenance (Saraceno, 2010), and effectually, for continued existence. Ageist narratives frequently neglect to conceive of any potential for substantive contribution or involvement by older people in a digital society, and sometimes openly describe persons in later life as a demographic burden that is dependent (Spijker & Schneider, 2020; Kesby, 2017), almost parasitically so, on younger and economically active

workers. As such, due to a melding of traditional ageist stereotypes with more novel discourses of perceived incompatibility between persons in later life and a modern high-tech digital society, attitudinal standpoints are strongly influenced by overt, subversive, official and non-official discursive narratives in circulation.

1.3 Intersectionality of Ageism and Ableism: Theory and Reality

Dubravka Šuica, the former European Commission Vice-President for Democracy and Demography and current Commissioner for the Mediterranean (European Commission, 2024), declared in September of 2020, at a conference titled 'Strengthening Older People's Rights in Times of Digitalisation - Lessons learned from COVID-19', that "[w]e need to clarify the place of older persons and their rights in a growing digitalized society" (Age Platform Europe, 2020). Therefore, in order to comprehend the enormous challenges intrinsic to this objective, it is necessary to discuss the scholastic roots of ageing studies and understand the intersection between ageism and ableism.

The late American scholar and physician, Robert N. Butler, pioneered the field of gerontology and became the first director of the National Institute on Aging, which provides information on healthy ageing and common health conditions in older adults through academic research. Butler coined the term 'ageism' in his landmark 1969 article titled 'Ageism: Another Form of Bigotry'. In this seminal work, he juxtaposes the widespread racial prejudice in the United States and the accordant turbulence of the period, with an all-pervasive, yet unrecognised, subtle and unacknowledged form of discrimination; one that is based along the lines of age. By crediting Malcolm X and others with making the concept of racism familiar to the wider public, Butler (1969) transposes the principles of the civil rights movement to highlight the nuanced and prejudicial character and social mindsets associated with the divisions between general archetypal human age groups, namely the young, the

middle-aged and the old. To this end, the term he developed to describe this discriminatory intergenerational prejudice situated along lines of age was, ‘Age-ism’ (Ibid.). Through this work, Butler created a lexical and discursive framework for understanding age-based discrimination, while capturing the ethos and social zeitgeist of the time, when the civil rights movement in the US brough international attention to racial discrimination and the right of people to engage with society and enjoy the same freedoms and legal protections on an equal basis with others irrespective of colour, race or religion, among others (Ibid.).

Six decades later, however, older adults in the EU are frequently experiencing increased social, personal and legal disempowerment in the era of digitalisation that has rapidly gathered pace in recent years(Fleming et al., 2018). An appropriate comparison to the marginalisation experienced by older adults is the ‘medical’ or ‘individual’ model of disability. Drum et al. (2009) says that “The medical model views disability as a condition that resides within an individual that can be cured or ameliorated through a treatment or an intervention” (P. 42). Notably, older people tend to experience disability (Oldman, 2002). In fact, a medicalised view of age regularly tends to picture older people as a burdensome demographic who contribute little to society due to their disengagement and (Spijker & Schneider, 2020), for all intents and purposes, perceived disablement because of certain natural effects of old age coupled with a currently individualised, wardship and paternalistic archetype of ageing. In this vein, Cumming and Henry (1961) postulate that a process of irrevocable withdrawal from society alongside a gradual decrease in interactions with others in the community and social system in which an older person resides, comprises a natural and inevitable part of old age; they conceptualise this as ‘disengagement theory’. However, this idea has been criticised in more recent times, as it arguably corresponds to a medicalised view of the ageing process; one which presupposes the necessity of a paternalistic approach to older people as they naturally (Ibid.), or even wilfully,

surrender their ability to engage with society, thereby losing the privilege to manage their own affairs as independent persons as a result.

The medical or individual model of disability is widespread in a multi-sectoral context within the EU in the 21st century, especially with regards to the discursive portrayals of older adults (Fernández-Ballesteros, 2020). Normative and ageist discourses imply that older people are responsible for their own disempowerment through a perceived incompetence in their capacity to effectively utilise digital technology (Mannheim, 2019), coupled with a persistent and inflexible preference for a traditionalist and familiar pattern of daily life akin to that which they previously experienced in the pre-digital age. This is especially the case for older adults who have experienced substantial social alienation due to the rapid proliferation and expanding ubiquity of digital technologies that are increasingly required for the enjoyment of personal liberties and self-administration in modern-day life (Cheung et al., 2023).

As expounded towards the end of this section, the era of digitalisation has resulted in a carceral social model of existence for many older adults who regularly experience disempowerment (Mubarak & Suomi, 2022), isolation, and sometimes even the subsequent erosion of their capacity for independent decision-making and autonomous living in the digital age. As a result, older adults are often subjected to wardship-minded and restrictive practices akin to those that are frequently experienced by persons with disabilities in care environments under the medicalised individual model of disability (Leahy, 2024). They are often rendered helpless and totally powerless to influence their own lives, make decisions, or enjoy the normal freedoms of healthy persons (Della Fina et al., 2017). Evidently, there remain many serious questions to answer and challenges to address regarding ambiguous, non-standardised (Haslwanter and Takacs, 2022), and intersectional ageist policy biases and discriminatory discourses in the procurement, rationing, delivery and subsequent accessibility of digital technologies for older adults.

The medical or wardship approach to persons in need of care constitutes a long-established historical precedent within society (Dinu, 2025). This has traditionally applied with exceptionally consistent rigour to older adults and persons with disabilities throughout history, as well as in modern times. The underpinning dogma of the medical model is that a paternalistic and wardship approach is required when addressing social challenges posed by old age or disability (Berghs et al., 2024; Düwell et al., 2015), whereby personal liberty, bodily autonomy and even legal capacity are potentially denied to the individual for an implied purpose of acting in their best interests (Humboldt et al., 2024; Duffy et al., 2025). The contradiction here resides in the actuality of the circumstances with which an individual in old age or with a disability must often reckon; the invalidation of their bodily autonomy, circumspection of their decision-making rights and competences, and even the erosion of their legal capacity (Casey et al., 2023; Duffy et al., 2025), rendering inaccessible their independence and ability to live life in a manner of their choosing. Whilst digital technology has, in limited but increasing capacity, been used to empower persons with disabilities to enjoy their rights, freedoms and autonomy in a digitalising society, older adults have often and paradoxically become further alienated from mainstream public (Mubarak & Suomi, 2022), social and private life as discourses of a technologically advanced culture can communicate subversively ageist and youth-oriented perspectives of the present and future. Generally, these discourses indirectly infer that old age has little place in a youthful and digitally driven future (Ibid.), yet this narrative and outlook is incompatible with current and prospective demographic trends in the EU.

The digital divide is arguably proving to be something of a double-edged sword in socio-technological terms, as advanced connected devices and services are, with some exceptions, empowering and enabling younger generations of persons with disabilities to exercise their rights to personal autonomy and decision-making capacity (Manzoor & Vimarlund, 2018). Nonetheless, older adults are often simultaneously experiencing exclusion,

disempowerment and immobilization in an increasingly technology-driven environment (Mubarak & Suomi, 2022; Walsh et al., 2021). Moreover, they frequently experience the digital revolution as a disabling phenomenon, contrary to the enabling potential it has yielded for many among younger age categories (Ibid.). In addition, there remains a pervasive and socially stigmatic perception of disability in old age as being naturally representative of the condition of simply being alive and in existence in the later phases of an average human lifespan (Holman & Walker, 2021). With respect to matters of discourse, one can draw the conclusion from this viewpoint that it is arguably devoid of empathy for older adults who may experience disability and immobility, but often without many of the novel and burgeoning rights, supports, or public recognition that increasingly exist for persons with disabilities in younger age categories, due to intersectional and discriminatory discursive narratives exacerbated by the digital revolution. Highlighting intersectional discrimination faced by older adults, Age Platform Europe (2017) explains:

> All too often double standards apply in law and practice, excluding older people from some benefits, applying different eligibility criteria or giving less support when disability occurs in old age. Moreover, when ageism interferes with disability assessments, older people are not offered the same level, quality or ranges of support as younger people with disabilities. Such different treatment reflects a view according to which 'because you are old you are not disabled' or 'you are disabled, but you do not need the same level of support because older people are not so active anymore.

The 'social constructionist' lens of the 'social' model of disability perceives a rigid and inflexible society as the genesis of 'disablement' (Arduin, 2013), and it posits that such communal constructs are currently only designed for an exclusive section of the general population (Anastasiou & Kaufmann, 2011). Customarily, this has historically consisted of able-bodied, healthy and economically active persons. Chu et al. (2022) also infer that

prevailing normative social discourses governing concepts of ‘old age’ and ‘disability’ often manifest in both ageist and ableist interpretations of the ageing process, particularly in the era of digitalisation (Warmoth et al., 2015). In the language of contemporary policies within the Commission, as implied by Rohwerder (2015; Gutterman, 2021), older adults above the age of 65 with a disability are sometimes portrayed in discourse as ‘old’ as opposed to being a ‘person with a disability’, or as belonging to the category of ‘old age dependency’ (European Commission, 2021). This form of intersectional discrimination exists along ageist and ableist lines of the kind highlighted by Jönson and Norberg (2021), particularly in negative and connotative presentments of older adults and the ageing process through discourse in written policies and publications from multiple sectors, which have arguably permeated governance rules influencing the production, rationing, and accessibility of digital technologies within the EU. Discriminatory discourses in policies and national practises regarding the entitlements of older adults to access digital technologies and services have assertedly compounded widespread demographic isolation and social disengagement of persons in later life, further alienating them from mainstream society (Mubarak & Suomi, 2022).

Hence, by establishing a conceptual linkage and juxtaposition between disability and old age, while simultaneously acknowledging that many belong to both groups at the same time (McKee et al., 2023), it is possible to consider the variegated barriers and challenges faced by either part of society (Priestley, 2003), in a discursive and socio-legal context. Indeed, this association is theoretically and methodologically helpful for the purpose of contextualising this research project by way of a useful comparative illustration. It is informed by a rich corpus of academic literature acknowledging the pervasive intersectional discrimination and loss of bodily autonomy frequently experienced by older people and persons with disabilities (Georgantzi, 2023). Furthermore, this is often compounded by intolerant and medicalised discourses towards disability and old age (Ibid.), exclusionary practices and barriers in society

and the built environment, as well as a lack of sufficient accessibility and universal design in digital technologies and services. In this respect, older adults and people with disabilities regularly face similar challenges, such as a paternalistic approach to their care and engagement with society, and frequent disregard for their wishes, preferences and decision-making capacity (McKee et al., 2024). The comparison between these groups is thuswise warranted, as it supports the identification and emphasis of areas of distinct difficulty faced by older adults in contrast with younger people with disabilities from a social, legal and discursive perspective. Modern scholarship reinforces this position and expresses the need for an effective extension of equivalent United Nations Convention on the Rights of Persons with Disabilities (CRPD) 2006-like protections to older people (Poffé, 2015; Hopf et al., 2020), particularly in light of the success of the CRPD for persons with disabilities, bolstered by the ethos of 'nothing about us without us', and positioning them as active discursive agents in the creation of new laws and policies directly affecting them (Georgantzi, 2018). As such, the conceptual linkage between the prejudicial inequities faced by older people and persons with disabilities, and the useful discursive and socio-legal comparisons afforded therein, are intended to bolster the analytical coherence and methodological rigour of the thesis.

As mentioned at the beginning of this section, despite the gradual emergence of the social model of disability during recent decades as a favoured conceptual lens through which the genesis of disablement is perceived as a societal issue (Oliver, 2013; Anastasias & Kaufmann, 2011), embodied by multitudinous inaccessible and discriminatory structures in the built environment, products, services, online and in communal attitudes towards persons with disabilities, a carceral modus of existence for many older people has conceivably persisted within, behind or adjacent to this framework. In this sense, the carceral aspect experienced by older adults is arguably hidden and, in many senses, forgotten, behind the considerable success of the groundswell disability rights movements in the EU as proponents

of the social model (Mladenov, 2022; Hurst, 2005). The theoretical contours and defining features pertaining to the proffered concept of a ‘carceral social model’ are substantiated by a normative societal suppression of individual agency in old age through a continued expectation of withdrawal from the community, and society in general, and are therein paradoxically evocative of disengagement theory (Cumming & Henry, 1961), at a time when more younger people with disabilities are accessing the necessary supports to engage with society than ever before. In essence, this amounts to the persistence of concealed medicalisation within, or adjacent to, the nascent social model context of disability.

This assertedly contributes to an ageing process that is typified by an encroachment of constraints over time (Spijker & Schneider, 2020; Georgantzi, 2023), increasingly medicalised approaches to care delivery, surveillance of various kinds in everyday life, and the perceived diminishment of personal authority with regard to decision-making processes. Moreover, digital technologies, services and digitalisation processes, constitute a novel dimensional addition to those of time-honoured traditional physical and conceptual spaces. As this new digital dimension is, perceptibly, an arguable extension of the latter, it is therefore conceivably vulnerable to, and frequently imbued by, a transposition and infiltration of the same discriminatory designs, discourses, attitudes and structures that continue to pervade public perceptions of ageing amidst the backdrop of rapid digitalisation (Mubarak & Suomi, 2022). As such, despite its liberating potential, as experienced by many, including younger people with disabilities, digitalisation frequently manifests as an additional and novel present-day obstacle for older people in the twenty-first century (Chu et al., 2022); one that is, assertedly, conceptually derived from, and which often embodies, traditional ageist norms and pre-existing physical and conceptual barriers inherited from the past century, thereby contributing greatly to the carceral social model experienced by many in later life.

1.4 An Expeditious Digital Revolution

The early 21st century has borne witness to a great awakening of the proverbial digital 'sleeping giant' that comprises the 'Internet of Things' (IoT), smart devices and Artificial Intelligence (AI) technology, as well as their accordant integration into many aspects of society and the economy. However, the proliferation of these technologies has been guided and largely galvanised by predominantly youth-oriented approaches (Rosales & Fernándes-Ardévol, 2020), particularly in terms of policy, to encourage profit-making and job market potential for younger generations. The benefits of these technologies have, thus far, often eluded older adults in the EU, as they frequently experience novel and advanced computational devices and processes as a barrier, rather than an enabler, in their daily lives (Seifert et al., 2020).

As time passes, it is clear that humanity is on the cusp of a major change; one where digital technology and physically miniaturized computational devices become merged with everyday life and, increasingly, even the corporeal self (O'Lemmon, 2020). AI, Virtual Reality (VR) and Augmented Reality (AR) are rapidly expanding platforms in the fields of digital industry, education and medical science, among other areas. Rapid automation across a spectrum of economic sectors, primary, secondary and tertiary, is now complemented by increasingly capable algorithms that can mimic the problem-solving and decision-making capabilities of humans through machine-learning processes (DeCanio, 2016; Coombs et al., 2020).

The pace of digital technological advancement in computational capacity in the 21st century has been unprecedented. To this end, digital technologies have progressed at an almost exponential rate over the past two decades; they have reshaped the social fabric of humanity, transforming the global economy into an information and data-driven matrix of algorithmic speculation and transaction. Mollick (2006) explains that this rapid pace of advancement mirrors a theoretical heuristic rule in computational architecture posited in 1965 by Gordon

Moore (1929 – 2023), an American engineer and co-founder of Intel, that the number of transistors in a dense 'Integrated Circuit' doubles about every two years (Lundstrom & Alam, 2022). This has facilitated the unparalleled pace at which digital computational technology has been miniaturized and subsequently integrated and embedded within mainstream society; quickly becoming indispensable as an everyday medium through which modern work, social and private life is conducted and experienced (Hoehe & Thibaut, 2020).

Advanced digital technologies can connect to online web platforms to facilitate information sharing, functionality and service delivery through a variety of applications (Cheung et al., 2023). They can support and expedite communications between a multiplicity of devices through the anastomotic IoT and, importantly, retain a latent potential to empower the older user to exercise their rights and freedoms if developed and made available in an equitable and universally accessible format (Marston & Musselwhite, 2021). Since the advent of ubiquitous 'Quad-Core Computing' in 2012, and subsequent computational advances in the power of small digital devices such as smartphones and tablet computers amongst others, the past decade has witnessed an unprecedented increase in the proliferation (Bogers et al., 2022), availability and computational capacity of computers, connected 'Wearable Devices' (WDs/Wearables) (Canali et al., 2022; Stavropoulos et al., 2020), smart vehicles and other apparatuses that together comprise the IoT.

Alongside these technological advancements, AI and machine-learning processes are rapidly transforming and reshaping the utility, scope and future roles of cyberspace, internet connectivity and IoT systems within society (Hilbert 2020). Presently, there are an increasing number of smart Assistive Technologies (AT) with AI applications amongst other IoT apparatuses available for persons with disabilities or reduced mobility, though numerous barriers to digital accessibility persist in the modern EU (Botelho, 2021; Manzoor & Vimarlund, 2018). Assertedly, older adults comprise the core demographic experiencing socio-

technological exclusion in the EU (Brătucu et al., 2022), primarily due to a wide spectrum of discriminatory digital barriers that are increasingly exacerbated by ageist discourses and contemporary market-based models of digitalisation. Moreover, despite the rapid pace of technological advancement as outlined above, a coherent strategic Commission policy framework for the social integration of digital technologies for older adults is arguably still in a conceptual stage.

1.5 'Nothing About Us Without Us', but not for Older Adults?

Since the 1960s, due to the work of disability advocacy networks, the social model of disability, as a revolutionary cultural and communal medium of discourse creation and representation by persons with disabilities, slowly trickled into the academic and advocacy domains as an aspirational modality for promoting their rights (Anastasias & Kaufmann, 2011). The social model, as discussed by Oliver (2013), comprises a revolutionary concept in the field of disability rights advocacy, and argues for the empowerment of persons with disabilities through the equal bestowal and protection of the same legal rights for all people, irrespective of ability. Furthermore, it advocates for the physical and conceptual restructuring of society and public infrastructure to effect and enable universal personal autonomous liberty by promoting the reframing of disability through person-centred and human rights discourse in laws, policies, and in social depictions of illness and compromised health. Traustadóttir (2009) states, that, "Inspired by the political and social turmoil of that period disabled people protested against their incarcerations in mental institutions and nursing-homes, against poverty, exclusion and the discriminations they encountered" (p. 6).

Traustadóttir captures the essence of the traditionally dominant individual model of disability as a paternalistic social solution-finding measure for the management of challenging circumstances experienced by older adults and persons with disabilities who require care due

to illness or diminished physical and mental capacity (Düwell et al., 2015). This model of care and social discourse entails the prescription of wardship practices that often neglect to consider the wishes, preferences and rights of older adults or persons with disabilities (Zaks, 2023). Yet, younger people with disabilities have been able, through a combination of self-advocacy and representation, to acquire significant social and political agency with which to push for tangible reforms in law and policy to improve their personal circumstances (Hurst, 2005). Digital technology has played an important part in facilitating this positive change for persons with disabilities, particularly with respect to employment (Vornholt et al., 2017), public and political participation, as well as personal autonomy. However, older adults have often experienced a reinforcement of the individual model of disability, as it is deeply embedded within traditional social approaches to ageing and the provision of care, often irrespective of illness or ability (Petretto et al., 2022).

For older adults, the process of the digital transition often results in a situation where healthy persons who have lived most of their lives without a disability can find themselves effectually disabled by the same society in which they previously enjoyed their liberties, personal autonomy, public and private lives, at an earlier point in time (Zhang, 2023). In addition, even in the absence of a physical or cognitive disability, the rapid proliferation and development of disruptive digital technologies have radically altered the nature and pace at which life is experienced. Flynn (2022) explains that, for many older adults, this has often led to their increasing unfamiliarity with the means and conventions by which one exercises control over their finances, correspondences, purchases, social and public lives among other areas, in the digital age.

Pervasive cross-sectoral stigmatic discourse attached to the ageing process has led to ingrained ageism in social policies when considerations must be made for older adults and the intersectionality of age-based discrimination (Holman & Walker, 2021). This is heavily

reflected in the care sector across the EU and in the manner of the distribution and implementation of digital technologies in modern European society (Pirhonen et al., 2020). Georgantzi (2018) explains that "the Commission does not consistently consult representatives of older people in dossiers of direct relevance to them, thus failing to attain their equal participation" (p. 349). As such, this necessitates the study and disentanglement of multisectoral attitudinal precepts of ageing as echoed in social and institutional discourses, alongside further research into the effects of age-related narratives that permeate policies in care, and through interactions with digital technology and government in the EU. Contemporary Commission policy, with influence over ageing, disability and digitalisation, assertedly comprises the strategic and principal locus to the official affirmation, and centrally approved direction of a social portrayal of older adults and their place in a digital society in the coming decades.

1.6 Understanding the Digital Divide Along Ageist Lines

Rapid technological progress in recent years has discernibly contributed to pronounced generational divides (Agarwal et al., 2017), particularly with respect to familiarity of use towards high-end digital goods and computational devices such as computers, smartphones and increasingly, evermore interconnected household appliances and WDs that utilize smart and IoT technologies. As such, the digital divide phenomenon arguably constitutes a significant part of a greater socio-technological schism between older adults above the age of 65 and younger generations (Flynn, 2022). Normative communal perceptions are shaped by societal views and discourse, often self-affirmed by real-world circumstances and experiences through social interactionism, that older age corresponds with markedly decreased technical competence regarding the uptake and utility of technological goods, products, and services (Mariano et al, 2021).

This widespread viewpoint also extends to the integration policies towards digital technologies as outlined by Mannheim et al. (2022), which two consecutive decadal EU disability strategies, the European Disability Strategy (EDS) 2010 – 2020 (European Commission, 2010), and the Strategy for the Rights of Persons with Disabilities (SRPD) 2021 – 2030, emphasise as being necessarily made available to persons with disabilities, including those who are of working age (European Commission, 2021). To this end, it is imperative to closely examine the discourses of Commission policies and strategic documents that detail contemporary schematic plans to address the challenges posed by demographic ageing and the digital divide. Furthermore, it is fundamentally necessary to understand how discriminatory discourses can contribute to intersectional discrimination along the lines of age and ability in the context of a digitalising society.

Despite substantial latent potential in the utility of digital technologies for the common good of humanity, their rapid development combined with recurrent manifestations of issues pertaining to the misuse of these capabilities, has led to uneven progress and a multitude of direct and indirect forms of discrimination, including ageism (Chu et al., 2022), throughout contemporary society. The breakneck pace of change caused by the swift proliferation of computational devices has precipitated a situation whereby a significant portion of older adults and pre-retirement age persons have experienced exclusion and reduced ability to engage in their social, private, economic and political lives due to the advent of these technologies (Mubarak & Suomi, 2022). Having grown up and experienced adulthood in the pre-digital age, many among older generations have suddenly found it impossible to continue living a familiar pattern of life in the same manner as they had done so for decades (Ibid.).

Multifaceted and discordant stakeholder perspectives on the integration of digital technologies into the lives of older adults has led to a situation where there exists considerable, yet unrealised, strategic potential within contemporary computational technology development

for protecting and enhancing the independence and bodily autonomy of persons in later life (Yang & Moody, 2021). To this end, present-day pioneering and protean industrial capacities of the modern high-tech private sector retain considerable scope for improving the lives of older adults. However, divergent policies and schools of thought (Rajan, 2022), coupled with inherent sectoral biases and ageism, render the procurement, development and integration of digital technologies for older adults a formidable ambition (Xu et al.,2021).

Having lived a greater part of their lives without utility or need for a computational device of any kind such as a home computer or a smartphone with internet connectivity, many older adults view modern technological devices with confusion, hesitancy, or apprehension (Kim et al., 2023). Furthermore, resistance to undesired change coupled with adherence to patterns of familiarity in daily living among older adults is often reported and documented in scholarly journal articles by researchers in fields of gerontological relevance (Tsai et al., 2020). Behavioural tendencies that exacerbate use and uptake levels of smart devices include commonplace viewpoints among older adults that they have lived their entire lives until the present without the requirement for digital technologies (Wu et al., 2015; Zhang, 2023), so why would they suddenly need to use such a contrivance or apparatus from now on? Other attitudinal presuppositions of the ageing process among older adults commonly comprise self-stigmatic views and deprecating discourses towards ‘old age’ (Ayalon & Tesch-Römer Ed., 2017). Increasingly, due to digitalisation, attitudes of isolation and technological redundancy are assertedly proliferating and exacerbating self-stigmatic tendencies among older adults towards old age (Köttl et al., 2021), fuelling corresponding beliefs in a perception of their own diminished social worth to modern society.

1.7 Privacy and Social Agency: Challenges to Autonomy and Freedom for Older Adults in the Digital Age

Despite the burgeoning possibilities and potential benefits of a connected society that is supported and aided by digital technologies, global and regional economic divisions have thus far meant that many of the positive returns of a computational culture have eluded the poorest and most vulnerable (Francis & Weller, 2022), with older adults comprising a substantial portion of this demographic (Maregoni et al., 2011; Abdi et al., 2019). Katz et al., (2020) notes that this situation could easily worsen in coming years as increased automation leads to widespread job losses and a substantially widened skills-gap for new positions that emerge as part of the high-tech development trend. In addition, there is a risk that pre-retirement age persons and older adults could experience even greater exclusion from a closed and symbiotic socio-technological loop in some regions as it becomes dominated, primarily by younger adults, who are familiar and adept in the utilities and functions of digital technologies (Ivan & Cutler, 2021). It is not improbable that this may exacerbate ageist discourses, further punctuating generational divides and fuelling socio-economic tensions along ageist and classist strata whilst simultaneously deepening economic disparities between rich and poor demographics.

In addition, many modern digital health technologies have ‘dual use’ potential; meaning that they can be used for civil benefit as well as for nefarious security or monitoring purposes (Krauel & Frewer, 2024). In a time of increased geopolitical tension and division, authoritarian governments, are displaying growing tendencies to espouse Orwellian levels of control, indoctrination and surveillance over their respective populations (Nyst & Falchetta, 2017). Ideals of independent living and protection of privacy are evidently anathema to such regimes, and they represent a perfect example of the power of digital technologies to restrict the freedoms of entire peoples when digitalised systems are misused (Knight et al., 2024). More

locally however, older adults are increasingly vulnerable to surveillance and privacy infringements through the misuse or poor implementation of digital technologies in their lives. Indeed, König et al. (2018) emphasise that older adults often experience disempowerment in the absence of adequate access to digital technologies, or through a lack of independent oversight in the manner of their utility in care environments of the contemporary EU. Furthermore, they may present as the most vulnerable demographic in a high-tech society as their capacity to effectively govern their public and private lives (Boise et al., 2013), as well as their finances and asset wealth, experiences increased corrosion due to difficulties with access to, and utility of, digital technologies.

Although digital technologies undoubtedly hold tremendous potential to aid and facilitate independent living for older adults, they also incorporate an inherent risk for increased surveillance and removal of privacy (Vimarlund et al., 2021; Bennett, 2019). Any positive or negative eventuality in this regard ultimately depends upon the manner of the development, utility and governance of such technologies as they are integrated into modern societies. Democratic traditions and ethos, transparent and cross-sectoral communication and cooperation (Land & Aronson, 2020), with effective oversight from third party organisations and individuals, including non-governmental organisations (NGOs) and academic researchers, as well as user-led input mechanisms and consultation processes, are all indispensable for the promotion of an ethical proliferation and governance framework over of digital technologies for older adults. The starting point of such a change is for humanitarian, anti-ageist and person-centred discourses to comprise the medium of informational, socio-cognitive and perceptual transmission for driving this paradigm shift.

Academic researchers in both third-level institutions and civil society (Oliver & Cairney, 2019), comprise a prerequisite instrument for the proposition and formulation of identification, navigation and amelioration recommendations for some of the policy challenges

faced by increasingly connected societies. This can help to promote and enhance the positive aspects of digital technologies for the beneficence of all individuals, irrespective of age or ability, through the incorporation of a discourse and ethos of human rights and equitable access to modern connected devices and services as well as their full utility (Lagoutte & Soskin, 2018). However, the current situation facing the struggle for coherent and anti-ageist uniformity of strategic policy vision in the integration of digital technologies and services in the lives of older adults is one of uncertainty. As Pirhonen et al. (2020) notes, the existence of advanced digital technologies of revolutionary potential for the enhancement of rights-based autonomy and independent living of older adults is, most unfortunately, currently not synonymous with their accessibility, affordability and equitable distribution.

Connected digital technologies have revealed an ever-expanding manifest of potential capabilities that help to streamline business, consumer and entertainment processes, among many other areas. For researchers who promote the cause of independent living and digital connectedness for older adults and persons with disabilities (Kocjan et al., 2022), the digitalisation process has revealed a prodigious level of latent potential in the dormant power of connected devices and services to facilitate personal autonomy and mobility for individuals facing distinct social challenges to their corporeal sovereignty (Marston & Musselwhite, 2021). Thus far however, the development, commercial economics and marketing of such devices and services has primarily been directed towards the facilitation of business processes, furthering the profligacy of mass-consumerism and subsequent data-syphoning by large corporations (Warner & Wäger, 2019). This has spawned a digitally driven commercial feedback loop of digital product production and marketing, supported by resultant fiscal boons through data collection and analyses from the selling of connected devices and services (Jiao et al., 2025), which arguably ossifies efforts to encourage corporate dynamism in areas that are traditionally viewed as being less profitable and competitive. Advocates promoting the adoption of

'universal design' have long cited this dilemma which impedes corporate and market flexibility (Callard & Rose, 2012), undermining willingness to tap into and fully employ the latent humanitarian potential of digital technology.

As such, the social constructionist perception of contemporary societies perceives them as a 'disabling society' (Perkins, 2004), with modern day cities being increasingly labelled as 'disabling cities' (Prince, 2016). In general, there exists a subliminal and pervasive ignorance towards disabling societies in the EU (Babik & Gardner, 2021), giving rise to a social paradox whereby a healthy person moves through society over decades and remains largely unaware of the inherent and incapacitating potential of the community and built environment in which they reside and interact with on a daily basis. This situation can change however, once the individual crosses the threshold of old age, irrespective of any acquisition of a disability, as they may lose their familiarity with society through rapid changes brought on by digitalisation (Mubarak & Suomi, 2022). In this sense, individuals can subsequently experience exclusion from the benefits of the digital transformation. Thus, in a relatively short space of time, the digital revolution has (Ibid.), in many instances, compounded aspects of environmental inaccessibility while contributing to disabling conurbations by adding socio-technological and discursive obstacles to pre-existing physical barriers.

To this end, fragmented and siloed sectoral interests, fuelled by prospects of economic profit, and exacerbated by strategic policy inflexibility due to ageist discourses that promote discriminatory attitudinal presuppositions towards the ageing process, must not supersede a human rights-based approach to the availability and adaptability of digital technologies for older adults (Rosales & Fernándes-Ardévol, 2020). This vulnerable demographic must be empowered to affect discursive change and achieve full and unequivocal self-representation in all domains of sectoral and strategic approaches to human rights, disability law and policy creation, supported by equal access to digital technologies.

1.8 Research Problem

The extent to which the discourses of older adults and their caregivers towards utility of digital technology are informed by European Commission policy is arguably quite unclear at the present time. Further, there is a discernible and specific dearth of knowledge in this area with respect to the degree of discursive social interactionism that takes place between older people (Schroeder et al., 2023), caregivers, and the policy-making institutional bureaucracy of the Commission. Indeed, while civil society organisations provide an indispensable voice for people with disabilities to lobby the European Parliament and Commission to wield a degree of self-representational agency in the creation of new policy (Priestley et al., 2016; Halvorsen et al., 2017), the same bureaucratic instrumentality for older people is far less developed (Georgantzi, in Ayalon & Tesch-Römer Ed., 2018). Thus, it is necessary to understand the discourses of older people, their caregivers, and that within policy output from the Commission, to identify areas of accord and divergence in opinions and priorities between key stakeholders and the core EU body of institutional agency for strategic protocol-creation and governance. This research aims to address a theoretical gap in scholarly literature concerning the use of Critical Discourse Analysis (CDA) for investigating potential discursive variations between EU policy, and the perspectives of older adults and their caregivers, who are regarded as key stakeholders, concerning their views and preferences towards digital technologies. As such, CDA is elected as the appropriate methodological approach for the purposes of this project, due to its ability to critically explore the construction of meaning and accordant framing of information in written texts and other forms of discursive mediums, and is therefore central to the identification and discussion of emergent themes within the varied corpuses of literature herein. By applying Fairclough's 'Three-Dimensional Model' of CDA, this thesis critically explores the relationship between institutional discourse and stakeholder perspectives

with a particular focus how EU policy influences, and is influenced by, the narrative precepts of older people and caregivers in a digitalising society through top-down and bottom-up flows of discursive transmission (Fairclough 1995; 2001). This is necessary to investigate and disentangle the complex web of sector-specific discourses to verify the extent to which government policy is informed by the concerns of key stakeholders at the grassroots level (Bandelow et al., 2024).

The research adopts a novel empirical approach to the conceptual framework and data analysis of scholastic literature by searching the official legal repository for EU law, EurLex, and comparing the discourses of policy documents extrapolated therein with discursive narratives on ageing and digitalisation from two prominent academic journal article databases; ProQuest Applied Social Sciences Index and Abstracts (ASSIA) and ProQuest Central. The rationale underpinning this methodology is premised on the theory that the discourses in the EurLex policy literature are likely to influence, give agency to, and warrant comparison with, the narratives and themes within the two academic databases which respectively convey the opinions of older people and caregivers on digital technologies and their role in the lives of persons in later life.

This thesis screens and deconstructs linguistic expression in discourses emerging from policy documents and publications of the Commission with respect to texts authored in the decade since 2012, the ‘European Year of Active Ageing’, regarding the future direction of demographic ageing and the relationship between older persons and digital technology. Critical analysis and interpretation of the discursive strands isolated in, and extrapolated from, Commission policy documents, represent a significant component of social discourse. This analysis can lend an insight into the manner in which official narratives influence socio-cognitive attitudes and precepts of old age amongst older adults themselves. It is then possible

to discern the overarching viewpoints that are echoed by older people, and by those who work in the care sector.

The application of qualitative data analysis using digital coding software in conjunction with a structured research framework for independent replicability, provides a robust empirical approach to the deconstruction and synthesis of interdisciplinary text corpuses derived from a single legal database and two academic journal article repositories. Thus, in both the subject matter of investigation in this thesis, and through the novel research stratagem devised and employed therein, the operationalised framework for CDA of legal policy documents and academic journal article reports in this project comprises a significant flagship approach towards the addressment of a gap in the literature in a topical sense.

1.9 Research Question

Although it recognises its strategic role at an EU level, this research does not presuppose or presume any exact degree or knowable extent of potential influence that Commission policy may have on ageing and digitalisation processes across the union. Instead, it takes into consideration the apparent incipient willingness of the Commission to use soft legal mechanisms and complementary legislative steps to improve minimum accessibility standards in digital and assistive technologies, and online services. In this sense, the burgeoning readiness of the Commission to leverage policymaking and legislative powers to enhance digital accessibility standards in the EU is, assertedly, embodied in the development of two consecutive decadal strategic EU disability policies spanning 2010-2020 and 2021-2030 respectively, the latter of which is complemented in EU primary law as a consequence of the 2016 Web Accessibility Directive (WAD) (Directive 2016/2102) and the 2019 European Accessibility Act (EAA/Accessibility Act) (Directive 2019/882). Meanwhile, this thesis acknowledges that policy and legislative actions by the Commission to improve minimum

standards of accessibility in digital technologies are not necessarily synonymous or correlational with there being a perceptible degree of substantial persuasive power when it comes to changing the behaviours of large multinational corporations. Indeed, traditional dynamics of disinclination and resistance among major technological companies towards the implementation of universal design features and improved accessibility standards in digital devices and services are evident in scholarly literature (Marathe & Piper, 2025). Moreover, it is well-known that large multinationals frequently perceive universal design, accessibility features and service-user engagement processes with intransigence (Callard & Rose 2012), especially when such criterion is considered as corrosive to favourable cost ratios in corporate profit margins (Marathe & Piper, 2025).

As such, in view of complex human rights challenges emerging from the rapid development and proliferation of digital technologies and their subsequent symbiosis and ubiquity in the everyday lives of most persons in contemporary society (Petryshyn & Hyliaka, 2021), this project revolves around a driving research question which underpins the investigatory objectives of this thesis:

> (A.) Does European Commission policy discourse align with the perspectives of older adults and their caregivers regarding the role of digital technology in later life?

In answering this question, the thesis explores the thematic discursive interplay, overlap and distinction between narratives of institutional bureaucracy and that of key stakeholders.

This thesis intends to identify the primary thematic discourses and perspectives from Commission policies that influence ageing, disability and digitalisation, through critical analysis of the discursive textual elements that these protocols contain. It investigates the concordance of policy on the attitudinal and perceptual standpoints of caregivers and older adults with respect to their views on the role of digital technologies in the lives of people in

later life living within the EU. The ethos underpinning this research is to facilitate the promotion of person-centred integration of digital technologies through human rights-oriented textual and linguistic illustrations of older people and their relationship with connected devices and services (Mikołajczyk, 2022). Moreover, this thesis recognises that identification and awareness-raising with respect to discriminatory or non-inclusive language in policy, academic, and general social discourse, is arguably indispensable for the future amelioration of strategic sectoral discursive disconnectedness and discord across the civic, public, private and civil domains. The research aims to identify and highlight ageist and discriminatory discourses, if indeed they exist within the data sample, that threaten the development of a rights-based and equitable approach to demographic ageing in an increasingly digitally connected society (Mubarak & Suomi, 2022).

The identification of non-inclusive and ageist discourses with cross-sectoral representational potential, comprises an imperative objective in order to protect individual freedoms and independence for older people in a modern, high-tech society. As such, the core research question outlined above necessitates investigation and interpretation with increasing urgency, as it is of significant topical relevance to the contentious triumvirate relationship between old age, digital technology and public health within the EU (Ollevier et al., 2020). In this sense, the challenges posed by gaps in academic literature in the domain of rapid digital progress and resultant challenges faced by older people in an ageing and digitally oriented society arguably reinforces the originality of this project as a relevant and timely conception. A lack of uniformity and decisive stakeholder agreement in policy for accessibility, equitable integration and utility of advanced digital technologies for older adults is likely to yield substantial challenges to public health. Such a debacle may preclude the realisation of widespread independent living in older age and conceivably present itself as a most serious obstacle to sustainable socio-economic trends into the middle of the century within the EU.

This arguably represents a serious social and public health risk for all persons in the absence of decisive strategic action to ameliorate ageist discourses and related trends in policy and in the wider social attitudinal psyche towards digital technology, older adults and ageing. It explores themes in policy discourses that affect the integration of digital technologies in an ageing society (Mannheim et al., 2019), and it allots significant consideration to the corporeal individual, rather than the communal collective, as a result of a 'person-centred' doctrine, meaning that the human rights and independence of older people comprises a key underpinning value and ethos in the rationale for this thesis.

1.10 Structure and Outline of the Thesis

This thesis is divided into eight chapters. The discourse analysis strategy involves three databases encompassing the public policy and legal outputs of the Commission, and the perspectives of older adults and carers, respectively, as key stakeholders. The introductory chapter outlines the theoretical and conceptual basis for the study by describing the research problem and question in the context of demographic ageing and digitalisation within the EU. The second chapter introduces Commission policies influencing ageing, digitalisation and disability, setting the stage and context for the illustration of the research problem.

The third chapter outlines the properties and definitions of discourse analysis and details the use of this research methodology in the perusal and synthesis of written language in a social and policy context. Moreover, it communicates the typology of CDA applied in this project, being Fairclough's Three-Dimensional Framework of CDA. It expounds upon theories of hermeneutic CDA and justifies the selection of this empirical framework that is used in the synthesis of the literature corpus data sample and defends the adoption of this approach to the semantic deconstruction and interpretation of texts (Northcote, 2012).

The fourth chapter describes the methodology employed in the research in greater detail and discusses the application of Fairclough's framework of CDA in the synthesis of the data. It also details the search strategy and approach used in data filtration and capture. The chapter culminates in a robust justification for the adopted methodology, whilst also evaluating the strengths and limitations associated with the chosen research technique.

Chapters 5, 6 and 7, report the analysis generated from the following databases respectively; EurLex, ProQuest ASSIA and ProQuest Central. A comprehensive coding process is applied in these chapters by using the NVivo Computer Assisted Qualitative Data Analysis Software (CAQDAS) package in order to discern attitudinal variations and social actor representation as portrayed within the texts. This approach to the CDA process is intended to aid the project in determining social phenomena such as sectoral interests and indications of ageism and bias which might be present in the literature. Following the identification and summary of core themes extrapolated from the literature in each respective database, the data is critically analysed, and social actor representation is synthesised.

The interdisciplinarity of the research project is conspicuously prominent in the three data analysis chapters comprising the midsection of the thesis. The academic authorities of critical social psychology, law, and social policy are materially relevant to the literature corpuses derived from each database. Furthermore, this aspect of the research represents an important overall consideration and justification for this project as it can yield invaluable insights into the interactions between discourse, policy and law, and their interplay with sectoral ambitions and subsequent repercussive reverberations within society.

Chapter 8 presents a comparative discussion of the findings; the linguistic impressions and representations of the primary social actors in the data analysis chapters are evaluated and deconstructed in a pragmatic and logical manner to synthesise the empirical discourses and thematic narratives they contain. This is necessary to understand the social psychology and

sectoral interests that influence the development of written policies with legal tenets which evolve into the corporeal systematization of actual policy in action. Where policies and documentary evidence comprising the data-sample in this study encloses arguable social actor misrepresentations and indicators of prevarication from fair portrayals of older adults, they are considered to be an indicator for required societal changes. The conclusive chapter also constitutes an overall discussion and evaluation of the key findings, consequences and outcomes discerned from the data analysis chapters. It features recommendations for revision and adjustments to policy discourse whilst acknowledging diversity and divergence of sectoral interests. As such, it recognises limitations that are particular to the methodology employed and concludes with a summary of key findings and recommendations for further research.

Chapter 2: Older Adults in the Digital Age – EU Policy on Rights, Inclusion and the Digital Divide

2.1 Introduction

The EU has experienced profound demographic change in recent decades, one that is characterised by ageing populations, resulting in a steady growth in the number of retirees in proportion to working age persons residing in the EU 27 Member States (Eurostat, 2025). This has placed increased strain on existing national welfare structures and healthcare systems in their current formats. Rising healthcare costs alongside greater numbers of people living longer lives with chronic health conditions, exacerbate the pressures placed on a frequently overstretched care sector (Cabañero-Garcia et al., 2025). At the same time, the digital transformation has revolutionised many facets of society, from social interactions to public services, including certain aspects of healthcare. Whilst the digital revolution has yielded innumerable benefits in many respects, older adults have frequently experienced exclusion from the positive effects of this transformation (Walsh et al., 2021), contributing to their social isolation and disempowerment in modern society (Fang et al., 2022; Hill et al. 2015). The fractious divergence between the processes of ageing and digitalisation in the EU has historically received limited attention from the Commission; the institution in charge of managing EU policies. However, over the past decade, and despite being arguably gradual and overdue, the Commission has begun take noteworthy steps, to protect the rights of older people in a digitalising society.

This chapter discusses the development of EU policies pertaining to the rights of older people in the context of demographic ageing, digitalisation and the digital divide (Ayalon & Tesch-Römer ed., 2018). It explores the grounding legal frameworks of the EU, including relevant EU treaty provisions, the Charter of Fundamental Rights (CFR) of the European

Union and pertinent EU legislation. Given the intersection between ageing and disability as discussed in Chapter 1, it examines the emergence of EU disability law and policy and their relationship with ageing and the rights of older people. Additionally, it discusses existing EU policy on ageing, and explores the approach taken by the Union towards digitalisation and the subsequent ramifications this has yielded for the rights of persons in later life (European Commission, 2025). It also considers the complex relationship between digitalisation and ageing, with particular regard to the effects of the digital divide on older people (Age Platform Europe, 2020). Through this approach, this chapter attempts to convey a comprehensive overview of the challenges facing the EU in the task of protecting the rights of older adults and reinforcing their social inclusion in a digital society (Mégret, 2011).

The chapter begins with a discussion of EU treaties, the CFR, relevant legislation and the role of the Court of Justice of the EU (CJEU). The genesis and growth of EU disability law and policy, including its relationship with ageing, is explored with a historical perspective. The place of ageing with respect to disability policy is examined as part of this analysis. This overview of EU policies, strategies and initiatives intends to ascertain whether there is a clear trajectory towards a cohesive EU ageing policy (European Union, 2000; European Union, 2007). The development of digitalisation in the EU is analysed with reference to Commission policy, including the Digital Agenda for Europe (European Commission, 2010; European Commission, 2020). The extent of a human rights-oriented approach to digital technologies in the EU is discussed by identifying policy challenges and apparent shortcomings with respect to the inclusion of older people in a digitally connected society (European Union Agency for Fundamental Rights, 2023; AGE Platform Europe, 2024).

The interplay between the phenomena of ageing and the digital divide is explored through an analysis of the impact of digitalisation on older adults (Fang et al., 2022), as well

as the policy responses from the EU that intend to mitigate this socio-technological schism in society (European Commission, 2025). Moreover, the future of EU policy towards digitalisation and ageing is considered with respect to gaps in existing protocols, as well as the gradual progress towards a rights-based approach to old age in a digital society. This framework assists the deconstruction and analysis of the complex challenges at the heart of the intersection between digitalisation, ageing, and EU law and policy. Moreover, it intends to highlight potential deficiencies in current policy frameworks, and to identify opportunities for the future direction of Commission strategy to mitigate these challenges and pursue a rights-based approach to digitalisation and ageing to ensure the inclusion of older adults in a digital society (Age Platform Europe, 2024).

2.2 EU Law, Ageing and the Rights of Older People

This section comprises a prolegomenon of the treaties and foundational legal frameworks of the EU approach to the juridical relationship with ageing as a phenomenon requiring addressment by both law and policy (European Union, 2025). The foundational pillars of EU law are diverse and complex, and they are drawn upon from multiple sources that require a thorough analysis to truly comprehend the socio-legal position of older adults and persons with disabilities within the framework of disability and human rights law and policy in the EU (Ibid.). As such, there are three distinct sources of EU law which comprise ‘Primary Law’, ‘Secondary Legislation’, and ‘Supplementary Legislation’ (Birkinshaw and Varney, 2010; EurLex, 2025). EU ‘Primary Law’ consists of a series of treaties that entail the constitutional bulk of the EU (Ibid.). The foundational treaty was the Treaty of Rome (1957), later amended by other treaties including, Maastricht Treaty (1992) (TEU), the Treaty of Nice (2001), and the Treaty of Lisbon (2007) (Craig & de Búrca, 2015; Chalmers et al., 2019). The latter reformed the TEU and established the Treaty on the Functioning of the European Union

(TFEU). Moreover, the Treaty of Lisbon made the Charter of Fundamental Rights of the EU proclaimed in 2000 legally binding (Pernice, 2008).

The TEU and the TFEU set forth the commitment to take action to prevent discrimination (Numhauser-Henning, 2018). Article 19 of the TFEU empowers the EU to combat age-based discrimination, and states that:

> Without prejudice to the other provisions of the Treaties and within the limits of the powers conferred by them upon the Union, the Council, acting unanimously in accordance with a special legislative procedure and after obtaining the consent of the European Parliament, may take appropriate action to combat discrimination based on sex, racial or ethnic origin, religion or belief, disability, age or sexual orientation (Treaty on the Functioning of the European Union, 2012).

On the basis of this provision the EU adopted the Employment Equality Directive (Council Directive 2000/78/EC) which established a general structure for equality of treatment in employment (Schiek et al., 2007). This directive prohibits direct and indirect forms of discrimination on several grounding bases, including age (Ibid.). The directive contributed to the establishment, in many EU Member States, of laws prohibiting age-based discrimination and set minimum standards in this domain throughout the EU (O'Cinneide, 2005).

The CFR prohibits discrimination on the basis of age, seeking to protect and enhance the rights and dignity of people in later life. Article 21 of the CFR on 'Non-Discrimination' prohibits age-based discrimination, whilst Article 25 addresses 'The Rights of the Elderly' and establishes that "The Union recognises and respects the rights of the elderly to lead a life of dignity and independence and to participate in social and cultural life" (European Union, 2000, Art. 25).

The TEU sets out the objectives, values, institutions and policies of the EU (Craig & de Búrca, 2021). Article 13 TEU establishes that the EU institutions include the European

Commission, the European Council, the Council of the EU, the European Parliament, the CJEU, the European Central Bank, and the European Court of Auditors (Peers & Barnard, 2023). Amongst these EU institutions, the Commission, as per Article 17 of the TEU, has the authority to propose new legislation to the European Parliament and the Council of the EU, to oversee the development and implementation of EU policy and fiscal spending, and to coordinate and work with the CJEU to ensure the effective implementation of EU law (Chalmers et al., 2019).

CJEU case law is important for addressing an ambiguity or vacuity between primary and secondary legislation (Hancox, 2021). The CJEU has the monopoly of interpretation of EU law, and hence, final decisions reached by the CJEU are binding on EU institutions and Member States (European Parliamentary Research Services, 2016).

As such, the CJEU has increasingly influenced the role and shape of emerging ageing rights in the EU (O'Cinneide, 2010). In the case of *Andersen* (C-499/08), the Court, in 2010, regarded the denial of redundancy payment to workers who are eligible for receipt of an old-age pension as inappropriate and unnecessary as it neglected the individual's wish to continue working (Numhauser-Henning, 2018). Moreover, in the 2005 case of *Mangold v. Helm* (C-144/04), the CJEU recognised non-discrimination on the basis of age as a general principle of EU law (Schmidt, 2006), which in turn, has arguably contributed to the shaping and development of legislation and emergent policy pertaining to older people (Hohnerlein, 2018).

Article 288 TFEU establishes that Secondary Legislation can take the form of 'Directives', 'Regulations' and 'Decisions'. Regulations are the prevalent form of secondary legislation and are 'directly applicable', meaning that they apply directly into the national legal systems of EU Member States without the need for these states to create novel additional legislation (Ibid.). The EU can use regulations to achieve uniformity of application in EU law across the spectrum of Member States. Regulations are also 'directly effective' which can

enable individuals to uphold their rights in national courts of Member States (European Union, n.d.). Directives, unlike regulations, define an authorised juridical goal for EU Member States but allow for a degree of individual national flexibility in their pursuance of legal or policy objectives (Hartley, 2012). Directives are solely binding on EU Member States but not on individual persons (Ibid.). Decisions are legally binding on whom they are addressed to (European Union, n.d.). They do not comprise EU-wide legislation designed for uniformity of legal effect but are rather addressed to individual states or groups of countries (Hartley, 2012). Under Article 288 of the TFEU, non-legally binding acts of EU law include 'recommendations' and 'opinions' (Craig & de Búrca, 2021). Recommendations enable EU Institutions to convey their position and viewpoint on a matter and to suggest actions without the imposition of any legal obligation (Ibid.). Opinions allow EU Institutions to make non-binding statements which can entail significant persuasive power in terms of soft law with consideration given to the substantial politico-legal clout of the EU in this respect (Andone & Coman-Kund, 2022).

On the whole, although the EU has created a nascent legal framework that is designed to reinforce the rights of older people, many challenges to their independence, autonomy and inclusion in a digitalising EU remain (Fundamental Rights Agency, 2023; Age Platform Europe, 2024).

2.3 Origins of EU Disability Policy

The modern disability law and policy of the EU emerged from a complex socio-political history and discourse on the status of persons with disabilities in society (European Parliamentary Research Services, 2021; Lawson, 2020).

With the growth of the European Coal and Steel Community (ECSC) from 1952 onwards, becoming the European Economic Community (EEC) after the 1957 Treaty of Rome and finally the European Union (EU) in the 1993 Maastricht Treaty, a complex and coherent

system of supranational hard-law developed within the Union, cementing and integrating both the legal and political frameworks of each Member State to enhance the cohesiveness and legal functionality of the EU itself (European Union, n.d.).

Hurst (2005) notes that the medical model continued to dominate European schools of thought with respect to matters of disability in the late twentieth century, "in the 1980s, Europe – as personified by the European Economic Community – was deeply entrenched in the view of disabled people as objects of charity, rehabilitation, segregation and specialisation" (p. 68).

To a significant extent, early disability law in the EU built on the gradual evolution of core values pertaining to independent living, accessibility in society and greater personal autonomy; a harbinger of what would become the social model of disability rights in the late 20th and early 21st centuries (Mladenov, 2022). Prior to the CRPD 2006, the rights of people with disabilities in the EU were inspired by provisions such as the ECHR, the European Convention on the Prevention of Torture (1987), the European Social Charter (1996). The Treaty of Amsterdam (1997), including Article 13, enabled the EU to challenge discrimination on multiple grounds, including disability (Waddington, 2011; European Parliament 2021).

Prior to the negotiation of the CRPD, many EU Member States such as the Netherlands were sceptical over the need for a Convention at all, and they took the line that an adequate standard of universal human rights protection already existed within the EU (De Búrca, 2010). A similar such situation arguably now exists amidst the challenges posed by a rapid digitalisation of society with expeditiously ageing demographics, where it is becoming irrefutably apparent that a stand-alone UN 'Convention for the Enjoyment of all Human Rights by Older Adults' is necessary (Doron & Apter 2010). A similar realisation is urgently required within the Commission to prompt discursive change across the public, private and care sectors.

As such, De Búrca (2010) explains that an important feature of the negotiation phase of the Convention was that persons with disabilities themselves assumed a central role in

contributing to the formulation and direction of the CRPD, particularly through the medium of the NGO sector. In a similar sense, Kayes and French (2008) note the importance of inclusion and leadership by persons with disabilities at the frontline of efforts to ensure the monitoring and implementation of the Convention by saying that:

> This history of disempowerment and paternalism has produced a deep mistrust of executive power and the demand for radical participation, which is encapsulated by the credo 'nothing about us without us': now a virtually universal claim of the disability rights movement internationally and fundamental to the disability equality paradigm (p. 12).

The same strategic approach to encourage a similar shift in social precepts towards old age and, indeed, the discursive agency of people in later life, must be empowered and driven by older adults themselves with the backing of the Commission.

In reference to the emergence of international movements for the reform of disability rights during the late 1990s and early 2000s prior to the CRPD, Hurst (2005) explains that, "Primarily through the activities of the disability movement, the social model has flourished in Europe in the last decade, combined with recognition of disability as a human rights issue" (p. 77). Therefore, it is of significant importance that the 'nothing about us without us' mantra continues to function as the underpinning ethos in the implementation of the CRPD. As such, it is a pressing necessity that the same approach is taken in any potential and dedicated standalone convention on the rights of older persons. It must be inclusive of special agency in legal extensions and guaranteed mechanisms for ensuring their involvement in policy and decision-making processes. Article 33 (2) (National Implementation and Monitoring) of the Convention does not provide for the coordination of efforts outside of government, NGOs and civil society organisations (Manca, 2017). This arguably exacerbates the situation for

individual older adults who, if they happen to wield an influence in public and political life, are likely to do so on a very localised and individual basis, and not in a collective sense.

The EU adopted the CFR in 2000, though it was the CRPD which encouraged further mainstreaming of disability rights in social policy (European Union Agency for Fundamental Rights, 2021; Arnardóttir & Quinn, 2009). However, the CFR did represent an early attempt to safeguard the rights of all persons in a digital era, specifically with respect to data privacy (Ibid). From the 2000s, the mainstreaming of disability rights in social policy amidst the digital revolution slowly gained traction. However, the medical model of socio-cognitive precepts towards old age, coupled with ageist and stigmatic views of older adults in a high-tech society, arguably stagnated momentum towards inclusive reforms for people in later life (Neves & Amaro, 2012). This arguably bolsters the case for the aforementioned stand-alone companion to the CRPD in the form of the proposed UN Convention on the Rights of Older Persons (Poffé, 2015; Hopf et al., 2020). As Düwell et al. (2014) reference the following UN recommendations from 2002 to shift the socio-cognitive and discursive standard of the contemporary social zeitgeist with respect to perceptions of disability, the situation facing older adults in the early and mid-2020s in the digital environment bestows a renewed relevance upon the following passage with respect to the current model of ageing and the collective approach to old age:

> The concepts of charity and welfare imply a paternalistic attitude towards disabled persons: they are connected with the idea of altruistic action and voluntary solidarity, where claim rights are not applicable and disabled people are rather expected to show gratitude for any potential aid. From a human rights perspective, alternatively, disabled persons are seen as subjects with equal rights and responsibilities, who should be given control over their own lives; heteronomy and paternalism are considered as violating human dignity and human rights (Office of the High Commissioner for Human Rights/ United Nations, 2002) (p. 485).

2.4 Disability Policy and Ageing Policy in the EU

The EDS 2010 – 2020 attempted to commence an initial alignment of EU disability policy with the CRPD, but it fails to sufficiently address the rights of older persons with disabilities. The SRPD 2021 – 2030, as the successor to the EDS, acknowledges the relationship between old age and increased incidences of disability. However, according to AGE Platform Europe, it does not go far enough in addressing the challenges faced by older adults such as the loss of access to supports and entitlements, nor does it ameliorate self-stigmatization of disability that can come with age (Age Platform Europe, 2021).

In November 2020, AGE Platform Europe said, in its contribution to the Public Consultation: Feedback on the Disability Rights Strategy 2021–2030 initiative of the Commission that:

> It is therefore crucial that the next Disability Strategy addresses the intersectionality between disability and ageing, as well as that of ageism and ableism, across different domains, such as accessibility, participation, equality, employment, education and training, social protection, health and external action (Age Platform Europe, Brussels, 2020, p. 3).

To this end, Age Platform Europe has exemplified the indispensable role of civil society in the promotion of discursive and socio-political change in the EU by championing, deconstructing, and highlighting complex legal and policy developments. This organisation has conducted thorough policy analyses on recent strategic Commission documents outlining the roadmap for proposed policies towards long-term care, ageing and digital inclusion. The 2021 Commission publication titled ‘Long Term Care Report: Trends, Challenges and Opportunities in an Ageing Society’ has received cautious praise but was noted to have some shortcomings in terms of a lack of specificity with regards to policy implementation timelines, as well as a

relative disharmony, or lack of discernible linkage, with the disability policies of the SRPD 2021 – 2030 (Ibid., 2021). Importantly, it was pointedly critiqued for promoting a negative and connotative discourse on active ageing as, “The report frames long-term care as a “challenge”, linked to the “negative impacts of ageing”, with the Commission “focusing its work on mitigating the social and economic consequences of demographic change and population ageing” (Age Platform Europe, 2021).

Further to this, the European Pillar of Social Rights (EPSR), adopted by the Commission, the European Parliament, and the European Council in 2017, incorporates a significant focus on active employment and education for those between the ages of 20 and 65 (European Commission, 2021). It comprises a non-binding corpus of 20 principles that aim to improve social equality and human rights, while supporting more equitable access to healthcare and participation in society for all persons, especially for marginalised groupings of potentially vulnerable populations such as older adults and persons with disabilities (Ibid.). It aims to build on prior legislative initiatives such as the Equality Directive 2000, which opposes workplace discrimination against any persons on the grounds of their social grouping such as disability, ethnicity or sexual orientation and so forth (EurLex, 2000). The EPSR has been administered alongside the framework of the European Semester, an economic planning strategy for promoting greater harmony between EU Member States with respect to economic and fiscal policies (Zeitlin & Vanhercke, 2017). However, Kucharzyk (2021) cites Age Platform Europe in Walsh et al. ed. and notes that:

> Moreover, other barriers that prevent older people from exercising their social rights, including those listed in the Pillar, are not addressed in the Semester. This includes barriers such as the investment gap in long-term care, the lack of accessibility of physical and digital environments, or the difficult situation of older jobseekers. Instead of emphasising its potential opportunities, population ageing remains perceived by

> many policy makers more as a burden to the public purse, which needs to be contained, than as an achievement and opportunity (p. 432).

2.5 Movement Towards a Cohesive EU Policy on Ageing?

Although the late 1990s and early 2000s witnessed a true flourishing of grassroots movements by gaining vocal traction in the political domain and in the fields of legal and policy reform for the promotion of disability rights (Barnes & Mercer ed., 2007; Vanhalla, 2011), older adults were largely overlooked and omitted from these transformative developments. These watershed and momentous achievements of self-representation augmented the social, legal and political capacity and agency of persons with disabilities in the EU (Halvorsen et al., 2017). However, in terms of their overall scope of inclusion, older adults did not benefit from these successes to the same extent as younger people with disabilities due to the absence of old age in both policy discourse and advocacy (Bratt et al., 2017). Nevertheless, trends towards significant demographic ageing continued, and, according to EuroStat (2024):

> On 1 January 2024, the EU population was estimated at 449.3 million people and more than one-fifth (21.6%) of it was aged 65 years and over. On 1 January 2024, the median age of the EU's population reached 44.7 years. Between 2014 and 2024, the median age increased in all EU members, except Malta and Germany, where it decreased (-0.7 and -0.1 years, respectively).

Further to this, close to half of all persons over the age of 65 in the EU have some form of disability (Ibid.). Incidences of disability in old age, especially acquired disabilities, increase substantially amongst individuals in older age categories. As a result, older adults face an increased risk of neglect, loss of supports, abuse and poverty, amongst other uncertainties (Age Platform Europe, Brussels, n.d.). Moreover, EU law and policy have arguably prevaricated for

many years on the provision of decisive regulations to facilitate accessibility and autonomy for older adults and persons with disabilities in later life, despite the steady emergence of an ageing population and widening digital divide over recent decades (European Union Agency for Fundamental Rights, 2023).

The 2020 European Parliament resolution on 'An Old Continent Growing Older' yielded a substantial impact on the subsequent publication of the Green Paper on Ageing (Green Paper) on 27th January 2021 and the European Care Strategy (ECS) on 7th of September 2022. The Green Paper describes the difficulties experienced by older adults in juxtaposition to the challenges faced by their counterparts in younger age groups:

> Older people with disabilities can face particular problems. Working-age people who develop a disability often benefit from labour market-related support to compensate for loss of income and extra expenditure. While this is insufficient in many cases, people acquiring a disability after retirement are often ineligible for these benefits (European Commission, Brussels, 2021, p. 12).

The discourse within the Green Paper concerns itself with nuanced economic priorities such as lifelong learning and pensions that are appropriate to prevailing economic conditions, and it advocates the reinforcement of healthcare services to adapt to long-term trends towards demographic ageing (European Commission, 2021).

AGE Platform Europe (2017) argues that international instruments are outdated with respect to the rights older people and that they do not address the full extent of the latent potential of digital technologies to support autonomy in old age. It asserts that:

> Although the link between older persons and persons with disabilities has been underlined by the UN CRPD Committee, the OHCHR, the Independent Expert on the Enjoyment of all Human Rights by Older Persons, and the UN Secretary General among others, no substantive provision acknowledges the situation of older people

> with disabilities as a type of intersectional discrimination (Age Platform Europe, Brussels, 2017, p. 1).

In fact, there is an evident dearth of definitive multilateral policy that tackles the digital isolation and discrimination faced by older adults. In July 2019, former UN Special Rapporteur on the Rights of Persons with Disabilities, Catalina Devandas-Aguilar, said that, "The fragmentation of policies for older persons and for persons with disabilities results in the invisibility in law and in practice of experiences of disability in later life" (Gutterman, 2023, p. 53).

Despite constituting a positive step forward, the Green Paper does not definitively address intersectional discrimination regarding the rationing of care services for older adults involving digital technologies and applications (Age Platform Europe, 2021). To this end, intersectional discrimination is, assertedly, not subject to formal prohibition in EU law. The CJEU stated, in the case of C-443/15 *David L. Parris v Trinity College Dublin and Others* EU:C:2016:897 [2016] that:

> In this respect, while discrimination may indeed be based on several of the grounds set out in Article 1 of Directive 2000/78, there is, however, no new category of discrimination resulting from the combination of more than one of those grounds, such as sexual orientation and age, that may be found to exist where discrimination on the basis of those grounds taken in isolation has not been established (C-443/15 *David L. Parris*).

National ageing policies vary among EU Member States, leading to a fragmented and incoherent approach to old age and longevity extension throughout the union (Age Platform Europe, 2023). Despite having ageing populations and declining birth rates, countries such as Italy, Sweden, Germany and Poland, all have markedly different approaches to the welfare and care of older people (United Nations Economic Commission for Europe, 2021). Age

Platform Europe, among other stakeholders, has proposed an EU Age Equality strategy to foster solidarity and promote equality between generations (Age Platform Europe, 2023; Kucharczyk, 2021). To this end, NGOs continue to play an important role in lobbying and campaigning for the rights of older adults by critiquing EU policy gaps and insufficiencies, raising awareness and highlighting shortcomings in service delivery in areas where governments fall short. While Member States continue to approach ageing demographics through a fragmented tapestry of individual policies, NGOs have achieved increasing success in lobbying the Commission, Parliament and Council, to develop legislation and policy to foster greater uniformity in efforts to promote equality in ageing in a digitalising EU (Moulaert & Garon, 2016). As such, although the EU is making moderate progress towards the creation of a more coherent legal and policy framework for equality, inclusivity and participation in ageing, there remain areas of juridical ambiguity, and even deficiency, that continue to pose a significant challenge to efforts to provide an equal and inclusive environment for older adults in a digitalising society (Ibid.).

2.6 The Emergence of Digitalisation and Digital Healthcare in the EU

2.6.1 EU Digital Policy Frameworks and the Protection of Human Rights

The EU has embraced the emergence of digital technologies in numerous ways to bolster economic growth and foster a knowledge-based economy facilitated by connected societies and social mobility (European Commission, 2010). The introduction of the Digital Agenda for Europe in 2010 was intended to promote the development of a Digital Single Market that delivers sustainable economic and social benefits through interoperability and fast internet connectivity between the digital economy and national systems of Member States (Ibid.). On the foundation established by the Digital Agenda, the Digital Decade 2030 initiative set in place tangible objectives for the digitalisation of the EU. Digital skills

development, digitalised infrastructures with accordant transformations to businesses and economic processes, and the digitalisation of public services, comprise the core areas of focus for this strategic initiative (European Commission, 2021). However, despite these socio-economic objectives, the extent to which the EU can uphold and protect the fundamental rights of all persons in the digital age is yet to be fully realised.

The Declaration on Digital Rights and Principles 2022 provides a reference guide to policymakers and private companies towards the harmonisation and alignment of digital initiatives with human rights policy and standards (Council of the European Union, 2023). As such, the Commission advocates a human-centred approach to digitalisation to ensure that digital technologies protect and reinforce fundamental rights (European Union Agency for Fundamental Rights, 2023). The European Union Agency for Fundamental Rights emphasises the necessity of intertwining human rights considerations into digitalisation processes, particularly with regards to AI and the protection of personal data (Ibid.). Indeed, the Artificial Intelligence Act (AI Act) 2024 regulates AI to prevent the violation of individual human rights and prohibits AI systems that exploit vulnerabilities related to age and disability, as well as on other grounds (European Union, 2024).

2.6.2 Digital Health: Fragmentation, and Momentum Towards Implementation

The digital revolution, which has gathered unprecedented momentum since the 2012 European Year of Active Ageing and Solidarity Between Generations (EY, 2012), has rapidly transformed many aspects of modern life (Kraus et al., 2021). However, the digitalisation of healthcare for older people has arguably faced a monolithic roadblock of bureaucratic, social and legal challenges (Manteghinejad & Javanmard, 2021). This has placed a significant moratorium on pace at which the benefits of digital technologies have transmuted themselves into tangible improvements in healthcare and quality of life for older people in the EU

(Kraus, 2021). The Commission has been slow to take decisive measures to enhance cross-sectoral coordination by reforming regulatory frameworks governing digital healthcare technologies (Cummins & Schuller, 2020; EIT Health, 2020; EIT Health, 2023). In the absence of significant digital healthcare interoperability in the EU, data sharing, alongside the procurement and administration of connected technologies in the care environment, has been governed by customary national laws of individual EU Member States (Gansel, 2021).

The Commission has approached the emergence of digital technologies and the potential for their utility in the healthcare sector with a significant degree of apparent caution (Majcherek et al., 2021). Thus, in the absence of measures to promote wide-scale uniformity in procurement and implementation initiatives for connected devices and services in the care environment (Meslamani, 2023), the cohesive integration of such capabilities represents a slow and costly challenge. To this end, the Commission assumed an arguably unhurried and deliberate process of supporting research initiatives funded through programmes such as Horizon 2020 and Horizon Europe, to trial and identify aspects of best practice in digitalisation within the care sector through professional utility of digital technologies in practice by clinicians and care workers (European Commission, 2022). In this way, a trial-and-error process can be implemented, with the experiences of the care worker playing an important role in determining the practical challenges of ensuring effective implementation of digital health technologies in the care environment (Longhini, 2022).

This approach is reflected in Article 1 of the Commission Decision of 5 July 2012 on setting up a multisectoral and independent expert panel to provide advice on effective ways of investing in health (2012/C 198/06) which explains that:

> Under Article 168(2) of the Treaty on the Functioning of the European Union, Member States are required, in liaison with the Commission, to coordinate among themselves their policies and programmes in the areas referred to in paragraph 1. The

> Commission may, in close contact with the Member States, take any useful initiative to promote such coordination, in particular initiatives aiming at the establishment of guidelines and indicators, the organisation of exchange of best practice, and the preparation of the necessary elements for periodic monitoring and evaluation (European Commission, 2012, p. 1).

It is arguable that this cautious approach represents a logical positivist stratagem that is designed to consider the appropriate framework for digitalisation and the practical implementation of digital devices and services in the care sector. Conversely, it is also reasonable to conclude that this avenue has contributed to the moratorium of tangible, positive and wide-scale results in the digitalisation of healthcare environments for carers or older people. As such, the healthcare technology industry in the EU remains fragmented, even within the context of the single market (Digital Europe, 2022). In the April 2018 'Communication on Enabling the Digital Transformation of Health and Care in the Digital Single Market; Empowering Citizens and Building a Healthier Society', the Commission elucidates the following strategic initiatives:

> To date, the uptake of digital solutions for health and care remains slow and varies greatly across Member States and regions. Further action at EU level is crucial to accelerate the meaningful use of digital solutions in public health and healthcare in Europe. In its mid-term review on the implementation of the DSM 2014 - 2019 strategy the Commission set out its intention to take further action in three areas:
>
> citizens' secure access to and sharing of health data across borders;
>
> better data to advance research, disease prevention and personalised health and care;
>
> digital tools for citizen empowerment and person-centred care (Europe Commission, 2018, p. 3).

2.6.3 Initial Movement Towards Interoperability: The EHDS, Interoperable Europe Act, and Stakeholder Engagement

To this end, in 2022, the Commission put forward a proposal for a regulatory framework for the sharing of health data within the EU called the 'European Health Data Space' (EHDS) (European Union, 2022; European Commission, n.d.). According to the Commission, it will function as "a common EU data space for health data that empowers individuals and fosters a single market for electronic health records" (Ibid.). Further to this, "in 2024, the European Parliament and Council reached a political agreement on the Commission Proposal for the EHDS" (European Commission, 2024). The EHDS is an important pillar in the construction of the European Health Union which aims to create a more unified, harmonised and effective healthcare system throughout the EU and to ensure the availability of medical supplies (European Commission, n.d.). These measures also address significant aspects of the three areas outlined above in the 2018 Commission Communication on the Digital Transformation of Health and Care (EurLex, 2018).

In April 2024, the Interoperable Europe Act entered into force in the EU, representing an important step towards the harmonisation of "key" public services as part of the Digital Decade strategy (PE/73/2023/REV/1). However, extending broader strategic digital interoperability across healthcare systems in the EU arguably requires dedicated and sector-specific legislative overhaul. Interoperable digitalised systems that empower caregiver engagement with stakeholders in policymaking and identification of best practice is necessary to facilitate smooth delivery of high standards in modern care (European Commission, 2024). Digitalised interoperable healthcare systems with seamless transmission of patient health data, alongside appropriately scalable, cost-effective and rapid procurement mechanisms in the implementation of digital technology for effective service provision, can maximise the efficiency and expertise of an invaluable care workforce.

Although certain long-anticipated initiatives are underway to harmonise digital healthcare systems in the EU through enhanced interoperability and an easing of some inhibitory regulatory barriers to the smooth functioning of health technology companies in the single market (Kouroubali & Katehakis, 2019), change is happening at an often-lethargic pace (European Union, 2021). Unfortunately, this puts an unwelcome delay on the latent potential benefits that could be felt by carers and patients at an individual level given the current capabilities of digitalisation and technological innovation. Furthermore, carers note that interoperability and scalability challenges often become apparent when trialling digital technologies in the care environment (Schlieter et al., 2024). As such, the involvement of healthcare workers, and older adults, in the creation of policy and best practice for the interoperable digitalisation of the care environment is critically important (Turale & Kunaviktikul, 2019). Caregiver engagement mechanisms in Commission policymaking and communication with industry represent essential components in the development of digital interoperability frameworks that function smoothly and effectively, delivering versatile person-centred digitalised healthcare at an EU-wide level (European Commission, 2022).

Overall, the EU is making tangible efforts to regulate digitalisation processes in the EU and protect the rights of citizens without impeding technological development, though certain challenges remain (Ibid.). The digital divide encompasses stark stratification along the lines of social capital between young and old on grounds of wealth, geographic location and levels of education (European Union Agency for Fundamental Rights, 2023; Kokubun, 2022). The EU is increasingly cognisant of the extent of the digital divide and is seeking to actively ameliorate its effects through strategic policy initiatives to facilitate the development of accessible devices and services while promoting digital skills development among older people (European Commission, 2024). Moreover, the EU is attempting to improve digital interoperability, especially within healthcare, between Member States (Ibid.). As such, while

the EU has developed a substantial legal and policy architecture for digitalisation, more work is needed to ameliorate challenges to human rights and maintain a trajectory of digital development that aligns with a human-centred approach to a digitalised future that respects the protection of individual autonomy, privacy and freedoms (Age Platform Europe, 2024).

2.7 The Future of Ageing and Digitalisation in EU Policy

The EU approach to old age and disability has, thus far, not aligned itself fully with the human rights-based approach provided for in the CFR and advocated by the 2017 UN Report of the Independent Expert on the Enjoyment of all Human Rights by Older Persons. Section 93 of the 'Conclusions and Recommendations' of this report states that:

> To ensure universal access, States should integrate assistive technology in health and social protection schemes, making it available at affordable prices and offering financial assistance to those who need it. Conditions of access must not be based on age alone. While promoting effective assistive technology, States must also retain other support options, including traditional care, and not create disproportionate disadvantages for individuals who may prefer, or whose needs are better catered for through, other forms of support. States should also establish monitoring and accountability mechanisms regarding the provision of assistive technology in order to evaluate the adequacy of support arrangements and prevent human rights abuses ("Report of the Independent Expert on the enjoyment of all human rights by older persons," 2017) (United Nations General Assembly, 2017, p. 17).

The CRPD recommendation on 'nothing about us without us' is encapsulated by Gooding (2012) who explains that:

> The CRPD explicitly directs that people with disabilities themselves "should have the opportunity to be actively involved in decision-making processes about policies and

programmes, including those directly concerning them," and which includes the development of indicators, reporting, and evaluation (p. 442).

To build upon this principle, it is imperative that this legal means of socio-political agency for self-determination is reinforced and extended to older adults with iron-clad guarantees that can assist in the creation of policies governing digital technology to empower people in later life through inclusive digitalisation while facilitating de-institutionalisation in care and supporting the enjoyment of all human rights by individuals in old age. As such, the Commission faces significant challenges in the current strategic approach to ageing and digitalisation to mitigate digital exclusion and address the fragmentation of policies that have contributed to gaps in the protection of the rights and welfare of older adults (European Commission, 2024).

It is conceivable that, if tangible real-world observance of accessibility improves through continued strengthening of human rights discourse in Commission policy, digital technologies can assist older adults to participate in society and public governance, as provided for under CRPD Article 29 – 'Participation in Public and Political Life' (United Nations, 2006). This may enable older adults to wield greater clout in decision-making processes and achieve increased levels of self-representation through the ethos of 'nothing about us without us' (Age Platform Europe, 2022). The potential for older adults to participate in further learning through engagement with civil society and work towards the deconstruction of discriminatory discourse through public participation, may aid the transition of policy into quantifiable action and progress in removing restrictive barriers imposed upon them by society (Moulaert & Garon ed., 2016).

In other words, the proliferation of digital technologies must not be solely rationed for, and delivered primarily to people of working age, instead, it is necessary that all persons, young and old, have equal access to connected devices and computational technology-based disability

supports. Universal accessibility to digital technologies and related assistance for older adults constitutes a practical and person-centred solution to intersectional discriminatory discourses that impede equality and impartial practises in the allocation of services in the EU (Age Platform Europe, 2022). First, it is necessary to initiate the discursive transformation as a precursor to promoting systemic changes across all social domains with respect to older adults in a digital society (Sixsmith et al., 2022).

At this juncture, the EU is potentially poised to emerge as a global leader in the ethical and human rights-based regulation and deployment of AI in healthcare, and in domestic and wider social settings in the 21st century. The role of AI in digital technologies intended for utility by older adults is in its infancy. On the 8th of April 2019, the EU High-Level Expert Group on AI presented the 'Ethics Guidelines for Trustworthy Artificial Intelligence'. This followed the publication of the guidelines' first draft in December 2018 on which more than five hundred comments were received through an open consultation. The EU High-Level Expert Group on AI (2019) declared that:

> For societal and environmental well-being, AI systems should benefit all human beings, including future generations. It must hence be ensured that they are sustainable and environmentally friendly. Moreover, they should take into account the environment, including other living beings, and their social and societal impact should be carefully considered (European Commission, 2019).

Thus, the pursuance of a rights-based approach by the Commission through the integration and mainstreaming of AI and 'Robotics-Aided Care' to enhance independent living for older adults comprises an urgent prerequisite to equal and active ageing in a digital Europe.

In the immediate term, the ECS intends to support the digital development aspects of care delivery in the EU and the cognate ambitions of a digital society as outlined by the

Commission in the Digital Decade Policy Programme. The Communication of the Commission on the ECS states that:

> Though technology cannot and should not replace human interaction, which lies at the heart of care work, innovative digital solutions such as information and communication technology, assistive technology, telecare, telehealth, artificial intelligence and robotics can improve access to high-quality affordable care services and aid independent living (European Commission, 2022, p. 10).

The ECS arguably comprises the latest manifestation of a proverbial 'slow awakening' by the Commission to the demographic and human rights challenges that will likely continue dominate European care provision well into this century. Although the ECS has some inherent limitations as a non-binding strategic framework of soft-law and lacks comprehensive addressment of the digital divide, it arguably presents itself as a first significant acknowledgement of the necessity for long-term person-centred provision of care for older adults and persons with disabilities in the digital age. It functions as a complementary and supportive strategic document to the Green Paper on Ageing and the EU Digital Decade Policy Programme for 2030 which, together, comprise a long-term vision that advocates a human-rights based approach to digital transformation and integration, declaring that, "All users, from childhood to old age, should be empowered and protected" (European Commission, Brussels, 2021).

Moreover, discursive reform can arguably aid law and policy in the implementation process of these initiatives through the cognitive remoulding of traditional and ageist perceptions of old age. Nonetheless, despite some encouraging developments towards the challenging of intersectional discrimination on the basis of age in the era of digitalisation, a positive outcome for older adults is certainly not a forgone conclusion without a transversal discursive change and an accordant deconstruction of carceral medicalised discourses

embedded within traditional models of ageing in the EU (Heikkinen & Doh, 2023). Through further EU-funded endeavours such as the Smart and Healthy Ageing through People Engaging in Supportive Systems (SHAPES), Horizon Europe, and the Network for Technology, Innovation and Translation in Ageing (TITTAN) project, amongst others, it is hopeful that older adults will be empowered to achieve a greater level of self-representation, autonomy and self-determination by assuming a direct role in the digital transformation.

While institutional discourses will be analysed later, the general policy trajectory in the EU appears to be moving towards a rights-based approach in policy development with respect to ageing demographics and the rights of older people in a digital world (Moulaert & Garon ed., 2016). There is a tangible desire on the part of the Commission to ensure that digital technologies can protect the rights of older people while facilitating their independence, mobility and inclusion in society. Moreover, there is a recognition that stakeholder engagement involving older adults in the development of policy and, indeed, of digital technologies, can constitute a valuable mechanism for ensuring the success of a person-centred and user-focussed approach to accessible connected devices and services with inclusive design features for people in later life (Sixsmith et al., 2022). In addition, the EU approach to AI emphasising the rights and privacy of the user represents a positive development towards a rights-based digital future for older people. As such, the EU is arguably adopting a pragmatic strategy to the challenges posed by the digital divide through new policies to reinforce inclusivity for older people in a digitalised society and by way of active engagement with persons in later life to ensure the ethical development of accessible technology that protects the rights and freedoms of all users, irrespective of age or ability.

2.8 Summary

Modern society in the EU is substantially characterised by ageing demographical trends alongside expeditious digitalisation, rapidly transforming the complexion of contemporary life and social interactionism (European Commission, 2023). This process has continued unabated for several decades and is, if anything, intensifying as time goes by (Neves & Amaro, 2012). As fertility rates across the EU decline, and trends towards longevity extension contribute to a steady growth in the number of older adults above the age of 65 (Higgs & Phillipson, 2014), the socially disruptive effects of the digital age are transforming the face of society at an unprecedented pace. This has contributed to the alienation of older people from modern society where ubiquitous digital technology plays a key role in everyday life for most individuals (Ibid.). The emergence of the digital divide has meant that older people frequently face barriers in society due to a lack of familiarity with connected devices and services as a result of low computer literacy skills and a paucity of accessibility and universal design features in novel internet-reliant technologies (Walker, 2020; Bosch-Farré et al., 2020; Vaportzis et al., 2017).

Until now, the EU approach to ageing and digitalisation has been quite inconsistent, with a lack of coherency in strategic initiatives (Gansel, 2021). Moreover, intersectional discrimination has led to the ‘othering’ of older adults with disabilities who are frequently considered to be ‘old’ rather than having a genuine disability in a manner akin to a younger person with a physical or mental illness or other impairment (Age Platform Europe, 2021). Gaps in EU policy have resulted in a situation whereby older adults are not given the same priority as younger people with disabilities who are seeking to benefit from assistive digital technology and access to employment (European Union Agency for Fundamental Rights, 2023). A fragmented policy landscape has exacerbated these trends, leading to discriminatory

models of digitalisation and ageist practices in production and design processes in digital technologies (Moulaert & Garon, 2016).

To this end, civil society organisations such as Age Platform Europe have undertaken significant advocacy and research efforts to lobby the Commission and European Parliament to combat ageism in digital technologies. Recommendations include the fostering of engagement processes involving older adults in the creation of policies governing ageing and digital technology (Sixmith, 2022). They also advocate the facilitation of user-centred design practices by manufacturers of digital goods and services to empower people in later life to provide feedback on systems-use and development architectures in order to meet individual idiosyncratic needs and requirements (Moulaert & Garon, 2016). Moreover, the Commission is placing an emphasis on the importance of digital literacy programmes and is working to support the creation of user-friendly connected devices and services to meet the needs of older users (European Union Agency for Fundamental Rights, 2023). In addition, it is also seeking to encourage greater coherence among Member States in the development of unified approaches to ageing and digital inclusion for older people (European Commission, 2024). Though many challenges remain, the Commission is arguably pursuing a multifaceted strategic initiative, with increasingly apparent vigour, to ameliorate the effects of the digital divide and promote the rights and inclusion of older people in a digitalising EU.

Chapter 3: Theoretical Frameworks and Functions of Discourse Analysis in the Digital Era

3.1 Introduction

The aim of this chapter is to provide a comprehensive foundation for understanding discourse analysis by critically reviewing its key theoretical frameworks, examining its primary social and communicative functions, and exploring how digital technologies shape contemporary discursive practices. The chapter specifically contextualises these discussions within academic and policy-related discourses, given their central relevance to addressing social issues like ageism and inequality explored in this research. It acknowledges the interdisciplinary approach taken in this research and provides an overview of the social, cultural and academic theories behind discourse analysis studies; it also discusses the development of CDA as a means to discern narratives, connotations, biases and emotions in textual data (Blommaert & Bulcaen, 2000). Furthermore, it critically reflects on the methodological rationale for employing CDA, including its practical strengths and limitations as applied in this study.

This chapter also incorporates an overview of key theoretical and conceptual frameworks relevant to discourse, including hermeneutics (Van Dijk, 2011), social interactionism (Phillips et al., 2002), and socio-cognitive approaches (Van Dijk, 1996). It explores how discourse operates across individual and institutional levels to shape meaning and influence policymaking. Special attention is given to the complexities of analysing discourse in the context of digitalisation (Blitvich & Bou-Franch, 2019), where the velocity and layering of narratives demand new interpretive strategies. Drawing on interdisciplinary insights from socio-legal scholarship, sociology, and psychology (Unger, 2016), the chapter

establishes how discourse reinforces power relations and contributes to the marginalisation of groups such as older adults.

To this end, discourse analysis is a field that experienced substantial growth over the latter decades of the 20th century (Kouti, 2020), with the fundamental scholastic theory behind studies of narratives, social actor representation, textual linguistic depictions and socio-cognitive impressions receiving greater attention from researchers during this timeframe (van Leeuwen, 2008). Accordingly, textual analysis of strategic EU policy and legal documents by NGOs has become a routine practice of civil society organisations that engage with (Lynggaard, 2019), and help to interpret, the discourses employed by the EU in the formulation of official civic administrative protocols and guidelines.

This positive development arguably hinges on the existence of an active civil society that can continue to foster links with academia and the wider public to nurture and enhance cooperation in humanitarian and human rights-based research (Georgantzi, 2018). Ostensibly the relative robustness of civil society in the EU (Ibid.), coupled with engagement and cooperation between academic researchers and NGOs in providing non-partisan knowledge in contiguous areas of strategic policy discourse (Vaz et al., 2022), can encourage a wider socio-cognitive shift in communal precepts towards old age.

As such, this chapter considers the rapid pace of technological development and the resultant impact on discourse studies (Lee et al., 2020), arguably cementing the contemporary relevance of this subject (Fiss & Hirsch, 2005), particularly as researchers begin to analyse how disruptive phenomena such as digital devices and services are drastically altering the landscape of traditional social norms. The focus on policy and academic literature is linked to the authoritative and disseminative roles they perform (Senden, 2004), including in shaping institutional and societal attitudes towards equality, ageing, and digital inclusion. To provide a theoretical grounding to these roles, this chapter explores the textual discourses used by

institutions and social actors, comprising a key pillar of human communication through which inclusive language can be fostered to promote a shift in socio-cognitive and dramaturgical depictions of old age and the role of digital technology in the lives of older adults (Van Der Horst & Vickerstaff, 2021). In this sense, these discourse types profoundly influence policy-making and social perceptions (Fischer & Forester, 1993), providing a robust foundation for critically analysing the interplay of language, power, and ideology in the contemporary digital age. It is important to note that while this chapter adopts a critical discourse analytical perspective, 'critical' is not synonymous with pessimism or undue negativity. Rather, it reflects a reflexive stance that seeks to interrogate meaning, context, and power within discourse (Zienkowski, 2017). This interpretive positioning is discussed in the latter part of the chapter. Overall, this chapter entails a necessary breakdown of theoretical concepts and approaches that are pertinent to CDA to convey the consideration by the researcher of appropriate frameworks for use in this thesis. Chapter 4 subsequently justifies the selected approach in light of the theoretical frameworks and functions of discourse that are explored in this passage.

3.2 Foundations of Discourse and Critical Theory

3.2.1 Theoretical Foundations of Modern Discourse Analysis

This section discusses the definition of discourse and its evolution as a framework for understanding meanings and perspectives in society (Van Hulst et al., 2024). It lays the groundwork for comprehending the ways in which CDA decodes language and discourse, perceiving them as instruments of power and social construction (Ibid.). Discourse analysis has gained increased traction and attention among researchers and the academic community since the 1970s as an effective mechanism within qualitative investigation and semantic interpretation of written language for the study of social phenomena and their protean relationship with collective perspectives and philosophies of human societies (Kouti, 2020).

As a broad academic field, discourse analysis encompasses the interpretation and synthesis of many forms and mediums of linguistic patterns of communicative informational transmission (Blommaert & Bulcaen, 2000). Discourse analysis is a critical device for understanding the nuances of language in use within society, as well as the interplay and social moulding that is produced by linguistic means, both spoken or written, and vice versa (Mogashoa, 2014). Accordingly, there are "three main categories" of discourse definitions "(1) Anything beyond the sentence (2) Language in use, and (3) A broader range of social practice that includes non-linguistic and nonspecific instances of language" (Schifferen et al., 2003, p. 1).

Foucauldian discourse analysis emerged from the works of the late French philosopher Paul Michel Foucault during the 1970s (Kendal & Wickham, 1999). The impression of discourse as conceived by Foucault, perceives it as not merely the language of a communication between two entities (Hatlen, 1988), which Foucault describes as a "sample", but rather the greater processes of thought that, in a historical and geographical context, renders particular ideas or precepts "sayable" and "thinkable", whilst regulating those who are thinking and deliberating upon these perspectives (Foucault, 1982; Poorghorban, 2023). Hodges et al. (2008), note that researchers who are conducting a thoroughly empirical discourse analysis are necessarily introspective and attentive to sociocultural roles that can influence their individual perspective. Stuart Hall (1992) says that discourse, for Foucault, is:

> A group of statements which provides a language for talking about – a way of representing – a particular topic at a particular historical moment… Discourse is about the production of knowledge through language. But… Since all social practices entail meaning, and meanings shape and influence what we do – our conduct – all practices have a discursive aspect. (p. 192).

Understanding how discourse or discursive practices influence the modern world is of critical importance if one is to fully comprehend the nexus point and interplay between social practices and institutional codes and etiquettes (Lammers & Stapel, 2010). Discourse and social practices influence each other in an increasingly varied and diverse manner, with particular thanks to the advent of advanced digital technologies (Blitvich & Bou-Franch, 2019). Furthermore, institutional practices have often mirrored and aligned with the contemporary public discourse and attitudes of the time, both historically, and in the present (Arribas-Ayllon & Walkerdine, 2008). Power and knowledge represent the facilitator and regulator of social practices, with the discursive activities of discourse taking place within the confines of the metamorphic medium of collective intelligence.

Lustañas (2019) contends that discursive narratives and precepts regarding old age shape institutional behaviours and policy in accordance with social discourse. Thus, in what arguably appears to be a social discursive causality dilemma between discourse and practice, it is evident that they interact with each other in a semiotic feedback-loop. On a larger scale, the civic engagement mechanisms of the Commission arguably facilitate critical analyses of EU laws and policies by a burgeoning civil society that wields a distinctly influential platform from which to communicate its views on social and legal developments (Alba-Juez, 2009; Kohler-Koch & Finke, 2007). The discursive feedback loop and resultant interplay between discourse, knowledge and power, within the context of the EU, assertedly resembles a global flagship in the formulation of introspective social policy with independent oversight from a strong civil society (Ibid.).

3.2.2 The Evolution of Discourse Analysis and the Emergence of CDA

In discussing the historical and conceptual development of discourse analysis, as well as the emergence of CDA, this passage explores how critical approaches to discourse

developed into an indispensable means for questioning institutional narratives and the identification of structural biases. Haase (2010) explains that discourse, logic and rhetoric, as objects of academic discussion, analysis and criticism, possess historical roots in antiquity in ancient Greece and China. Discourse analysis emerged from early philosophical theory on the persuasive influence of political speech, both verbal and written (Ibid.). The study of rhetoric in the early Greco-Roman period of antiquity in Europe was concerned with the assertion of power and dominance through discourse (Bradley, 2023). Indeed, Cicero put forth five canons of rhetoric in his seminal work, *De Oratore*, where he elucidates upon the tenets of 'invention, arrangement, style, memory and delivery' (Ilie, 2006). He conceives of rhetoric as speech intended to persuade (Liebersohn, 2015). With respect to academia, the field of discourse analysis is arguably regarded as a modern area of academic study despite the ancient philosophical roots in the conceptualisation of discourse and rhetoric for examining power relations in society (Kaplan & Grabe, 2002). As a result, it is assertable that discourse analysis is both historical and contemporaneously modern at the same time (Haase, 2010).

Discourses and communications, textual, written or otherwise, are generated by an individual social actor or institution with the intention of their consumption or interpretation by another (Carter & Fuller, 2015). Moreover, it has been described as having a 'sender and receiver' basis (Kapur, 2020), which places it at the centre of social psychology as it comprises the locus of all communications between people. Van Dijk (1997) explains that the word 'discourse', is derived from Latin and translates as "run away", in reference to the flow and trajectory of conversational interactions. In addition, in the field of 'corpus linguistics', written discourse in the form of a 'text corpus' or body of gathered texts, is utilised for understanding language semantics within discursive writing (Cheng, 2013). Correspondingly, this procedure enjoys wide utility in academia and in research projects such as this one, as it bridges empirical divergences between the disciplines of social science, psychology and law (Unger, 2016).

Discourse in numerous forms, textual, spoken and otherwise, has occupied a crucial position in defining and shaping the social episteme, or core perceptions of the world (Çameli, 2023). The German term '*weltanschauung'*, meaning 'worldview', attributed to the philosopher, Immanuel Kant, is arguably relevant to the subject of discourse (Allesiato, 2022). Kant conceives of a social, political and moral philosophy that contends that human beings can achieve rationality, partly through dignity (Bayefski, 2013), and deepen knowledge of their place in the world. In the context of rhetoric, it is arguable that the social *weltanschauung* of civilisations has been defined by discourse since earliest antiquity, as has the relationship between society and the authority of ruling institutional agency (Allesiato, 2022). As a result, discourse has always been predisposed to politicisation and comprises the transmissive medium of ideological dissemination within society (Anderson & Holloway, 2018). To this end, power and discourse entail a symbiotic frame of reference for institutions pursuing strategic objectives.

Modern and contemporary forms of discourse analysis began to emerge during the 1970s (Wodak & Meyer, 2009). This period witnessed a flourish in academic interest in semiotics and pragmatism, with increasing numbers of leading scholars developing and utilizing these methods to interpret the meanings of texts and other communicable informational mediums (Ibid.). Wodak and Meyer (2009) explain that the 1970s led to the substantiated emergence of discourse analysis as an independent research methodology with interdisciplinary applicability to sociology, history, psychology, and law, amongst other disciplines. This period arguably ossified the definition of discourse analysis as the study of texts in contexts (Kamalu & Osisanwo, 2015). As such, an emphasis was placed on the context of texts, as it represents an elemental factor in the purpose of the transmission of a textual discourse (Cornish, 1999). To this end, the connotations created by the political, social and attitudinal suppositions of the respective time period in which the discursive material is created

and disseminated are just as connotative and subjectively informative as the discourse in itself (Van Hulst et al., 2024).

During the same period, CDA emerged from discourse analysis with some subtle, nuanced and distinctive features (Ulinnuha et al., 2013). Discourse analysis allots a certain focus to the socially shaping and related practices that influence the creation of discursive texts and mediums within society (Dunn & Neumann, 2016). On the other hand, CDA actively seeks to identify and isolate ideational connotations and attitudinal assumptions pertaining to social practices and precepts regarding topical interactional processes. Fairclough and Wodak (1997) contend that CDA is concerned with the reflection of social views in textual documents or other forms of communicative media, and it seeks to identify the mirroring or interplay between communal precepts of an ideological or political essence in the formulation of discursive texts (Wodak in Clive et al. ed., 2004; Huckin et al., 2012).

In the late 20th and early 21st centuries, pioneers of CDA such as Norman Fairclough and Teun Van Dijk developed novel approaches to, and dimensions of, CDA (Wodak & Meyer, 2009), particularly within the discipline of psychology, to explore the nexus point between social and discursive constructions. This led to the widening of the potential scope for the application of CDA in an interdisciplinary context (Unger, 2016), contributing to the employment of this research technique in the fields of law, social science and humanities. As a matter of course, the rapid expansion of CDA in academia since the 1970s has contributed to a growing awareness of the potential for this research technique to demonstrate how discourse can facilitate, or inhibit, social inequalities through power imbalances, discrimination and non-representation of marginalised persons (Reisigl & Wodak, 2009).

3.2.3 Discourse, Power, and Interpretive Frameworks

This section expands on the relationship between discourse, power and knowledge, galvanising the key considerations of CDA with respect to the role that language plays in bolstering social hierarchies and legitimising the authority of institutions (Van Hulst et al., 2024). There are a wide variety of analytical perspectives and theoretical approaches to the study and synthesis of discourses and related typologies of respective discursive formats, and their connections with social and institutional practices (Miller, 1990). In recent decades, particularly as the mediums of discursive transmission have multiplied through the increasing social utility and ubiquity of communications technologies and the internet (Blitvich & Bou-Franch, 2019), academics studying discourse in a multidisciplinary context are faced with the challenge of keeping pace with a watershed moment in socio-technological, linguistic, and communal practice.

As mentioned, the latter half of the 20th century and, indeed, the early 21st century, witnessed significant development in interdisciplinary approaches to the analysis of discourse (Unger, 2016). Dominant emergent fields in discourse analysis include, but are not limited to, hermeneutics, text linguistics and discursive psychology, amongst others. Though these disciplines do share common roots in the comprehension, translation and synthesis of religious and philosophical texts of antiquity (Haase, 2010), the modern format of these instruments of discourse analysis have acquired a nascent and increasingly interdisciplinary utility in the interpretation of law and policy (Barakos, 2016).

The late French philosopher, Paul Ricoeur, whose work on phenomenology and hermeneutics is regarded as seminal, provided a greater insight into the mechanisms of textual and non-textual communications and their effect on individuals, social practices and institutions of power (Ricoeur, 1981; Barton & Tan, 2009). The utility of hermeneutics in discourse analysis facilitates the interpretation and synthesis of complex texts in an empirical

style through the identification, isolation, and dissection of tracts of wording and fundamental themes, and also by way of the capture and critique of metaphorical clusters (Hart, 2008).

The interaction between this discursive discipline and social constructionism provides an academic framework for the study and observation of power dynamics within society (Charmaz, 2008), as well as their accordant moulding and development through the utility of language (Arribas-Ayllon & Walkderdine, 2017). Burr & Dick (2025) state that, "Social constructionism proposes that how we understand and perceive the world is a product of how the world is represented or produced through language, and depends upon the culture and times that we live in" (p. 61). Through these mediums, the complex and symbiotic relations between the individual, the community and institutions of power, can be investigated to acquire a greater understanding of discursive psychology on social practices and organised bodies of agency (Antonio et al., 2011). As such, it is possible to perceive how discourse, as a subcomponent of social psychology that wields enormous powers of influence on an individual and community level, can permeate through the beliefs and precepts of the person, society, and bodies of agency therein. Social exchange, with discourse at its core, facilitates this transmission of impressions and worldviews in a dynamic form at all levels in society (Golman, 2023).

Melkote (2018) describes the immense definitional breadth of discourse by inferring that it comprises an enormously diverse medium that facilitates the formulations of impressions, beliefs, laws and policies in human society, with social exchange constituting the underpinning driving force of these phenomena. Therefore, it is conceivable that, through democratic and socially diverse communities with strong civil societies that advocate a rights-based approach to development (Levitas, 1998), a greater social self-awareness towards discursive practices and discourse generation can arguably facilitate positive introspective changes within society. In this respect, an introspective approach to discourse can likely assist

social actors in making informed decisions with a heightened state of inward awareness regarding the communal effects of discourse generation on society as a whole (Erman, 2005).

3.3 Frameworks and Approaches in CDA

3.3.1 Critical Discourse Analysis: Theoretical and Methodological Frameworks

This passage provides an outline of how CDA functions in a methodological sense. It justifies the inclusion of CDA in this research as a suitable interpretative framework for the identification of discourses and perspectives in institutional texts concerning technology and ageing. Widdowson (2004) suggests that researchers employing CDA in their work are, in general, seeking to critique the discourse within the text corpus they have gathered for their research in order to discern the linguistic schema employed within the body of written documents (Tenorio, 2011). This can facilitate the researcher in their attempt to understand how the discourses they are critically analysing have been influenced by attitudinal perceptions and structural inequities within society (Amoussou & Allagbe, 2018; Aranda et al., 2021).

Among the key academics in the field of modern CDA studies include prominent scholars and theorists such as Fairclough, Ruth Wodak, Van Dijk, and James Paul Gee, who have all developed cognate but distinctive stratagems for the analysis of discourse and social phenomena (Kouti, 2020; Wodak & Meyer, 2009; Reisigl & Wodak, 2009). Fairclough devised a ‘Three-Dimensional Framework’ model of CDA, discussed later in this chapter, that he uses as a frame of reference for the disassembly and critical analysis of discourse and social practice (Fairclough, 2009). Tenorio asserts that Fairclough (2011) views discourse as a formula that is generated to wield or to maintain influence over, the power structures within society.

To this end, due to the strong interconnection between law and discourse, with language and discursive text comprising an integral part of legislation and case rulings, CDA is gaining traction in the legal profession for many reasons, such as the discernment of power balances

within the context of civil processes (Cheng & Machin, 2021; Khafaga, 2023). In addition, it is also utilised for assessing the discursive styles in legal texts which, despite maintaining a neutral visage on the surface, may marginalize certain groups due to particular textual-linguistic styling (Shuy, 2012). Legal CDA can be a particularly advantageous technique when it is applied to scrutinise law and policy for the 'othering' of human groupings within society (Hassen, 2015; Hall, 1997; Cheng & Machin, 2022), as it can assist the work of proactive law reform efforts, particularly within civil society.

Van Dijk (1998) implies that discourse can sometimes yield distinctly overt examples of othering and discriminatory language within texts, however, it is more likely that discursive marginalisation through textual formats is achieved with a more obscure and subversive manner of composition. Thus, the application of CDA in the case of hermetic or surreptitious discursive writing in marginalising discourses within a text corpus, can be effective at isolating, identifying and emphasising non-inclusive and discriminatory compositional schemas (Elsharkawy, 2017). CDA can provide a summary account and elemental interpretation of the text, and the structure and wording schemas applied therein, lending empirical credence to the underpinning attitudinal presuppositions that influenced the creation of the document, as identified by the researcher (Gillings & Jaworska, 2025). Sometimes however, important matters relevant to the subject within a body of text can be rendered conspicuous as a result of their absence.

In essence, CDA is a primary tool for analysing and disentangling the linguistic discursive styles that are established and consolidated through the medium of written text (Yasuda, 2023). CDA can aid discernment of merit and objective integrity in policy, legal or scholarly documents (Ziskin, 2022). It directly isolates the wording and linguistic styles applied in the text corpus, with metaphorical clusters and connotations being of noteworthy interest (Cameron & Stelma, 2004). Indeed, the perspective of the analyst is an important consideration

in this process as a researcher will invariably embark upon a project with a measure of preconception even without intention or consciousness to this end (Alejandro, 2020; Holmes, 2020). However, in CDA, subjectivity is not viewed as a methodological flaw but rather as an integral component of interpretation (Zienkowski, 2017). It reflects the researcher's situated perspective, which, when acknowledged and reflexively managed, enhances the depth and transparency of analysis (Ibid.). This stands in contrast to 'bias', which denotes unexamined assumptions or distortions that compromise the integrity of interpretation (Olmos-Vega, 2022).

Braun and Clarke (2024) explain, "the post-positivist aspiration for objectivity, ensuring the accuracy and reliability of analysis and keeping researcher 'bias'—understood as researcher subjectivity threatening and distorting objectivity—in check" (p. 2). In this study, subjectivity is embraced within a reflexive analytic framework, while deliberate steps are taken to minimise bias through rigorous documentation, and methodological transparency.

3.3.2 The Critical Constructivist Lens: Reflexivity, Not Negativity

This passage discusses the use of CDA as a reflexive approach, rather than one guided by 'pessimism' (Breeze, 2011), emphasising the important aspect of researcher positionality and transparency in the analysis of sensitive discourses pertaining to older adults and digital technology. The underpinning objectives of a CDA-based study are, generally, to identify the balance of power relations and the dynamics of social preponderance of customs, views and norms within the creation of discourse (Mullet, 2018). Understanding the role of the popular discourse in shaping the symbolic interactions between people and institutions of agency in society is indispensable when seeking to empirically deconstruct the legitimisation of discriminatory practices in a communal context (Ricoeur, 1992; Allesiato, 2022). The application of CDA to any respective text corpus does not preordain a heavily negative or pessimistic view of the contents of the synthesised materials, though the elimination of bias

can be challenging to achieve (Breeze, 2011). As such, the application of CDA to the research sample is carefully considered as are efforts to mitigate confirmation bias while maintaining objectivity (Ibid.).

With respect to CDA, the concept of impartiality is not to be construed as neutrality, but instead it encompasses the exercise of reflexivity and transparency in the interpretation of discourse (Wodak & Meyer, 2001). From a critical-constructivist standpoint (Feenberg, 2022), this study acknowledges the positionality of the researcher while attempting to mitigate bias. In this vein, the research implements reflexive practice by way of analytical memos as an audit trail, and through peer feedback with supervisory engagement to bolster consistency in interpretation and congruence of methodology (Wolf, 2003; Braun & Clarke, 2024). This approach is elaborated upon in the methodology chapter through a discussion of the means by which interpretative decisions were tracked, evaluated and grounded in the data.

Overall, discourses that manifest in regions of the text corpus are subject to analysis while acknowledging socially positive or negative discursive modalities that reveal themselves in the data sample (Goźdź-Roszkowski, 2011). The above process is not undertaken with 'criticism' acting as an empirical nomenclature for 'negative' or undue censoriousness, rather, the critical aspect of the research is intended to mitigate preconceptions that inform the isolation and extrapolation of themes and patterns (Partington et al., 2013). Baker (2014) argues that the process of the CDA is 'observational and neutral,' and 'interpretative' as it is 'critical', but it is not 'negative' or 'pessimistic' in the default method and approach to the application of the selected research framework.

3.3.3 Relevant Approaches to CDA

This section discusses key models of CDA that share arguable overlap with one another (Pešić, 2022), offering theoretical frameworks for analysing the way in which institutional

discourses and communication practices establish social norms, thereby potentially galvanising inequalities pertaining to ageing. The selection of a suitable framework for the interpretation of discourses in this research was preceded by careful analysis and evaluation of each established means of CDA (Northcote, 2012). The development and refinement of CDA alongside the expansion of the fields of discourse studies and structuralism by academics and theorists such as Foucault and Ricoeur among others already discussed, has contributed to a nuanced and multifaceted approach to discursive scrutiny within the academic community (Foucault, 1982; Poorghorban 2023; Ricoeur, 1981). Fairclough (1997) emphasises that the relationship between discourse, power structures and society, is dialectical in its constitution. He developed his Three-Dimensional Framework model comprising a distinctive empirical architecture for the application of CDA by way of the following discursive analysis techniques; 'Description, Interpretation and Explanation' (Jimenez-Silva et al., 2016). In the description or textual analysis phase, a key objective is the identification of the social problem and the tracing and detection of elements of communal reactionism to these issues in the discourse produced within society (Fairclough, 1995).

This involves the deconstruction and assessment of the social practises as well as the resultant discourse generated (Ibid.). In the interpretation phase, the objective is to interpret the discourse practice which influences and maintains the structures and norms of social life, and to assess possible areas of potential opportunity for communal change. Fairclough (2014) explains that, in the explanation stage, the final undertaking is the interpretation of the nexus point of transmission and interplay between discourses and sociocultural practices (Zotzmann, 2016). This explanation comprises a social analysis of the shaping of institutional and societal presuppositions and power relations.

Van Dijk developed a framework for discourse analysis known as the 'socio-cognitive approach' (Wodak & Meyer, 2009; Van Dijk, 1997). In this approach, which shares similarities

to that of Fairclough, the information within the text corpus can be interpreted and refined to the point of identification of fundamental themes within the literature. This stratagem advocates the study of the overarching themes and presuppositions discernible within the text, irrespective of the complexity of the material (Gyollai, 2022). With respect to the delineative or schematic structures that shape the posture and demeanour of the text, Van Dijk (2009) argues that, by integrating a cognitive approach, researchers are able to discern communal attitudinal viewpoints that are influenced as a result of the manner of production and consumption of everyday discourse.

The 'system of representation' approach to discourse analysis developed and put forward by Foucault is frequently used in discourse analyses involving the study of political or ideological motivations in the creation of institutional power balances between bodies of agency and their relations with the individual (Foucault, 1971). However, it can also be applied to general power relationships in modern societies that do not necessarily entail ideological or heavily politicised motivations, but rather to understand the processes and relations that shape the attitudes of individuals and their relations with bodies of authority through the creation of discourse (Matus, 2018; Johansson, 2007).

The discourse analysis of legal texts can be implemented through the study of the relationship between the law and juridical literature in textual format; lending an insight into the discursive techniques used by institutions in society that wield national or international levels of agency and influence (Unger, 2016). Wodak (2012) outlines that bodies of governmental authority produce policy documents that blend a degree of legal writing and expositional literature into their discursive formula. As such, discourse analysis can facilitate a scholarly approach to the extrapolation of textual nuance when interpreting policy and legislative formulations, as well as literature on the law, and its implementation in society (Cheng, 2016).

3.3.4 The Critical Role of CDA in Challenging Structural Discrimination

An important conceptual component of CDA is the acknowledgement of the intertwined and synergistic relationship between social perceptions, written texts and wider society (Hall, 1997; Derrida, 1995). As previously mentioned, the rapid advancement of computational technology has led to numerous inventions that have revolutionised the nature of discourse in human society (Blitvich & Bou-Franch, 2019). The internet has facilitated the creation of multiple discursive platforms such as video sharing and blogging, and social media has given rise to forms of discourse such as Facebook or Instagram 'posts' (Lara & Bokoch, 2021; Makita et al., 2021). Further types of discourse can include films, photographs, interviews and traditional written texts amongst other modalities of discursive information transmission and dissemination (Voithofer, 2006). However, this project focuses on academic, soft law and policy discourses, and does not include analyses of digital-first discursive platforms such as blogs or social media (Makita et al., 2021). While these platforms play a significant role in shaping public narratives and may amplify socio-discursive polarisation (Kelsey & Bennett, 2014), their exclusion reflects the study's focus on institutional discourse and policy framing. This scope limitation is acknowledged, and future research might explore how such platforms intersect with the policy discourses analysed here.

Discourse almost invariably encapsulates the connotations of the attitudinal and social precepts of the time in which it was conceived (Kraus et al., 2021). Many forms of discursive materials can, even without the intention to do so, comprise a '*zeitgeist'* phenomena or indirect commentary on the contemporary issues and beliefs within society in accordance with the respective period of its creation (Jung, 2014). Accordingly, discourse captures the contemporary communal values and norms of the timeframe in which it was created, particularly with respect to topics of high political and social sensitivity such as age, ability, gender and sexual orientation amongst others (Krzyżanowski, 2020). Thus, modern CDA is

frequently implemented to study and disaggregate the social attitudes of a respective period on a particular subject, and it can be utilized to assess the evolutionary shift in social attitudes over time (Rheindorf, 2019). Ostensibly, levels of social tolerance may be ascertained through the implementation of CDA on discourse of all types from any respective timeframe.

Similarly, although the general trajectory of social and institutional discourses in the EU appears to have become gradually more tolerant towards historically marginalised groups such as persons with disabilities, gay people, ethnic minorities and so forth, the progress towards inclusivity and acceptance in discourse is far from uniform across the spectrum of the union (Verkuyten & Kollar, 2021). European societies are gradually becoming more open to discourse on issues regarding ageing and increasingly connected communities, though social values and perspectives on these topics often vary among EU Member States (Lähdesmäki & Wagener, 2015).

There is arguably a growing awareness within society that the disaggregation of discriminatory discourse can assist in efforts to eliminate older forms of power discourse (Dobusch, 2017). The promotion of more inclusive forms of discursive mediums and outputs within the framework of the modern EU is aided and facilitated by international human rights law and freedom of speech (Verkuyten & Kollar, 2021). Indeed, law reform, prompted by greater social discursive freedoms as well as the application of CDA by researchers to laws, policies, and communal attitudinal perceptions, can help to delegitimise structural and ingrained forms of discrimination (Walsh et al., 2021).

Intolerant discourse has been described by academics in the field of CDA as a historical and traditional means of legitimising discrimination through social practice at an individual level (Sidanius & Pratto, 1999), and by institutions of power and bodies of national agency. Structuralist views on CDA can assist one in understanding the social precept of discourse (Serpe et al., 2020), which often advocates and vaunts the source from which it emanates, in

the advancement of self-interest. With respect to law and policy, this form of self-representation in discursive texts is achieved through the medium of an expository style, often as a subversive by-product within an informational piece of text (Rubio-Carbonero, 2020).

In this sense, CDA is especially beneficial when applied in the context of independent research and policy analysis to understand the definitive composition and construct of a discourse or narrative that is discerned within a text corpus or media format (Bazerman, 1990). Furthermore, CDA can aid the researcher in understanding the creation of a discrimination or bias within the legitimizing value of an official text (Hassen, 2015), and this may lead to the deciphering of the origin and end effects of a bigotry or preconceived precept of a social phenomenon. As a result, CDA can also shed light on the nature of power and social hierarchies in human society (Ibid.).

3.3.5 Methodological Reflections on the Use of CDA in this Study

This passage provides a brief initial methodological reflection on the application of CDA in this research. It contemplates the strengths and limitations of CDA in capturing, deconstructing and comprehending complex social, psychological and institutional discourses.

Although quantitative research methodologies regularly yield highly scientific and beneficial statistical sets of information, it can be substantially more problematic to assess discourse on attitudinal (Oteíza, 2017), politico-legal or human experiences and preferences through a study that relies purely on statistical analyses. Instead, qualitative research methodologies allow for greater room to assess these variables and their parameters by providing the requisite theoretical frameworks to do so (Fairclough, 2001; Yadav, 2022). Greater empirical flexibility is allotted to this study through the utility of scholarly research articles that incorporate quantitative analyses of datasets as part of the research data sample

pool utilized for the construction of this project, though with due caution allotted to the risk that an overly expansive variation of source types may lead to distorted interpretation (Breeze, 2011). This flexibility is designed to maximise the benefits of qualitative research implemented in this study to investigate (Van Dijk, 1997), assess and validate the discourses that influence the human experience and accordant thematic attitudinal trends in the psychological and politico-legal domains.

Thus, a qualitative research methodology entailing desk-based research involving the CDA of sources procured for the research sample in this project is considered to be the most suitable approach to the operationalisation of the study. The project entails flexibility by accommodating a quantity of scholarly publications in the research data sample that provide, or interpret information from, quantitative statistical analyses (Oteíza, 2017); helping to offset traditional weaknesses associated with qualitative research methodologies. Such vulnerabilities include the sometimes non-statistically representative nature of qualitative research, alongside occasional rigidity and exacerbated presentability of certain information types within this methodological framework, which can present a challenge for the verifiability of findings and conclusions (Brink, 1993).

The qualitative methodology applied in this research seeks to disaggregate the discourse of institutions as potential promulgators of prejudice through policy (Phillips et al., 2002; Bhandari & Yasunobu, 2009; De Filippi & Santolini, 2023). In this sense, the study attempts to comprehend aspects of human behaviours and the actions and contexts that surround these social phenomena. This research design enables an optimal strategic balancing between an emphasis on quantifiable precision in the methodology, and the flexibility to assess and discern complex social phenomena which lend an insight into the behaviours of institutions as bodies of agency comprised by individuals (Ibid.; De Filippi & Santolini, 2023). This balancing strategy helps to reinforce the strength of the study as it investigates

novel and sensitive matters that are often challenging to capture and synthesise through quantitative methodologies. There are aspects of this strategy that naturally manifest themselves as potential limitations (Bloomberg & Volpe, 2008), particularly with respect to the precision of objective results, as these are challenging to empirically isolate and tangibly prove in a visual textual sense. Rather, the CDA yields a combination of a definitive isolation of linguistic patterns, with the inferences that are empirically extrapolated from the data and subsequently explored through the utility of wording and stylistic portrayals in the literature.

Some further vulnerabilities that often pertain to qualitative studies include the determination of the issue of generalisability in the exploration of complex social phenomenon and the reason for their occurrences (Ibid.). The size and composition of the data sample can potentially lead to complications in conclusively determining the respective generalisability of a study (Chouliaraki, 2006), which can call into question the suitability of the research for utility as an example of a mean standard of normative phenomena that is occurring in a particular social context and grouping. The size and demographic capture of the data sample can also be of central importance to the above in determining the overall generalisability of the study at large (Chouliaraki & Fairclough, 1999). Small sample sizes can erode generalisability and, therefore, may undercut the reliability of a study if the target group and questions posed are too precise for nuanced flexibility, and too narrow for the task of discerning a mean example of a social phenomenon that occurs at a more significant scale.

As such, this study is designed to carefully tread the boundaries of precision in the research design and questions posed, whilst enabling the capture and synthesis of nuanced phenomena. Further to this, the data sample accumulated for this research is designed with careful cognisance of the above risk, to purposefully negotiate this weakness and to adopt as much generalisability as is possible within the context of a niche corpus of literature (Kaplan & Grabe, 2002). The material composition of the text corpus includes Commission policy

documents and scholarly journal articles that are representative of definitive sectoral groupings from the public and care sectors. Ostensibly, this variety and composition of data indicates that the issues of smaller data samples leading to reduced generalisability are likely circumvented to a significant extent in this project. In other words, some of the traditional vulnerabilities associated with qualitative research that pertain to this project are greatly reduced through the attentive research design that is tailored to preclude any erosion of generalisability in the thesis and the conclusions (Anderson, 2017). The oversight of this project provided by the research supervisory team enhances the transparency of the thesis to account for researcher positionality (Fairclough, 2001). This does not ultimately preclude individual limitations that are intrinsic to this type of research (Bloomberg & Volpe, 2008), however, this study is approached with a cognisant exercise of critical reflexivity (Anderson, 2017). The methodological considerations in this thesis are comprehensively elaborated upon in the next chapter.

3.4 Interdisciplinary Lenses on Discourse and Social Power

3.4.1 Academic Theories on Power Relations: The 'Bourdieusian' Consideration

Analogous to substantiated scholarly frameworks such as Social Dominance Theory and Social Dominance Orientation, discussed later in this passage (in Section 3.4.3), is the work of the late French sociologist and leading academic theorist, Pierre Bourdieu. His research explores the manifold and intricate means in which power relations in society are shaped and how they are subject to complex processes of transferral between generations through social reproduction and capital (Bourdieu, 1990). In view of this, his work is eminently relevant to the study of older people and their experiences with a digitalising society. The theory of habitus is widely cited in sociological and cognate disciplines as one of his most popular concepts for understanding the nuanced and diversiform workings of the social world through

scholarly research (Maton, 2012; Bourdieu, 1984). As a proponent of reflexivity in research, Bourdieu uses the idea of habitus as a loosely defined frame of reference for understanding the relationship between an individual and society (Bourdieu, 1992; 1990) and how economic, cultural and social backgrounds, among other defining or stratifying elements, shape the relationship between the corporeal person and the community in which they reside and interact with. In this respect, Bourdieu's theories provide a most useful sociological lens through which to study and understand the interactions between a person and society and how individual socio-economic status, cultural background, as well as experiential and idiosyncratic variables, and further nuances, shape the relationship betwixt the human and community (Maton, 2012), and the accordant transposition of this association on an intergenerational basis over time. Indeed, albeit through a brief reference to Bourdieu's work, this research recognises his theories as an appropriate alternative framework for understanding the complex social and individual variables that shape the deeply variegated and multiplex relationship between older people and digital society. As such, if this research was to be conducted again within a second conceptual academic schema, Bourdieu's theories assertedly provide a robust scholarly lens through which this project could be recapitulated and interpreted.

3.4.2 Discourse and Symbolic Interaction: Meaning, Power, and Communication

This passage discusses symbolic interactionism and discourse to explain how the latter functions at an interpersonal level to communicate meanings, beliefs or stereotypes that can influence institutional depictions of older adults (Mariano et al., 2021). With respect to semantics, discourse and textual discursive writing has evolved alongside linguistics to facilitate the transmission of ideational and conceptual knowledge and opinions, with direct meanings, but also with connotative and anterior attitudinal underpinnings (Hassen, 2015).

Discourse can be applied in four forms; expository, argumentative, descriptive and narrative, in order to achieve the desired effect and impression upon the reader (Fludernik, 2000). Another method of perceiving discourse is to view it as the proverbial telegraph line of ideational transmission between the author and the reader. In this manner, the author wields agency and power through the transmissive potential of their particular utility and schema of discursive employment (McNamara, 2013; Hurtienne & Israel, 2007).

Carter and Fuller (2015) outline that, in the discipline of social psychology, 'Symbolic Interactionism' and language are enmeshed in their role and functions in interactions within society through the communications that individuals have with one another. In this sense, "Symbolic interactionism is a theoretical perspective in sociology that addresses the manner in which society is created and maintained through face-to-face, repeated, meaningful interactions among individuals", (Ibid., 2016, p. 815). Moreover, it affects discourse generation and the utility and application of discursive linguistics, written and spoken, in all domains within society.

3.4.3 Social Cognitive Theory and Reciprocal Determinism in Discursive Constructions of Ageing

The Canadian psychologist, Alfred Bandura, is accredited with the development of Social Cognitive Theory, which was derived from Social Learning Theory, and was based on the premise that 'behaviour can be learned through observation' (Nabavi, 2012). The elementary perspectives of observational learning are that a human can learn to develop agency within their proximal experience of the world through lived experience (Ibid.). As such, this section discusses Bandura's theory to demonstrate how social attitudes and behaviours towards ageing are developed and reinforced by way of discursive feedback loops, providing further grounding to CDA's focus on institutional messaging. The dual tenets to this form of observational learning propose that direct lived experiences and the regarding and scrutiny of

the actions of others facilitate the development and acquisition of agency by an individual within society (Baştan & Dülek, 2023). Moreover, they can also have an impact on the socio-cognitive development of an individual in their social interactions with other persons and institutions in a community.

Triadic Reciprocal Determinism, as a central component of the social learning theory put forward by Bandura, is a theoretical frame of reference that explains the triangular interplay between a social actor, the environment and the resultant decisions of the individual (Little, 2018). Within the domain of social interactionism, the above formula of reciprocal determinism arguably assists in the understanding, deconstruction and interpretation of dramaturgical symbolic interactions between different actors in society and the formulation of attitudinal strands based upon these communal transactions (Salvini, 2022). Observational learning and deductive reasoning based on lived experience often influences the perpetuity of discursive dynamics and beliefs (Rumjaun & Narod, 2020), which can be transposed into institutional agency for the formulation of policies and laws. Bodies of institutional and sectoral agency in society are arguably vulnerable to the phenomenon of negative attitudinal formulations (Hertwig et al, 2023), particularly based on reciprocal determinism, against the backdrop of technological progress (Agar, 2019), meaning that this can ultimately permeate and percolate the creation of policies and perspectives that are grounded in dramaturgical models of social interaction.

The above-listed sub constituent elements of social learning theory are indispensable in the endeavour to unearth (Nabavi, 2012), decipher and translate the traditional patterns of collective rigidity with respect to the pan-communal phenomena of ageing and the interactions between older adults and the rest of society. In addition, digital technologies and the internet have arguably not yet succeeded in reversing or altering the siloed and deeply embedded dramaturgical mental model of older adults as subjects of burdensome social responsibility,

nor the according inferred necessitation of their paternalistic treatment within society at large (North & Fiske, 2012; Petersen & Warburton, 2012; Sargent-Cox, 2017; Graff et al., 2025).

Rather, the rapid pace of digital technology proliferation and development has created a satirical discursive humour and view of older adults as users of computational devices (Mariano et al., 2021). One can, with relative ease, find numerous examples of satirical discursive depictions of older adults (Gullette, 2024), only for them to end up being portrayed as the proverbial 'butt of a joke' due to their perceived incompetence towards digital technology. The relatively brief history of the internet has given birth to a litany of new forms of discursive expression (Athique, 2013). Urbanova et al. (2020) explains that, within the digital world, there exist starkly visible parallels between discourses of social stratification and politicisation on grounds of culture, race, sexual orientation, ability, creed or age, and historically causal factors for inequality and division in society (Criado & Such, 2019).

3.4.4 Discourses on Ageing Through the Lens of Social Dominance Theory

Pratto et al. (1994) define Social Dominance Theory (SDT) as the hierarchical social order that is maintained through individual and institutional discrimination (Sidanius & Pratto, 1999). As such, this passage makes use of SDT to explore how discourses in policy and institutions can preserve group hierarchies, reinforcing ageist discrimination under contemporary economic and political systems (Henry et al., 2019). SDT in psychology and social sciences may be applied to understand how certain groups of institutions or social actors in society can coalesce and effectively band together to reinforce elements of common interest whilst simultaneously compelling other groups or social actors to submit to their will or desired models of agency (Ibid.). The dramaturgical model of social interactionism and the proverbial civil looking-glass through the prism of ageing (Woolrych et al., 2018), arguably comprises an

integral component in understanding how older adults are frequently at the bottom or base of the social power structures that are influenced and governed by SDT.

While it is not a traditional part of CDA, SDT provides a useful lens through which to comprehend structural power relations that drive discourses on age (Henry et al., 2019). SDT entails a focus on how hierarchical dynamics in groups are copper-fastened through legitimising ideologies, thereby arguably intersecting with CDA's focus on language, precepts and social stratification (Sidanius & Pratto, 1999). In this way, SDT can function as a useful and cognate framework to CDA for providing a conceptual perspective to inform the analysis of discourses on ageing, and especially with respect to the discernment of how institutions can reinforce or challenge ageist social dominance through discursive avenues (Henry et al., 2019).

The Social Dominance Orientation (SDO) model of Sidanius and Pratto (1999) divides communal or group aspects of power into two distinct categories; the first of which is 'dominance', which posits that some communities of individuals are more worthy than others, and 'egalitarianism', which argues for the positivity of potential equality between all groupings of peoples (Sidanius et al., 2012). In the traditional struggle between these two classical categories of SDO, the 'dominance' adherents generally gravitate to the preservation of conventional and time-honoured social structures that are heavily conservative and often anti-liberal; tending towards a more authoritarian model of communal power assertion and governance (Sidanius & Pratto, 1999). The SDO model has been applied in studies of racist or sexist power structures which often revolve around conservative right-wing politics (Nicol & Rounding, 2014; Kauff et al., 2020), and are arguably just as applicable to the issue of ageing and ageist discourses that permeate multiple sectors of society in the age of the digital divide.

SDO is arguably influenced by contextual phenomena in the environment with which social actors engage through interactionism (Renström, 2023), and they can formulate biases or prejudice based on these experiences which generate resultant discourses. With respect to

the dramaturgical model, it is a commonly recognised phenomenon that individuals often gradually adopt the behavioural traits associated with specific jobs or employment roles that they might acquire and that this influences their subsequent conduct and related behaviours in this vein (Ercan & Hendricks, 2022). Andrews et al. (2019) explain that this undoubtedly influences the relationship between older adults as a demographic and the rest of society.

Propensity towards SDT dominance is arguably evident within the digital technology sector with purported examples of prevalent hostility towards universal design measures whose purpose is to cater for the requirements of persons with disabilities and for older adults (Callard & Rose, 2012). It is evident that the prospect of potentially reduced economic competitiveness in products that incorporate universal design features, and the implementation of certain accessibility specifications and standards, does not evoke enthusiasm for a technology sector that wishes to exert market dominance through the mass production of standardised digital goods and services for the younger and non-disabled user (Mannheim et al., 2022). Whilst arguable proponents of SDT egalitarianism are making some inroads in encouraging private sector technological industries to adopt a more predisposed stance towards the implementation of universal design in certain instances, such efforts to date appear to be largely comprised of pilot projects and flagship demonstrations of technical potential rather than a significant large-scale strategic metamorphosis of accessible digital goods and services (Xiao et al., 2024).

Civil society organisations such as NGOs for persons with disabilities arguably operate on a general basis of SDT egalitarianism and they often require significant coordination across the spectrum of civic institutions to make their voice and discourse impactful at the strategic policy and governmental level (Skempes, 2022). It is evident that the forces of SDT domination in industry and in the public sector, in the forms of free-market and political economy perspectives (Georgantzi, 2018), comprise some of the key obstacles for the proponents of

egalitarianism to challenge and overcome in order to promote and instil a knowledge and belief in the benefits of an accessible and inclusive digital society irrespective of age or ability.

Despite a gradual flourishing of equality discourses in European civil society over the past two decades, the position of civic organisations that lobby government institutions to effect equitable change in law and policy for inclusion and sustainability remain tenuous and are subject to increasing pressures (De Bruycker, 2025). The very nature of a civil society that advocates for human rights (Ruzza, 2013), inclusion, sustainability and accessibility, means that the mission to instil these values in multiple spectra of the human community is often synonymous with voluntarily entering into a strategically litigative and oppositional capacity against the forces of SDT dominance. Furthermore, the strata of SDT dominance in society frequently comprise the very centres of gravity of the most powerful social bodies and institutions (Islam, 2014); particularly those with immense capacity for societal agency and for giving impetus to their own interests and strategic ambitions.

For new and emerging discourses in the domain of egalitarianism, the conservation and proliferation of ideals and values is a very challenging task for individuals in research or for third sector organisations to undertake (De Bruycker, 2025). In the EU, they may face opposition from the forces of SDT dominance through an adherence to traditional paternalistic precepts of vulnerable persons coupled with a primary interest in the maintenance and growth of the free market and political economy (Bechtold & Capari, 2019). At the very least, the exponents of the conservative and economic interests of profit and the preservation of traditionalist power dynamics, usually seek to limit and confine, if not quash outright, the liberal voices of egalitarian discourse (Ho et al., 2012). The fundamental reasoning behind this phenomenon is that the public and private sectors are first and foremost concerned with the maintenance of economic health and a market stratagem in digital technology development that, so far (Callard & Rose, 2012), precludes any radical incorporation of universal design and

gears the wider market strategy in a demographic 'bottom up' policy with respect to consumer age groups, favouring the younger employed or adolescent user.

The role of discourse in the social contest for an egalitarian and inclusive society represents the primary apparatus for the inducement of strategic change in the socio-cognitive outlook across multiple sectors in society towards the disadvantaged position of older adults in the digital divide (Georgantzi, 2018). Discourse is the primary vehicle for an inducement of change (Schmidt, 2006; Ayalon & Tesch-Römer Ed., 2018; Mannheim et al., 2022; Bechtold & Capari, 2019), and for countering the SDT dominance of the constituent actors within the free market and political economy. Hence, it is of vital importance that civil society remains strong (Adibe, 2012), and that the ability of researchers and NGOs to generate discourse, utilising the platform of digital media to proliferate egalitarian discursive perspectives for uptake and conscientious adoption by social actors to effect change in institutions of public agency, becomes increasingly robust. Moreover, it is imperative that older adults themselves be provided with the means, empowerment, and education to contribute to egalitarian narratives and achieve adequate means of self-representation and discourse creation through the utility of digital devices and services (Ayalon & Tesch-Römer Ed., 2018).

3.4.5 Functional Forms of Written Discourse

When one engages with written discourse, the key features of each sentence of textual data for a reader comprises the unity, meaning and purpose of the discursive style employed therein (Hall, 1997). This passage discusses the core rhetorical categories of written discourse and justifies the relevance of this research to expository and argumentative discursive forms as they are relevant to institutional framing and, accordingly, are central to CDA of policy concerning ageing and digital technology. Discourse retains a central and defining role in all areas of society, politics and media, and it moulds attitudinal strands in mainstream society,

entailing all of the adherent connotations, biases and perceptions that can manifest as a result. Textual data as a connected discourse entails cohesion, coherence, and an impartment or dissemination of a concept (Hall, 1997). The examples of politics and the popular media as prominent promulgators of discourse, through language, dialogue, text and visuality, comprise an appropriate illustration of the protean complexity of information circulation through modes of discursive mediums (Meng & Zhao, 2023; Das, 2011).

However, an additional purpose of discourse and the dissemination of information within society comprises the objective or intention of persuasion (Liebersohn, 2015). A key design within the dissemination of discourse is the desire to wield a persuasive influence over the recipient audience of the information (Ibid.). As previously mentioned, discourse is typically divided into four broad categories in research, it is predominantly defined as comprising a quadruplicate of constituent spectrums; descriptive, argumentative, expository and narrative (Fludernik, 2000). Descriptive discourse primarily occupies the domain of literature and creative writing in order to provide eloquent and vivid descriptions of a scene to a reader (Webb et al., 2021). Narrative discourse usually comprises the technique of storytelling employed within novels or creative literature (Ibid.). As a result, descriptive and narrative discourse do not represent key discursive categories that are analysed within this project.

Expository and argumentative categories of discourse are distinctly relevant to this research (Felton et al., 2015), as they comprise the core discursive techniques that are widely employed in the fields of academic writing and empirical reasoning within psychology, law, and the social sciences (Unger, 2016). Expositional writing is a useful stylistic method that is frequently utilized for the dispensation of information in an impersonal and informative style, without seeking to provoke an emotive or obviously persuasive effect upon the reader (Bova et al., 2024). Empirical academic writing makes consistent usage of exposition as a stylistic

medium through which a theme or question can be deconstructed and considered in a more dispassionate sense (Martínez Aguilar, 2025). Argumentative discourse is also frequently used in academic writing where concepts are often disentangled and interpreted with reference to reputable sources, thereby lending credibility to the concluding arguments or concepts put forth within a body of research (Yasuda, 2023). In academic journal articles and legal scholarship, one can observe use of scholarly argumentative discourse whose persuasive potential is arguably predicated on a duality of discursive technique and empirical evidence.

From the above paragraph, one can discern the functionality of each of the four categories of written discourse and observe how their respective situational and intentional employment can achieve a specific effect (Fludernik, 2000). This represents an appropriate example of the dynamism of written text as a form of discourse. Textual discursive techniques can be applied in a broad degree of stylistic arrangement in order to achieve an intended and, arguably strategic, effect upon the reader (Forchtner, 2021). Conversely however, an introspective and analytical viewpoint on the part of a reader can enable one to deconstruct the stylistic schemas employed by the author with a view to discerning their attitudinal presuppositions and metaphysical precepts.

3.5 CDA, Digitalisation, and the Politics of Ageing Discourse

3.5.1 The Role of CDA and Civil Society in Advancing Anti-Ageist and Inclusive Discourses

This section argues that discourse is positioned as a practical tool adopted by civil society actors to critique policy language and push for discursive reforms, particularly in advocacy for the rights and recognition of older adults (Lessard et al., 2025). Despite a conspicuous dearth of specific acknowledgement in international law and policy towards the social and technological challenges faced by older adults in the EU, the burgeoning civil society within the Union has assumed an indispensable role in challenging the narratives and official

discourses produced by the Commission at the strategic agency level (Georgantzi, 2018). In this respect, CDA continues to demonstrate substantial potential as an international linguistic vehicle for fostering positive social change through policy analysis (Goodwin, 2011). The role of documentary analysis in the context of EU policy has come under increasing scrutiny by independent NGOs in recent decades (Béla, 2019). The legal framework of the EU as outlined in Chapter 2, emphasizing sustainable development and human rights, has facilitated the expansion of civil society through formal engagement and consultation mechanisms with NGOs (Hannah, 2011). Discourse analysis has thus played a growing role in shaping the work of researchers and human rights NGOs (Cummings et al., 2018), whose approach to EU strategic publications involves synthesising, interpreting, and critiquing the linguistic styles and representational standards used in official discourse.

There are arguably many circumstances in which the policy analysis work carried out by humanitarian civil society organisations in the EU constitutes a form of CDA, in line with the approach described by Van Dijk (1993). As such, depending on the core interests and priorities of each organisation conducting discourse analysis of EU strategic policy publications, its implementation is often shaped by the organisation's underlying agenda and motive (Zadja, 2023). Nevertheless, the flourishing of a civil society committed to promoting an equal, accessible, and humanitarian European community has empowered NGOs to exert considerable strategic influence in shaping and advancing progressive shifts in social discourse over the past two decades (Oberleitner, 2007).

In addition, the consolidation of civil society in the EU into cohesive umbrella organisations (Scott & Liikanen, 2011), such as the European Disability Forum and the European NGO Confederation for Relief and Development (CONCORD), has empowered the humanitarian third sector to build a stronger collective centre of gravity around institutions of power and agency (Johansson & Meeuwisse, 2024). The analytical work of these organisations

has arguably contributed to a perceptible shift in the institutional and policy implementation frameworks of the EU, as lobbying and critical discourse appraisal efforts by the third sector have begun to exert an increasingly pronounced impact (Rashid & Simpson, 2019). However, despite these positive developments, the timeframe remains relatively short, and the level of agency exercised by the third sector continues to be fragile, despite signs of modest strengthening over this period (Scherer & De Ville, 2023).

Textual and policy analyses by third sector organisations have demonstrably contributed to positive strategic social change (Shawki & Schnyder, 2025). As with most efforts aimed at the strategic level of social policy and legal reform, the realisation of tangible change in discourse and socio-cognitive perceptions is a gradual process that requires sustained effort and time (Wolf & Van Dooren, 2017). In terms of accessibility in the built environment, a visible shift, albeit still nascent, is emerging with increasing public recognition and practical impact. Discourses on disability have been shaped by persons with disabilities themselves through their direct contributions to strategic policy development and public awareness-raising around ableism (Brunner, 2014), particularly via the ‘nothing about us without us’ movement (Priestley, 2007). While this is a welcome development, older adults have only indirectly benefited from anti-ableist discourses, primarily in areas where disability law and policy objectives incidentally intersect with the interests of people in later life.

This reveals a discursive conflation between the distinct but overlapping experiences of persons with disabilities and older adults, both of whom are subject to a wide range of discriminatory practices in a society that is not yet fully accessible. Older adults, however, have arguably been largely overlooked in the ‘nothing about us without us’ movement, in part due to a lack of accessible pathways to engage with society as a cohesive social group (Thompson, 2005). To redress this imbalance, older adults require access to the same civic infrastructure

and discursive tools that enable collective empowerment, similar to those available to their younger counterparts with disabilities (Georgantzi, 2018).

3.5.2 Challenging Social Conservatism in Digital Ageing Discourse through CDA

This section connects discursive analysis to contemporary digital policy debates, revealing how ageist assumptions embedded in economic and technological discourse can be critiqued and restructured through CDA (Fleming, 2018). The CDA approach adopted in this research is positioned as offering a substantially original contribution, as there is a dearth of adequate study undertaken thus far with the intention of discerning the areas of conflict and overlap between sectoral narratives and discourses concerning digital technology utility among older adults (Schroeder et al., 2023). Thus, applying CDA to explore these narratives is proposed as a crucial initial step towards awareness raising and emphasising the challenges faced by individuals in later life who face intersectional discrimination (Mannheim et al., 2022). Such an approach is intended to function as a discursive precursor to the collective discourse of older adults in the future who may eventually be sanctioned to wield a unified social voice with independent empowerment for self-representation and governance (Ng & Abbas, 2020). As this study adopts an interdisciplinary approach when drawing upon CDA (Prendergast, 2021), this integrative framework enables a deeper understanding of how discourse reflects and reinforces socio-political and technological exclusions that impact older adults.

Divergent discourses in society arguably encourage textual and media reflections of the socio-cognitive perspectives and interests of institutions (Van Der Horst & Vickerstaff, 2021), social actors or conglomerations that produce discursive materials based on economic or religious concerns amongst other communal conventions. Orlowski (2012) acknowledges that “ideology critique lifts the veil of common sense in order to arrive at underlying interests and

agendas structured in language" (p. 208; Leonardo, 2003). As such, this study hypothesises that such social conservative discourses can constitute a primary obstacle to the proliferation and circulation of human rights narratives and perspectives on older adults as users of digital technologies (Fleming, 2018).

Social conservative discourses frequently infer a stereotype of old age that is consistent with paternalistic and traditional views of the lives and needs of older adults which can influence digital technology development and reinforce the free market and political economy models that favour the younger and economically active user of computational devices and services (Ayalon & Tesch-Römer Ed., 2018). In addition, social conservative discourse remains among the most difficult rhetorical persuasions to penetrate and influence as they can be heavily persuaded and prejudiced by traditional dramaturgical models and presuppositions of older adults through experiences such as a child's interactions with grandparents or relatives in later life who have been cared for through paternalistic wardship with a stark dearth of digital technology in their lives apart from, perhaps, the amenity of a television or radio (Leary & Kowalski, 1990; Róin et al., 2021).

3.6 Summary

The beginning of this chapter established the interdisciplinary locus of this research, intersecting the fields of psychology, law (Unger, 2016), social policy, critical discourse studies, and scholarship in ageing and digital technology. By focusing on EU policy and strategic discourses, this study uncovers a gap in academic literature with respect to the representation and discursive framing of older people and digital technology (Ayalon & Tesch-Römer Ed., 2018). This summary galvanises the arguments of the chapter which contend that discourse moulds and reflects institutional ageism, thereby revealing how CDA and

interdisciplinary social theories can provide a useful contextual framework for the exposure and challenging of exclusionary digital policy narratives (Henry et al., 2019).

To comprehend the interplay between social practices, discriminatory biases and institutional codes and etiquettes (Lammers & Stapel, 2010), it is necessary to understand how discourse and discursive practices influence the power dynamics and interplay within these constructs made of individuals. Social practices and discourses influence each other in a variety of ways, and especially since the advent of digital technologies (Lara & Bokoch, 2021). Moreover, institutional practices frequently align with the contemporary public discourse of the time (Arribas-Ayllon & Walkerdine, 2008). Knowledge and power constitute the regulator and facilitator of social practices, with the discourse and discursive activities being generated inside the confines of this ever metamorphosising medium of collective values and precepts.

Symbolic interactionism in contemporary social psychology, derived from the works of Weber and Mead explain that (Segre, 2014), through interactionism, attitudinal strands containing stigmatic opinions and assumptions can be successfully transmitted between individuals in all levels of society (Schneider, 2022). From institutions of national or international agency to the ordinary streets of towns, and rural communities, social interactionism defines opinions and viewpoints of individuals in all settings (Wilson, 2015).

Discourses can discriminate along any lines of commonly defined social differences such as age, ability, race, ethnicity, creed, gender, or sexual orientation, amongst many others Urbanova et al. (2020). The example of ageism is particularly notorious for how socially ingrained it is in all human societies (Manor & Herscovici, 2021). It permeates many tiers of discursive output and circulation in society, from law and policy to popular humour, and can manifest in the depictions broadcasted in mass-media for societal consumption (Lee & Hoh, 2023). Modern sources and generators of discursive media through the internet facilitate the mass proliferation and consumption of information by governmental, civic, private and

individual authorship (Ibid; Blommaert & Bulcaen, 2000). Ageist discourses are readily accessible in the contemporary online environment where discursive materials such as videos, memes, images and textual data, amongst other forms of information dissemination, are regularly accessed by a younger audience (Lee & Hoh, 2023).

As discourse can subtly advocate and push the source from which it emanates in advancement of self-interest, there arguably exists a gradual communal awakening to this fact, prompted and encouraged by independent researchers and civil society in collaboration with socially disadvantaged persons (Alba-Juez, 2009; Kohler-Koch & Finke, 2007). The promotion of more inclusive forms of discursive mediums and output within the framework of the modern EU, has been aided by an active civil society that champions international human rights laws and freedom of speech, whilst also providing critical oversight of legal and policy outputs (Kohler-Koch & Finke, 2007). To this end, there is an arguably nascent awareness within society that the breakdown of discriminatory discourses can assist in efforts to eliminate older, inherited forms of intolerant and authoritarian power dynamics created by traditional discursive narratives (Hassen, 2015). CDA in academic research, alongside discourse analysis in policy, law reform, collaboration with disadvantaged persons (Levitas, 1998), and advocacy by civil society that champions discursive freedom through the challenging of social attitudinal perceptions, all play a vital role in helping to delegitimise institutionalised forms of discrimination (Hassen, 2015; Hall, 1997).

In order to challenge and disassemble discriminatory power structures supported by marginalising laws and policies inherited from an often problematic and segregated history (Bates, 2008), it is imperative that future decisions are made with ‘eyes wide open’ to the role of human rights and inclusive discourse (Kohler-Koch & Finke, 2007). These goals can only be achieved with societal awareness and utmost caution to the powers of discourse (Szczepanik, 2014), and through an understanding of how past wrongs can be repeated when

there is collective ignorance towards the immense communal influence and symbolic force wielded by language and social interaction. Derrida (1995) summarises the power and prevalence of discourse in all manners of manifestation, “Every discourse, even a poetic or oracular sentence, carries with it a system of rules for producing analogous things and thus an outline of methodology” (p. 141).

Politics and the popular media as prominent instigators of discourse (Das, 2011), through language, dialogue, text and visuality, offer an appropriate example of the fluidity and complexity of information circulation through modes of discursive mediums (Blommaert & Bulcaen, 2000). Intolerant discourse has been described by academics as an ancient and traditional method of ‘legitimising’ discrimination through social practice (Hassen, 2015). In law and policy (Gyuró, 2013), this form of self-representation in discursive texts can be achieved through an expository style, potentially as subversive by-product within an informational piece of text. To this end, the influence of social and political discourses over the drafting of laws and policies has legitimised discrimination in countless instances throughout human history (Ibid.).

By tapping into the principles of CDA, this thesis interrogates the language and power dynamics entrenched in policy rhetoric of institutional texts and strategic communications to affirm how variegated discourses frame older adults and digital technology through these discursive mediums (Zienkowski, 2017; Kouti, 2020). This CDA approach is implemented to discern and evaluate the existing structural balance of discursive narratives and potentially provide a platform for a movement towards more inclusive and rights-based discourses (Hassen, 2015). To give context to the discussion on CDA, this chapter also briefly considered, the methodological application of CDA in this research, acknowledging its advantages while outlining measures taken to mitigate common qualitative limitations (Bloomberg & Volpe, 2008). The theoretical and conceptual frameworks outlined in this chapter provide the

foundation for the methodological approach adopted in this research. The subsequent chapter outlines the research design and methodological procedures used to operationalise these frameworks, detailing the data selection, analytic process, and reflexive strategies employed in the critical examination of the selected text corpus.

Chapter 4: Research Methodology

4.1 Introduction

This chapter provides a comprehensive overview of the research methodology applied in this thesis for the purpose of conducting a qualitative desk-based study of discourses on ageing and digitalisation in EU policy. It complements the discussion on the theoretical foundations of discourse and CDA, as well as the methodological considerations briefly outlined in Chapter 3 by elaborating upon the research design and methods of data collection employed herein (Swarooprani, 2022; El-Sharkawy, 2017). To this end, it operationalises CDA as the chosen research method implemented in this thesis and it justifies and describes the use of Norman Fairclough's Three-Dimensional Model as the optimal analytical framework (Fairclough, 1995; Ajmal & Zainab, 2024). This method of CDA empowers the researcher to conduct a tiered and layered analysis of language and discourse at the textual, discursive and policy levels, making it ideally suited to this project (Ulinnuha, 2013; Fairclough, 1995; Santoso; 2018).

Occasional references to Van Dijk's socio-cognitive approach are used to convey and inform to the reader the ways in which institutional discourses can shape, and be moulded by, social representations and attitudes (Bhandari & Yasunobu, 2009; Van Dijk, 1996; Gyollai, 2022; Jahedi, 2014). Thus, Fairclough's method is used to apply the CDA and structure the analysis (Chouliaraki & Fairclough, 1999; Ajmal & Zainab, 2024), while Van Dijk's approach is occasionally referred to as an alternative but cognate conceptual aid or frame of reference to reinforce, and give additional context to, discussions on institutional narratives, power and socio-cognitive outlook (Landman & Larizza, 2010; Gyollai, 2022; Jahedi, 2014). His work provides further insights into the influential role of discourse in moulding and

shaping power structures and relations through socio-cognitive means (Van Dijk, 2000; Van Dijk, 1996). This chapter also contains detailed descriptions and accompanying tables outlining the data search and collection procedures implemented to build the literature corpus for the CDA analysis (Elsharkawy, 2017).

The core objective of this thesis is to critically explore how older adults and digital technologies are framed in official policy discourse used by the Commission, where there is an apparent gap in academic literature (Townsend et al., 2021; Mannheim et al., 2019). In this approach, the research seeks to identify thematic discursive narratives in institutional policy and applies CDA to discern the themes that may be present, such as inclusive and rights-based discourses, marginalising and paternalistic precepts (Srinaun & Bohlin, 2011; Wanka et al., 2023; Fleming et al., 2018), or economic and fiscal concerns among others. In this regard, the thesis entails a comparative dimension by incorporating discourses from older adults and caregivers, as represented in scholarly literature, towards people in later life and digital technology, in order to highlight areas of overlap and discord in stakeholder perspectives.

Additionally, this chapter provides a concise presentment of the research design, the keyword strategies developed, and the accordant assemblage of the literature data corpus, as well as its navigation, filtration and subsequent document selection processes (see Appendices A – E). To this end, careful consideration was given to the search for relevant literature and the accordant screening procedures. This process was aided by using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidelines in order to clearly convey the methods used and the results found (Page et al., 2021; Mengist et al., 2020). The emphasis on transparent reporting in the PRISMA guidelines helps to guide the reader on the research methodology by documenting the formulation of search strings, database functions, and the inclusion and exclusion criteria. As such, PRISMA

flow diagrams were used in this study to present with concision the steps taken in the identification, screening and selection of documents, thus enhancing methodological rigour and transparency (see Appendices B – E).

This chapter discusses the analytic procedures implemented in this thesis, describing how Fairclough's CDA framework is applied to the literature corpus (Fairclough, 1995). It also elaborates on points such as the use of a Computer-Assisted Qualitative Data Management Software (CAQDAS) package, NVivo 14, as well as the reference management software platform Zotero, in the organisation and processing of the literature. Researcher positionality, reflexivity, trustworthiness and ethics are also discussed (Anderson, 2017; Bloomberg & Volpe, 2008). This research was undertaken by the author as a sole researcher. Hence, these are particularly pertinent topics for addressment by this study as, in Fairclough's approach to CDA, it is common for a single researcher to serve as a sole coder or analyst provided that they are aware and significantly cognisant of their own subjectivity (Fairclough, 1995; Hollway, 1989).

The methodological choices outlined in this passage build upon, and complement, the theory-based discussions on discourse and CDA from Chapter 3. They are developed to empower a reflexive and thorough analysis of institutional discourse on ageing and digital technologies in the EU (Peine & Neven, 2021). Having established the rationale for the choice of methodology, and for its subsequent development and operationalisation, this chapter concludes with a summary of the key findings in the implementation of this approach, and it highlights emergent issues and potential limitations identified in the course of this process (Anderson, 2017).

4.2 Methodological Orientation

This research uses an interpretative qualitative methodology that is grounded in CDA. The key objective of this approach is to investigate how institutional discourse in Commission policy documents frames older adults in relation to digital technologies, and explore whether these discursive lenses reflect, bolster, or challenge, ageist social inequalities surrounding digitalisation (Peine & Neven, 2021). To this end, CDA provides an optimal theoretical framework and methodological tool for approaching these questions, particularly as it focuses on the relationship and interplay between the domains of language, power, perspective and social practice (Van Dijk, 2000; Kostovicova, 2024; Fernández-Ballasteros et al., 2020). In this way, the researcher is empowered to examine how specific narratives are constructed, legitimised, or countered in institutional texts, which can shed light on the way in which these discourses influence social attitudes and policy (Ulinnuha, 2013; Bouvier & Machin, 2018).

By their nature, discourse analysis studies demand a focussed and thematically relevant literature corpus (Kaplan & Grabe, 2002). Without such a focused body of literature, the study risks being diluted through the gathering of a dataset comprised of materials that have only passing relevance to the core research questions. Therefore, at the outset of the research, it is necessary to clearly identify and concisely label the sources that are used while including a justification for their incorporation in the project by referring to the types of discursive themes that they may contain. To this end, Wodak and Meyer (2009) contend that discourse analysis can be complicated and ‘messy’ at times, especially in the determination of materials to prioritise for interpretation. As such, it is necessary to establish clear boundaries and parameters for gathering the required information from the most appropriate sources, this represents an important prerequisite for the reinforcement of methodological rigour and procedural clarity in a CDA project (Gee, 2014). This research entails a comparative

dimension between the corpora of literature included herein, helping to identify areas of convergences, divergence, and interaction between institutional and social narratives (Oteíza, 2017), transmuted through the complex relationship between discourse language, power and social practice (Fairclough, 2013; van Dijk, 1993; Wodak & Meyer, 2016).

The guiding markers in this analysis and synthesis include: the identification of narrative discourses; discernment of themes that are emergent, or conspicuously absent, from the literature; the mapping of sectoral interests and their representation, the analysis of documentary policy language, rhetorical strategies and framing (Ilie, 2006). Each aspect of these above markers is interpreted through interdisciplinary CDA connecting insights from psychology, law and social policy while retaining iron-clad consistency with CDA conventions, situating the discourse in the wider contexts of an institutional and socio-political background.

As mentioned, the selected method for implementing CDA in this thesis is found in Norman Fairclough's Three-Dimensional Model of CDA, as it enables the conduct of a thorough and layered analysis across a trifold-tiered framework for investigative scrutiny (Hassen, 2015). This model of CDA provides the research with an effective structure to analyse textual detail, institutional practice, and socio-political discourse and meaning, helping to build a robust architecture for conveying how language functions as a form of social agency or power (Phillips et al., 2004; Kouti, 2022; Uzuegbunam & Geringer, 2021; Yu & Zheng, 2022; Xing, 2024). These tiers or levels are related to one another, and they share a substantial degree of interplay and correlation with each other.

4.2.1 Textual Analysis

The first tier comprises a focus on 'Textual Analysis', involving an exploration of the linguistic features of policy and academic texts (Fairclough, 1995). The lexical choices

employed in the text are of particular interest in this process, especially where important 'framing' words may be identified such as 'vulnerable, dependent, burden, etc.'. These lexical choices are analysed to establish how older adults and digital technologies are framed together. Further, they help to ascertain the way in which people in later life are portrayed in the context of digital technology use, whether as active competent users or passive recipients of service. The analysis of the lexical word choices in written text also helps to establish the tone, power dynamics and attitudinal perspectives (Das & Alok, 2011; Tartory, 2020; Gulestø et al., 2025).

4.2.2 Discourse Practice

The second tier focuses on 'Discourse Practice', and it generally involves a scrutiny of the production (Fairclough, 1995), circulation and consumption of textual data in the authoritative policy setting of the Commission and in academic research communities. The gist of this focus, particularly with respect to the institutional policy-making processes and competences of the Commission, is addressed in Chapter 2, which details its powers and functions, as well as the underpinning legal framework that gives juridical authority to these mechanisms. To this end, this step acknowledges the interdiscursivity of the text corpus which blends social, economic, legal, and care narrative standpoints in policy documents (Wu, 2012; Fabricio & Moita Lopez, 2020). The scholarly articles included this study also contribute narratives from care workers and older people to the array of discursive policy registers. This process is essential for determining the ways in which written discourse is shaped by the dominant sectoral narratives or concerns that can be discerned from within the lexicology as analysed in the first tier. The focus on discourse practice can aid the analysis of how these discursive narratives are moulded by important factors such as institutional policy considerations (Wash, 2020), sectoral interests, stakeholder engagement and civil society.

4.2.3 Sociocultural Practice

The third tier focuses on 'Sociocultural Practice' (Fairclough, 1995), where the analysis considers the apparent prevailing contemporary institutional concerns such as demographic change, the digital transformation and economic pressures, as well as EU commitments to the social economy, human rights and inclusion, amongst others. This enables the research to critically analyse how discourse popularises or legitimises certain viewpoints, for example, a potential presentment of older people as incompetent users of digital technologies. It also assists in discerning the extent to which these representations yield structural consequences in policy making and public perception (Mannheim et al., 2022). This method is particularly suited to the analysis of policy discourse, as it captures not only the employed lexicology, but also the means by which institutional discursive texts either bolster or challenge dominant precepts in society towards older people and digital technologies.

As a means of enhancing the depth of interpretation through empirical analysis and discussion, this research occasionally refers to Van Dijk's socio-cognitive approach, albeit in a conceptual sense, to aid argumentation and provide theoretical grounding for the contextualisation of discursive phenomena (van Dijk, 1993; van Dijk, 2011). Importantly however, this framework is not utilised as the methodology of CDA employed in the research and it does not displace Fairclough's Three-Dimensional Framework in this respect. Instead, Van Dijk's approach is cited to invoke his work on mental models and the perpetuation of inequality through discourse (Van Dijk, 1996; Wodak & Meyer, 2016). This technique is intended to inform the analysis by providing an insight into the ways in which institutional discourses can shape social precepts, particularly with respect to attitudinal standpoints, assumptions and stereotypes (Zavattaro, 2013). By citing Van Dijk's approach, this research

can explore the internalisation and normalisation of ageist discourses through institutional texts.

By using Fairclough's Three-Dimensional Framework as the sole structured method of CDA in this study, bolstered by occasional references to Van Dijk's approach to aid conceptual discussion on discourse and findings, the analysis benefits from two methodologically compatible lenses through which to isolate, interpret, contextualise and contrast discursive themes, perspectives and narratives (Van Dijk, 2000; Fairclough, 1995). In this sense, the main methodological lens is directly applied through Fairclough's approach, and the other, being suggested in the form of Van Dijk's technique, complements the discussion and provides an alternative but cognate means of analysis. In this way, the researcher can assess the formal features of discourse, including the way in which it sustains itself and acquires agency, while including a discussion of its effects on the socio-cognitive dynamics of precept formulation in society at large (Landman & Larizza, 2010; Semino & Short, 2004). This approach provides the methodological tools with which to critically analyse policy and academic texts (Hassen, 2015), to compare the discursive narratives of stakeholders, and examine the implications of these themes for digital equality and social inclusion for older people (Peine & Neven, 2021).

As such, this research looks for key trends and indicators in discourse from across the data sample and it analyses expository narratives, patterns and themes in accordance with Fairclough's Three-Dimensional Framework (Fairclough, 1995). The interpretation of these discursive practices establishes a nexus between textual discourse, its production, distribution and consumption, and the wider socio-political context of EU policies influencing ageing and digitalisation. To this end, themes and patterns can be categorised in the analysis of the literature based around:

- The sectoral views and perceptions that are discernible in the discourse of the literature pertaining to the use of digital technology by older adults.
- Socio-cognitive and discursive presuppositions and attitudes about ageing that influence the use of digital technologies and services by older adults.
- The extent to which EU policy is attentive in discourse to the unprecedented proliferation of digital technologies and the relatively low respective rates of uptake, and high levels of inaccessibility, as experienced by older adults and frequently reported by the research community (Haslwanter & Takacs, 2022; European Union Agency for Fundamental Rights, 2023).
- The detection and isolation of implicit or subversive forms of intersectional discursive discrimination (Van Dijk, 1996), as it might possibly manifest in linguistic textual styles in policies with respect to active ageing and digital technology (Foster & Walker, 2015) and the scholarly databases that are also investigated.
- Discerning the sentiments and attitudes, both social and political, that are expressed in the discourse of policy (Oteíza, 2017) and exploring whether philosophical tenets of enhanced autonomy through digital technology for older adults are implied and advocated by the Commission and the scholarly literature corpus investigated.

This qualitative CDA approach enables the research to capture the socio-cognitive and discursive experiences of digital technologies in a manner analogous to Rogers et al. (2016), including with respect to their utility and potential non-use among people in later life within the EU (Schroeder et al., 2023). The applied qualitative approach is arguably particularly suited to policy documents, permitting the researcher to analyse the means by which institutional texts from politico-legal bodies of national or multilateral agency can convey meaning and inference (Ziskin, 2019).

4.3 Research Design

This thesis employs a qualitative design that uses a desk-based research approach to the analysis of publicly available textual materials through the EUR-Lex European Union law repository, and the scholarly databases of ProQuest Central and ProQuest Applied Social Sciences Index and Abstracts (ASSIA). This project does not necessitate observational data or human participants, instead it focusses on institutional discourse and its implications for social practice. The literature corpus developed for this research is designed to reflect a triangulation of discourses extrapolated from the perspectives of three stakeholders:

1. European Commission policy documents
2. Academic literature reflecting the perspectives of older adults
3. Academic literature reflecting the perspectives of caregivers

The selection of documents for inclusion in this research followed a structured and systematic process which combined empirical rigour with the interpretative purpose of CDA. As discussed above, the literature corpus is comprised of three online databases that are accordingly matched with these specific stakeholder groups:

1. European Commission policy documents – EUR-Lex
2. Academic literature reflecting the perspectives of older adults – ProQuest Central
3. Academic literature reflecting the perspectives of caregivers – ProQuest ASSIA

These databases were chosen in order to capture the discourses within different levels of institutional and social agency and to support a thorough analysis of the way in which older people and digital technology are framed or represented together (Peine & Neven, 2021). Accordingly, a key aspect of the dataset comprises the primacy of Commission documents which constitute the core corpus for investigating how institutional discourse frames older adults and digital technology (Foster & Walker, 2015). This corpus was identified and extrapolated through the EUR-Lex legal and policy database and was

prioritised due to its status, comprising the authoritative instruments of soft law and strategic policy planning in the EU (EUR-Lex – Access to European Union Law, n.d.). Assertedly, Commission documents play a critical role in moulding legal and institutional perceptions and (Lewins & Silver, 2017), as such, this research analyses them to ascertain how policy discourses frame older adults in the context of the digital transformation.

To support this perspective and provide a suitable comparative element to this research, the literature corpus includes academic publications that were retrieved from the two scholarly journal article databases. These databases were chosen for their interdisciplinary subject coverage across the fields of social policy, psychology, law and ageing studies, which are all directly relevant to the research question (ProQuest, n.d). Thus, by including multiple stakeholder discourses, the scope of the study is enhanced by a comparative approach to the implementation of CDA.

The variegated nature of the literature corpus is reflective of the interdisciplinary modus of this thesis. The literature corpus draws upon data of disciplinary relevance to social science, law and psychology (Van Dijk, 1996), with each document revealing an array of perspectives on older adults and digital technologies. The interplay between policy, discourse and socio-cognitive impressions facilitates the analysis of the discursive text of each document, as well as the wider attitudinal variations that are evident among older adults and caregivers towards people in later life and digital technology (Bhandari & Yasunobu, 2009; Van Dijk, 1996). In gathering a literature corpus comprised of institutional and scholarly discursive themes from different stakeholders as outlined above (Lynggaard, 2019), the architecture of this research supports the implementation of a layered CDA to identify dominant narratives and marginalising discourses on ageing and digitalisation (Foster & Walker, 2015).

The scope of the dataset analysed in this research is narrow and deep in its scale, reflecting the deliberate and systematic approach taken in its construction. The total combined literature corpus comprises 4425 pages of text throughout 109 documents and this number is inclusive of extensive bibliographic reference lists. The EurLex text corpus accounts for the greatest share of the total page count at 3315 pages, amounting to three quarters of the combined data when measured in this way. However, 11 Commission documents are over 100 pages in length, but are sparsely coded in comparison to their size and, aside from these longer texts, the average length of the remaining 24 is approximately 36 pages. In addition, it is mostly specific sections of many EurLex documents that are relevant to old age and digitalisation, with significant tracts of texts often sharing no discernible reference to these topics, thus disproportionately inflating the page count of the dataset in comparison to the actual coding of relevant literature. The ProQuest Central dataset covers 869 pages across 53 journal articles, inclusive of bibliographic reference lists. And the ProQuest ASSIA dataset comprises 241 pages from 21 journal articles, also inclusive of bibliographic references lists. It is important to acknowledge these details and the associated nuances that affect the relevance, scope and size of the data sample when considering the subsequent coding and analysis of the literature.

In the CDA approach taken in this thesis, the texts in each of the three corpuses of literature were approached as events of discourse whereby the results of each publication, along with the interpretative discursive perspectives of the author, are both incorporated in the analysis. As such, the coding process reflects the empirical reportage of each document alongside the interpretative deductions, considerations and narratives of the authors, all in the same thematic nodes. The analysis does not make distinctions in these respects. Instead, the goal is to comprehend and consider the portrayal, explanation and dissemination of discourses and patterns through policy and stakeholder dimensions. Discourse and meaning

are interwoven in academic scholarly texts through the description of the findings and their subsequent interpretation and discussion. Therefore, by approaching these normative junctures in scholarly outputs as a unitary and cohesive body of text, it is justifiable to treat each part of the academic articles assessed in this research as a conduit for the accumulation, construction and circulation of narratives and thematic discourses.

4.3.1 Navigating the EUR-Lex Database

With respect to the timeframe that is covered this research encompassing the years 2012 – 2022, it was reasoned that this period witnessed significant technological and demographic change in the EU. 2012 marked the European Year for Active Ageing and Solidarity between Generations, entailing a renewed institutional emphasis by the Commission on ageing policy and digital inclusion (Tymowski, 2015). Similarly, the ubiquity of quad-core computing by 2012 also marked an important step towards the miniaturisation of digital goods by simultaneously boosting their capabilities while helping to drive forwards the momentum towards the IoT and digitalisation of modern society (Association for Computing Machinery, 2012; ScienceDirect Topics, n.d.). Indeed, a decade later in 2021, the European Commission released the landmark Green Paper on Ageing, an important anchor document in this study, which seeks to promote a broad policy debate on ageing while reflecting on its challenges and opportunities (European Commission, 2021). 2022 is accordantly selected as the endpoint of the data-range of the research as this helps to balance the present-day relevance of the project with the historical context of the early 2010s, enabling this thesis to discern the evolution of narratives over time.

The EUR-Lex database serves as a directory for publicly available EU legal documents, policies and strategic protocols amongst others, from the institutions and agencies of the EU. However, this particular search strategy focuses on publications from the

Commission (EUR-Lex, n.d.). The EU remains ambiguous with respect to its stance on a definition of old age, with institutions having different implied ages of commencement of this stage of life in policy within their respective areas of agency (EuroStat, 2024; European Parliamentary Research Service, 2014). Furthermore, the European Parliamentary Research Service (2014) implies that age-based discrimination in the EU is likely widespread against persons aged 55 and older (Fernández-Ballesteros et al., 2020). Many policy documents avoid the provision of a definition of old age, but 55 and over often comprises the age bracket of policy publications that focus on the agenda of the 'Silver Economy' in the EU (European Commission, 2021). For the purposes of this research, the ages of 65 and over are targeted, particularly wherever a mention of this demographic occurs in policy documents.

The corpus of documents retrieved from within this database regarding older people and digital technology enables the application of CDA to discern the discourses and related positionality in policy that may be present in the Commission dataset. As a result, one is best placed to capture the optimal data on older adults if common terminologies that are particular to EU policy documents are employed in the search strategy, an example of such phraseology is 'elderly', which features frequently in the papers and reports published by the Commission. For instance, Article 25 of the CFR is titled "The rights of the elderly" (European Union, 2000, Art. 25). The database search terminologies in the case of EUR-Lex are arguably reflective of the effort within the EU institutions to adopt and utilize inclusive language in published documents (AGE Platform Europe, 2015).

The EUR-Lex database was particularly challenging to navigate in a methodological sense as, unlike conventional academic repositories, it is not built to work with indexed scholarly keywords or thematic categories. As EUR-Lex serves as the official repository of EU law and policy, it is especially distinct from the two scholarly databases used in this research (Allison & Shea, 2024). Part of the novel element of this thesis is found in the

tailored search strategy that was adapted specially for EUR-Lex, making use of keywords that are commonly employed by the Commission in policy documents when discussing old age (Lewins & Silver, 2017). EUR-Lex is primarily intended for use by lawyers, legal professionals and policy analysts seeking to consult EU directives, regulations and related instruments. The content of the EUR-Lex repository is not organised in accordance with disciplinary or thematic categories in a manner akin to the conventions applied in scholarly databases, making the direct application of academic search methods unsuitable for implementation in specific directories (Allison & Shea, 2024).

To circumvent these challenges, a hybrid search and retrieval method was developed which involved the combining of keyword searches with the use of "EuroVoc", the EU policy terminology thesaurus, to identify relevant documents. EurVoc contains a controlled set of keywords organised across 21 domains and 127 sub-domains that are designed to describe the content of EU documents (EuroVoc – EU Vocabularies, n.d.; EUR-Lex – Access to European Union Law, n.d.). In this way, relevant documents can be linked to each other through the use of common terminologies and their focus on similar topics. As such, upon the identification of cornerstone policy documents such as the 2021 Green Paper on Ageing, related publications were located by following linked instruments and EuroVoc classifications to source additional relevant materials. Indeed, this assemblage of policy research materials for CDA analysis is ultimately grounded in the central role that law and policy play in moulding society, life and attitudes (Landman & Larizza, 2010). The search process effectually acknowledges that these instruments function as comprehensive systems of textual and discursive social rules which, to a significant extent, influence socio-cognitive attitudes and perceptions in contemporary society (van Dijk, 1996).

Through this process, the primary text corpus of policy documents was retrieved for analysis and perusal using Fairclough's CDA framework (Fairclough, 1995). As such, the

academic literature corpora representing the perspectives of caregivers and older adults constitutes a complementary secondary dataset which enables comparative contrasting of areas of convergence and divergence between the institutional policy in EUR-Lex and those found in the scholarly repositories.

4.3.2 EUR-Lex Search Strategy

Below is the dual-track search strategy that was developed for the EUR-Lex repository:

1. A systematic search using specific terms extrapolated from documents identified through EuroVoc (European Parliament, 2019). (see Appendix B).
2. A ‘narrative search’ based on key ‘cornerstone’ documents, such as the 2021 Green Paper on Ageing (European Commission, 2021), was developed to trace and capture relevant texts through the EUR-Lex “Instruments Cited and “EuroVoc” classifications (EUR-Lex, n.d.). (see Appendix B).

All of the sources were screened through the use of a consistent set of inclusion and exclusion criteria. As such, documents were included if they:

- Discussed ageing, older adults, or caregivers in the context of digital technology;
- Originated from or referred to the EU-27 and/or the UK;
- Were Published in English between 2012-2022;
- Reflected institutional, public, or professional discourses (not solely technical or medical texts) (Page et al., 2021).

Documents were excluded if they:

- Focussed only on the technical features of digital tools without discussing and considering their social impact;
- Lacked relevance to policy discourse or digital ageing themes;

- Were duplicates (cross-checked using Zotero) (Lewins & Silver, 2017).
- Did not address ageing, older adults, or caregivers in the context of digital technology;
- Fell outside the EU-27/UK geographic scope;
- Were not published in English between 2012–2022;
- Focused solely on technical or medical issues without socio-political content.

4.3.3 Navigating the Scholarly Databases: ProQuest Central / ProQuest ASSIA

Having considered numerous scholarly databases, the decision was made to select ProQuest Central and ProQuest Applied Social Sciences Index and Abstracts (ASSIA) in this research due to their coverage and disciplinary association with publications representing the matched stakeholder groups. ProQuest Central incorporates one of the largest multidisciplinary collections of peer-reviewed scholarly publications with significant representation of the areas of gerontology, sociology, public health and studies on digital inclusion, rendering it ideal for the purposes of this study in seeking the retrieval of discourse concerning older adults (ProQuest, n.d.-a; ProQuest LibGuides, 2025). ProQuest Central is described as “the largest, multidisciplinary, full-text database” and “providing access to databases across all major subject areas, including business, health and medical, social sciences, arts and humanities, education, science and technology, and religion” (ProQuest, n.d.-a; ProQuest LibGuides, n.d.). This enables the capture of discourses that are of relevance to older adults in a policy-adjacent context of stakeholder representation.

ProQuest ASSIA is described as “an indexing and abstracting tool covering health, social services, psychology, sociology, economics, politics, race relations and education…” and it provides “a comprehensive source of social science and health information for the practical and academic professional” (ProQuest, n.d. -c). It has an indexing of over 500

journals from 19 countries that are updated monthly, and it is “designed to meet the information needs of the caring professions” (ProQust LibGuides, n.d. -b). As such, this database supports the search and retrieval of literature that reflects the discourse, lived experience and perspectives of formal and informal caregivers.

ProQuest Central incorporates interdisciplinary depth and coverage which makes it suited for representing the older adult stakeholder literature (ProQuest, n.d.-a; ProQuest LibGuides, 2025). Similarly, ProQuest ASSIA’s focus on applied social sciences and caring professions means that it is appropriately matched with the caregiver stakeholder corpus (ProQuest, n.d.-b). Together, these academic repositories were carefully considered and, through their selection and matching with the stakeholder groups outlined above, they provide the requisite indexed disciplinary information and subject depth in order to deliver on these searches.

To explain the construction of the academic literature corpus, a Population, Exposure, and Outcome (PEO), template framework was used to give clarity to the search strategy; this model is commonly employed in the social sciences (Bettany-Saltikov, 2012). This was useful for building a simple mental map of the search strategy and was particularly helpful in identifying data that is relevant to human experiences, perceptions and practices. To this end, the PEO framework is used to conceptually structure the search strategy and to make sure that the materials that are retrieved in the course of the data collection capture the requisite discursive expressions and stakeholder perspectives for the CDA process (Fairclough, 2013; van Dijk, 1993; Wodak & Meyer, 2016). This helps to ensure that the filtration process maintains congruity with the theoretical and analytical aims of the study.

The following formulation was valuable in guiding this search process:

- Population: Older Adults / Caregivers
- Exposure: Digital Technology / Digital Services / ICTs

- Outcome: Attitudinal Perceptions / Inclusion / Exclusion / Accessibility / Usage

The keywords for the ProQuest Central and ProQuest ASSIA database searches were constructed using the PEO framework as it is used extensively in qualitative literature reviews to direct the systematic identification of relevant sources (Bettany-Saltikov, 2012; Methley et al., 2014). The 'Population' in this thesis includes both *older adults* and *caregivers*, featuring terms such as "old age", "elderly", "ageing", "caregiver", and "aged". The 'Exposure' entailed a focus on *digital technologies*, using terms such as "ICT", "internet", "robotics", "internet of things", "digital", and "digital integration". The 'Outcome' was centred upon discursive and attitudinal elements, including "perceptions", "attitudes", "discourse", "support", "interaction" and "discrimination".

The development of the keyword search strands was informed by initial exploratory searches to ascertain the optimal terminologies commonly used in searches in the fields of gerontology, digital health research, and studies focussed on older adults and digital technology use (Marston et al., 2019; Peek et al., 2014). Search strings were constructed using Boolean operators (e.g., OR for synonyms, AND to combine concepts) and were adapted slightly to fit the syntax and thesaurus features of each database (Bramer et al., 2017). The final set of search terms was designed to maximise relevance and breadth while maintaining conceptual coherence with the research aims (Booth et al., 2022). The search terms were tailored for each database to reflect the indexing and subjects therein, this helped to focus on specific stakeholder groups. The systematic development of database-specific search strategies comprised an important component in the overall data collection.

The search terms were developed for the purpose of capturing publications that were related to the key stakeholders, being the Commission, older adults and caregivers, while working with the indexing systems of each repository. This approach to the search for data

was informed by best practices for transparent and replicable searches for literature (Page et al., 2021; Bramer et al., 2017; Booth et al., 2022). This included the iterative refinement of terms through initial scoping searches and the adaptation of vocabulary where available such as in the EuroVoc search in the EUR-Lex database. During the search process, a low number of duplicate documents were returned across the ProQuest database searches and in the dual-track EUR-Lex investigation process. The duplicates were identified and subsequently removed using Zotero's duplicate detection function (Gilmour & Cobus-Kuo, 2011).

In addition to the above, the keyword search strategies developed for each database were customised to reflect disciplinary nuances and terminological differences, such as the usage of "elderly" in policy, and "older adults" in scholarly repositories. Search filters were applied in the search to yield English language documents only in the scholarly databases, the date-range was set to (2012 – 2022), the geographic scope encompassed the EU 27 Member States and the United Kingdom, and the document type was set to capture peer-reviewed articles and to avoid abstract-only returns (Page et al., 2021).

An overview of the database-specific search terms, filters and results is included in Appendix A. Where significant volumes of search results were retrieved (e.g., >900 hits in ProQuest), a structured title and abstract screening was applied to filtrate the corpus and narrow it down to those sources with the greatest relevance to the research questions (Page et al., 2021; Booth et al., 2022). All of the included documents were subsequently subject to a full-text review (Bramer et al., 2017). Ultimately, this strategy helped to ensure that the final corpus of literature was empirically justified by maintaining conceptual relevance and methodological rigour and consistency across the gathering of sources. This complemented the robust theoretical and methodological foundation for the application of CDA that was established through the use of Fairclough's Three-Dimensional Framework (Fairclough, 1995, 2013).

See Appendices D and E for PRISMA flow-chart detailing the identification, screening, exclusion and inclusion of literature in the systematic searches in ProQuest Central and ProQuest ASSIA.

4.3.4 Applying the CDA Procedure and Analytical Framework

As discussed earlier, this thesis reasons that, for the purposes of this investigation, Fairclough's framework constitutes an optimal, structured and multilayered model for analysing how discourse operates in and across texts, institutions, and socio-cognitive and practical contexts (Fairclough, 2001; Ulinnuha, 2013; Wodak & Meyer, 2016). Its suitability for applying CDA to institutional discourses, especially in interdisciplinary contexts encompassing social policy, psychology, law and governance through policy where language both reflects and reinforces power relations, justifies its utility in this research (Fairclough, 2001).

During this process, systematic qualitative coding of the literature was implemented by using NVivo 14 CAQDAS software. This enhanced the transparency and traceability in the identification of themes, narratives and discourse categories (Bazeley & Jackson, 2019; Woolf & Silver, 2017; Oteíza, 2017). Initially, each paper was reviewed and perused in full to ensure familiarisation. This was achieved with the help of memo-writing to record the themes in every document, before being subsequently deductively coded in line with the dimensions of Fairclough's model (Saldaña, 2021; Fairclough, 2001). Discursive patterns that emerged from the literature towards older adults and digital technologies were analysed and categorised for their discourse and attitudinal implications (Oteíza, 2017). Particular attention was paid to:

- The presence of interdiscursivity (e.g., economic interests, market considerations, and human rights narratives);

- The use of framing or connotative language (e.g., old age "dependence");
- Silences or omissions (e.g., lack of older adult agency).

As mentioned earlier, the depth and rigour of this analysis and interpretative work is bolstered by citing Van Dijk's socio-cognitive approach (Van Dijk, 1996), helping to conceptualise the discursive reproduction of social practice, attitudes and discrimination. Although it is not used as a parallel analytical framework, Van Dijk's approach is useful for conveying the ways in which discourse moulds and reinforces social attitudes (Van Dijk, 2000). A potential example of this might be how repeated institutional framings of older adults as being digitally 'incompetent' or 'vulnerable' might shape social expectations, policy discourses and responses, as well as technology use behaviour (Neven & Peine, 2017; Vines et al., 2015).

As such, through use of Fairclough's framework in applying CDA to the literature, and by occasionally citing Van Dijk's approach in the discussion of the data, this research can consider linguistic description, discursive interpretation and attitudinal discourse critique with depth and rigour (Fairclough, 2001; Van Dijk, 2000; Reisigl & Wodak, 2009). This approach is well suited to the interdisciplinary nature of this thesis, and it enables the identification of overt and implicit age-related discourses across the institutional and academic texts in the literature corpus.

4.4 Ethical Considerations in CDA

This research engages with ethically sensitive issues pertaining to the framing of older people in society, though it does not involve the collection of personal data through direct engagement with human participants. Instead, the analysis focuses on representations of older adults in institutional and academic discourses, and it explores how these portrayals can reinforce or challenge ageist assumptions towards people in later life and their relationships

with digital technologies (Wu et al., 2015; Srinaun & Bohlin; 2011). To this end, the ethical concerns in this study are embedded within the CDA methodology employed with respect to the interpretation of language (Bloomberg & Volpe), as well as the responsibility of critique and the risk of misrepresentation. Part of the ethical rationale that underpins this project comprises the ethos of beneficence in empirical research for the purpose of honouring the principle of serving the public good (Barrett, 2025; Israel & Hay, 2006).

Throughout this process, it is necessary to consider ethical rigour (Mertens, 2014), premised not on anonymity or informed consent as in studies involving structured interviews, but rather upon the basis that the approach implemented in this thesis demands reflexivity and an accountable interpretation of texts (Anderson, 2017; Tracy, 2010). This involves the recognition of the non-neutral nature of CDA, accounting for the active role the researcher plays in shaping meaning through selection (Bloomberg & Volpe, 2008; Rogers, 2011), framing and interpretation. As such, to minimise the risks of misinterpretation or interpretative distortion, this research employed:

- Triangulation of sources (institutional and scholarly texts; representing institutional policy, and the discourses of older adults and caregivers respectively) (Flick, 2018; 2022);
- Reflexive memo-writing and supervisory feedback, especially at key stages (Alvesson & Sköldberg, 2009);
- Documentation of coding decisions using Nvivo (Bazeley & Jackson, 2019; Manning, 2019).

Caution was exercised during the analysis of texts where there is potential for the discourse to be construed as discriminatory in an implicit sense, such as in the type of linguistic framing applied or by way of omission (Van Dijk, 2000). To this end, this approach to CDA attempts to interrogate the textual data and extract relevant findings, while trying to

mitigate the projection of the attitudinal assumptions of the researcher onto the data (Phillips et al., 2004; Bhandari & Yasunobu, 2009; De Filippi & Santolini, 2023). Instead, by applying CDA to the literature through this methodological framework and documenting the coding process, coupled with engagement and review from the supervisory team, it is possible to achieve a high measure of balance and coherence (Anderson, 2017).

This research acknowledges that there is an ethical responsibility to engage with the literature in a critical but constructive manner (Aydın-Düzgit, 2013). In this way, a lens of critique, but one that does not imply undue negativity, can be applied to important authoritative texts whose narratives yield significant social impact, such as in the literature of the Commission (Landman & Larizza, 2010; Rauh, 2022). The objective here is not to undermine or discredit these documents, but instead to reveal their underpinning assumptions and implications (Kouti, 2022), especially as they relate to ageing and digital equality. In this way, the ethical approach of this thesis complies with the principle of beneficence as applied in discourse research to shine a light on structural inequalities and to advance the use of more inclusive language in policy and practice (Barret, 2025). Thus, this study intends to support the broader public good and offer insights that may support policy advocacy and awareness-raising efforts in the future to advance equality in ageing and digitalisation (Ibid.).

4.5 Researcher Reflexivity and Positionality

When the researcher is not functioning in the role of a neutral observer in a CDA study and, instead, is an active participant in the development and interpretation of meaning, then the reflexivity and positionality of the investigator must be considered (Aydın-Düzgit, 2013; Anderson, 2017; Berger, 2013). In contrast with positivist approaches that seek to minimise researcher influence, CDA acknowledges that all analysis and interpretation is moulded by the values, perspective and sociocultural background of the investigator

(Woolcock & Narayan, 2000). To address an important convention in CDA, this section discusses the management of these influences throughout the process of the investigation from the first-person perspective of the researcher (Alvesson & Sköldberg, 2009; Tracy, 2010).

During the process of conducting my research in a critical-constructivist framework (Tsounis, 2024; Ignacio & Paras, 2024; Arega & Hunde, 2025), I was consciously aware of how my own personal understanding and impressions of old age, inclusion, and digitalisation, may influence my interpretation of institutional discourse (Fairclough, 2001). This awareness is not perceived as a threat to the validity of this study, but instead as a resource for deeper and more thorough investigatory engagement with the texts. By drawing upon reflexive interpretation (Anderson, 2017), I was able to approach the analysis as a self-aware and iterative process (Aydın-Düzgit, 2013; Tracy, 2010). In this way, I documented my interpretations and was able to subsequently revisit and evaluate them in view of invaluable theoretical grounding and peer input from my supervisory team (Bloomberg & Volpe, 2008; Alvesson & Sköldberg, 2009).

I implemented thorough reflexivity through several mechanisms:

- I made use of memo-writing during the coding process, this helped me to capture interpretations and make note of uncertainties if necessary (Saldaña, 2021);
- I engaged with reflexive writing during the research period as a record-keeping exercise and a way of documenting every stage of the process (Tracy, 2010);
- I had regular discussions with my research supervisory team to ensure that I was establishing and maintaining coherence between the data interpretation, principles of CDA, and the interdisciplinary roots of this project. This helped to ensure that I retained methodological coherence in my research, as well as challenging my

assumptions and interrogating my interpretation and positionality with respect to the literature (Berger, 2013);

- My supervisory team reviewed my coding categories which helped me to maintain coherence and transparency (Nowell et al., 2017).

With respect to the literature corpus, I adopted an analytical stance of critical engagement, realising that one of neutral objectivity is simply unfeasible for a sole researcher undertaking CDA studies of this type (Fairclough, 2001; Wodak & Meyer, 2016). In this sense, my interpretation of institutional discourses on ageing and digital technologies and their moulding effect on social values and power relations in society to an extent reflects how individual researcher positionality influences the subsequent analysis and translation of these processes (Van Dijk, 2001, Tsounis, 2024; Berger, 2013). In view of this, I attempted to mitigate potential confirmation bias through:

- Enrolling in university trainings on qualitative research methods (Maxwell, 2013);
- Perusing the literature corpus for contradictions and counter-examples (Mays & Pope, 2000);
- Actively searching for emergent themes and potential coherence between these narratives and the original research question, rather than trying to forcibly assign data into preconceived categories (Malterud, 2001).

Through these measures, I made an exhaustive effort to acknowledge my own reflexivity while attempting to minimise confirmation bias, honouring the ethical obligations intrinsic to this methodology (De Filippi & Santolini, 2023). I have placed a significant emphasis on transparency, situated knowledge and discursive accountability as is central to CDA (Bhandari & Yasonubo, 2009), while acknowledging my own role as the researcher in moulding the narrative in this thesis. As such, this serves to reinforce the trustworthiness and

credibility of the findings while bolstering the study's contribution to critical social inquiry (Bloomberg & Volpe, 2008; Lincoln & Guba, 1985).

In view of the above, and in keeping with Bourdieu (1992) and his emphasis on reflexivity, this thesis maintains a constant degree of reflexive introspective attention to the ways in which researcher positionality can shape the interpretation and perception of data. In this respect, my own positionality as a researcher has doubtlessly been shaped and moulded by my life experience. Accordingly, as prescribed by Bourdieu, I have allotted consistent and enduring attention to reflexive practice throughout the entirety of this project, thereby enhancing my awareness of how one's positionality can shape their perception and interpretation of research data. To this end, I want to acknowledge that my life was profoundly shaped, in a wholly positive way, by my grandparents. I was blessed and privileged to have all four of my grandparents in my life up until I was 28 years of age, and they each played a key role in my personal growth and development, as well as my education and cultural awareness. Over time, I observed the challenges they faced as they got older, particularly after 2012, when digitalisation processes rapidly gathered pace and disrupted their ability to enjoy the same familiar pattern of daily life as they had done in the past.

For context, my paternal grandparents never owned a mobile phone, and my eldest aunt on my father's side would frequently stay with them, therein fulfilling an invaluable role as a trusted informal caregiver to her parents, and they would henceforth mediate the realisation of their needs and preferences through her knowledge of digital technology. My maternal grandparents, on the other hand, being roughly ten years younger than my father's parents, did have some limited experience with mobile phone devices during their lives. For example, my maternal grandfather learned how to use an iPhone for basic services such as accessing his bank account, booking tickets for travel, or watching documentaries on YouTube. My maternal grandmother owned a basic mobile phone model from the early

2000s which she used for calls and texts only. My maternal grandfather was my only grandparent who acquired sufficient digital knowledge to engage on an independent basis with society and administer various parts of his life such as finance, travel and healthcare. For this reason, he stood out among my four grandparents as the only one who was able to retain full independence and personal autonomy after 2012. Notwithstanding a potential generational cohort effect with respect to increased rates of digital technology adoption among those in early old age, he was, incidentally, the youngest.

My grandparents were all independent-minded people, and they greatly valued their autonomy, ability to live at home, and the freedom to make decisions about themselves, for themselves. Fortunately, none of them suffered serious cognitive decline during their lives. However, apart from my maternal grandfather, they all found that the process of digitalisation eroded their independence and overturned their sense of familiarity with society and socio-economic processes, and this ultimately undermined their impressions of themselves as fully-functioning adults with agency. Instead, the digitalisation of banking, travel, healthcare and other aspects of life, contributed to chronic depression and apathy, as well as self-stigmatic feelings and beliefs, and a palpable fear of a creeping loss of independence. As a result, I find that I must take considerable care not to perceive digitalisation as a negative process in itself, but to remind myself that it can have positive or negative consequences depending upon the manner of its transversal implementation. I also realise, through reflexive practice, that I must avoid being overly sceptical or pessimistic with regard to digital policies and processes, particularly with respect to the Commission dataset. Instead, I have developed my ability to appraise data with greater awareness of my own positionality and I thuswise acknowledge this in my work.

With these experiences in mind, I must acknowledge that they undoubtedly have an impact on my positionality as a researcher with an academic and personal interest in ageing,

digitalisation, disability and human rights. The above observations have shaped my perspective on the challenges faced by older people in the digital age. My personal relationships with my grandparents conferred upon me a heightened awareness of these barriers, as well as the need for improved accessibility in digital technology design and within the online and built environments. Above all, these experiences impressed on me the sheer importance and value of trusted human contact for older adults, particularly in the digital age. Henceforth, this personal narrative has arguably helped to inform, but not presuppose, the analytical approach taken in this thesis. Indeed, reflexivity constituted a continuous practice at every stage of this research, involving careful introspective consideration, through critical thinking and analytical record-keeping, of how my background and personal beliefs may shape my interpretation of the data. Therefore, I have made every effort to critically challenge my deductions and findings when engaging with, and synthesising, the dataset in-line with CDA methodological practices.

4.6 Ensuring Rigour and Trustworthiness

To build on the steps outlined above, I allotted consistent attention and consideration to reflexivity, transparency and interpretative coherence to adhere to the rules outlined in this research methodology (Kazemian & Hashemi, 2014; Korstjens & Moser, 2017). CDA studies of this type do not conform to positivist standpoints on replicability or objectivity and, as such, this research demonstrates trustworthiness through systematic documentation procedures, triangulation of sources, and reflective engagement with the data (Wodak & Meyer, 2009; Fairclough 2001).

Through the triangulation of data sources in policy documents and academic literature (Denzin, 2012), permitting the identification of convergent and divergent discourses across institutional and stakeholder perspectives (Oteíza, 2017), credibility was supported by

ensuring methodological clarity and coherence in this process. By using NVivo CAQDAS software to code the literature corpus and develop themes as they appeared in the data, it was possible for me to establish an auditable and transparent trail of analytical decisions (Maher et al., 2018; Zamawe, 2015; Nowell et al., 2017; Manning, 2019). This, in turn, enhanced the aspect of traceability in this research and permitted the revisiting and interrogation of interpretations during the analysis (Lewins & Silver, 2017).

The implementation of Fairclough's Three-Dimensional Framework on a consistent basis during the analytical process reinforces the empirical methodological grounding and theoretical foundation of this approach (Chouliaraki & Fairclough, 1999). In this vein, the coding categories were systematically applied and themes emerging from the literature underwent iterative refinement through consistent intensive perusal readings that were frequently repeated (Etikan et al., 2016), experiencing further distillation through supervisory review and feedback. This helped to reduce the risk of inadvertently drifting from the interpretation, which was further mitigated through memo-writing and maintaining congruence with the research questions (Aydın-Düzgit, 2013; Anderson, 2017).

By employing the reflexive strategies previously discussed in the literature, it was possible to reinforce the academic accountability of this project and acknowledge my role as the sole researcher (Mertens, 2014; Tracy, 2010). My supervisory team aided this process through critical dialogue and interrogation of my interpretative assumptions (Van Dijk, 2001). Moreover, I engaged thoroughly with CDA literature throughout the coding and interpretation processes to ensure that my approach remained congruently grounded in established practice (Golafshani, 2003; Fairclough, 2001). In light of the above, my positional standpoint as the researcher is acknowledged in the thesis and, instead of entertaining claims to neutrality, this project harnesses reflexivity and transparency as an effective tool for

ensuring methodological integrity (Wodak & Meyer, 2009; Korstjens & Moser, 2017; Nowell et al., 2017).

The findings yielded in this study may entail significant conceptual applicability for future studies of EU policy, or cognate power discourses that affect marginalised populations (Schroeder et al., 2023). In this sense, the level of transferability in this CDA methodology does not refer to statistical generalisability, but instead it emphasises the potential relevance of the findings to similar investigations (Fernández-Ballesteros et al., 2020). Accordingly, the themes identified herein, especially those relating to digital ageism, inclusion and similar policy discourses, may yield significant conceptual applicability for future studies of a cognate nature.

Overall, the achievement of rigour in this CDA methodology is not reached by way of seeking a positivist emphasis on reproducibility (Fairclough, 2001). Instead, it is acquired through a well-documented, coherent, reflexive and transparent process of analysis that is intended to convey to the reader the steps taken in developing this methodology (De Filippi & Santolini, 2023). Furthermore, this approach is designed to enable them to weigh and consider the internal coherence of the claims made by establishing clarity and understanding how interpretations were developed (Nowell et al., 2017; Korstjens & Moser, 2017).

With respect to older adults and caregivers whose perspectives are analysed in the two ProQuest datasets, it is important to note that this literature reflects the viewpoints of those who were willing and able to participate in scholarly studies. This is an important caveat to note, as people with reduced digital accessibility, who are in late old age or have physical or cognitive disabilities, are potentially under-represented in this research due to a presumption of reduced participation in academic investigations. As such, the results, as well as their interpretative synthesis, are analysed in tandem as a unitary cohesive text. In this way, the findings are emphasised with a note of caution with respect to their applicability to

contextually-similar circumstances, but are not considered as statistically representative on a wider scale in light of potential biases regarding participation and accessibility (McMurdo et al., 2011; Lincoln & Guba, 1985; 1993).

4.7 Chapter Summary

The methodological framework and analytical procedures developed and employed in this research are succinctly conveyed in this chapter. They build upon, and reinforce, the theoretical foundations discussed in Chapter 3 by explaining the process of CDA implementation through Fairclough's Three-Dimensional Framework model to interrogate how institutional discourses frame older adults and digital technology in the context of Commission policy, and in the discursive narratives of caregivers and people in later life (Hassen, 2015; Phillips et al., 2004; Kouti, 2022; Wodak & Meyer, 2016). By citing Van Dijk's socio-cognitive approach (Van Dijk, 2000), this research uses the complementary example of a cognate conceptual lens through which it is possible to interpret the reproduction of power and attitudinal mental precepts through discourse; both at individual and societal levels (Chouliaraki & Fairclough, 1999).

This chapter explains and disseminates the development of a triangulated literature corpus (Denzin, 2012), comprising policy documents from the Commission, as well as scholarly academic publications on the perspectives of older adults and caregivers towards people in later life and digital technologies. It describes in procedural detail the steps taken to develop the search strategies, inclusion criteria, and the accordant analytical measures to reinforce and ensure the rigour, reflexivity and transparency of this research throughout the entire investigative process (Aydın-Düzgit, 2013; Anderson, 2017; 2021). This research acknowledges CDA's commitment to critical and interpretative enquiry and, thus, the accordant measures were taken to accommodate ethical considerations, researcher

positionality and methodological limitations (Fairclough, 1995; Ulinnuha, 2013; Tracy, 2010). By taking these important steps, it is possible to implement Fairclough's method of CDA as the sole investigator and coder, while also acknowledging the reflexivity and positionality of the researcher, thereby using it as a complementary strength in this investigation (Bloomberg & Volpe, 2008; Chouliaraki & Fairclough, 1999).

Through this approach, this chapter provides clarity to the analytical framework and methodological architecture developed in this research, thereby enhancing the rigour of the investigatory process (Mertens, 2014). The chapter explains that, through this methodology, the goal is not to attain a positivist-oriented ambition of attaining a neutral and objective standpoint with an emphasis on reproducibility (Tsounis, 2024; Charmaz, 2024). Instead, this research develops a reflexive approach that is grounded in Fairclough's framework that acknowledges researcher positionality and the establishment of an auditable and procedural trail of decision-making and conclusion-forming activities throughout the analytical process (Fairclough, 2001; Tracy, 2010).

In establishing a robust methodological framework, this chapter sets the grounding foundations for the analysis in the subsequent chapters. To this end, Chapter 5 applies CDA to Commission policy documents and explores how institutional discourse discusses or frames older adults in relation to digital technology, including digitalised inclusion, autonomy and social participation (Foster & Walker, 2015; Phillipson, 2013). The following chapters are constructed through the actualisation, operationalisation and practical implementation of the methodological framework and approach as outlined in this chapter, all the while adhering to conventions of CDA pertaining to Fairclough's Three-Dimensional Framework for studies of this type, led by a sole researcher (Gee, 2014; Fairclough, 2001; Wodak & Meyer, 2016).

Chapter 5: Analysing the Discourses Retrieved from the EurLex Dataset

5.1 Introduction

This chapter analyses the discourses within the policy documents of the Commission based on the dataset extracted from the EurLex online repository of EU law and policy. It attempts to identify the themes, sub-themes and driving discourses embedded within the ageing and digitalisation policies of the Commission. The chapter inspects prolific aspects of Commission ageing and digitalisation policies by way of CDA and attempts to contrast any variations between these two parallel but increasingly intertwined protocol narratives. The novel approach taken in this chapter complements the aspect of originality in this research; understanding the motivating discourses that underpin and drive Commission policy with regard to ageing and digitalisation (Fairclough, 1992; 1995; Wodak & Meyer, 2016).

Additionally, this chapter provides an insight into the shifting of Commission narratives over time by reflecting upon alterations in discourse during the period encompassed by the dataset, 2012 – 2022. The significance of the dataset is discussed with reference to the procedural purpose of each document and publication type within the Commission (European Commission, 2024; 2022a). The dataset is organised through the identification of each document type and lists them in the chronological order of their publication, thereby aiding the subsequent creation of 'node hierarchies' as deduced from the literature corpus. The coding procedure and accordant implementation of discourse analysis is carried out with the aid of tables and line charts (Bryman, 2016).

This chapter is structured to provide an initial aspect of contextual grounding for the data analysis by addressing the relevance of EU law and policy influencing digitalisation and ageing, prior to the search for discourses and narratives in the data. Section 2 provides context and recalls Chapter 2 to this end, where an in-depth discussion on EU law and policy

with respect to ageing, digital technology and disability took place. Section 3 addresses the dataset, methods of analysis, and the coding of the literature, respectively. Section 4 explores the interplay that takes place between the discourses discerned from the literature. Here, the driving discourses and social interactionism in the context of Commission policy are considered prior to a further assessment of the alterations in discursive narratives over time as apparent from the CDA synthesis of the data. The chapter concludes with a discussion on the findings of the discourse analysis and attempts to interpret what the results might mean for the future direction of active ageing and digitalisation policies of the Commission (European Commission, 2021a). This chapter operationalises Fairclough's Three-Dimensional Model through CDA by incorporating textual analysis (Fairclough 2015), discussions of discourse practices through the production, circulation and consumption of Commission policies and, ultimately, it considers the effects of these narratives on sociocultural practice in terms of their interpretation and explanation at a societal level. Thus, this careful methodological approach helps to ensure that the CDA is grounded in Fairclough's model, and that the chapter considers the discourse in this framework through textual analysis, discourse practices and sociocultural interpretations.

Contextualisation

At the public-facing level, the Commission has arguably constructed a visage of actively pursuing a human rights-oriented approach to the digital transformation and, more recently, is increasingly cognisant of the importance of promoting access to connected devices and services (European Commission, 2021). In the wake of the EDS 2010 – 2020 (European Commission, 2010), the 2019 Accessibility Act (Directive 2019/882) (European Parliament and Council of the EU, 2019), and ongoing efforts to implement the SRPD 2021 – 2030 amidst the EU Digital Decade 2030 agenda (European Commission, 2021b; 2021c),

older adults appear to be receiving more attention with respect to their inclusion in policy and in strategic initiatives to achieve greater equality in a digitalising society. Digital equality, upskilling and an emphasis on the silver economy, are but some of the aspirations cited by the Commission at the public facing level (European Commission, 2021c; Age Platform Europe, 2022). As such, it seems as though the Commission has, ostensibly, developed a growing awareness of the challenges posed by an ageing and digitalising society, particularly where each of these two phenomena experience diametric disharmony with the other.

However, the presence of human rights rhetoric that appears to promote person-centred public policy may be perfunctory when one considers from a realist perspective the practical determinants that can set the course of the strategic initiatives pursued by civic bodies (Mladenov, 2016; Wodak & Meyer, 2015). This rationale is not intended to overly labour the point of cynicism or, indeed, to presuppose the motivations or underpinnings of Commission policy formulation and planning in light of an ageing and digitalising society. Instead, the point here is to 'look beyond' the most prominent rhetoric espoused at a public level by the Commission and to objectively deconstruct and separate the driving forces behind the key points emphasised in civic policy (Fairclough, 1995). As civil institutional discourse is multilayered and comprises a conglomeration of minor and major impulsions of practical interests and considerations (Ibid.), the objectivity of an official position on ageing and digitalisation taken by the Commission is influenced by a great number of factors that must be understood in order to comprehend the true driving rationale behind current policies and their intended direction (Mosco, 2009). When considered through the third tier of Fairclough's model (Fairclough, 2003; Wodak & Meyer, 2015), rights-based and market discourses arguably reflect the imperatives and demands presented by prevailing sociocultural conditions in terms of digitalisation and demographic ageing.

Pointedly, the Commission takes a holistic transparent approach to the creation of novel laws and policies:

> Before the Commission proposes new initiatives, it assesses the potential economic, social and environmental impact that they may have. The Commission does this by preparing a report called an 'impact assessment' that sets out the advantages and disadvantages of policy options (European Commission, 2024; 2022b).

When the Commission is preparing proposals for a novel policy or law, the interests of parties who might be directly affected by the implementation of the new rules can deliver their input in the process. This can arguably facilitate an equitable transmission of multiple stakeholder interests into the discourses of institutional policy and, thus, permeate through to tangible measures and protocols to foster greater equality in practice (Wodak, 2011).

As noted in Chapter 2, ageing and digitalisation policies formulated by the Commission are informed by human rights and must align with, and respect, the CFR (European Union, 2012). In this respect, the Commission, as a primary institution of the EU with responsibility for proposing legislation (Consolidated Version of the Treaty on European Union, 2016, Article 17(2)) (European Union, 2016), and policies, and for ensuring their proper implementation among Member States, maintains a declarative stance of seeking to promote human rights for all persons. Therefore, it is of utmost importance to understand the institutional and legal frameworks that inform the determinative processes within the bureaucratic machinery in the Commission and in the inception and instrumentality of novel laws and policies. CDA provides a way to discern the discursive impulsions contained in Commission policy and disentangle the stakeholder interests and considerations that are enmeshed into the linguistic framework of protocols (Wodak & Meyer, 2016; Fairclough, 1995). This, in turn, can reveal the extent to which Commission policy informs views among

older people and carers towards the complex relationship between persons in later life and digital technologies.

5.2 Dataset and Method of Analysis

5.2.1 Reducing the Data

This study emphasises the consideration of the relationships between prominent discourses, as extrapolated from the dataset, with their constituent sub-components. Each of the discourses is the sum of a multiplicity of phenomena that combines mutual discursive interests under the umbrella of a policy narrative (Fairclough, 1995; 2003). To this end, each discursive theme is comprised of numerous interconnected subthemes which, together, provide a degree of orientation for the general strategic trajectory of Commission policies. As such, the initial step in the tabulation of data is to categorise the primary themes in the literature on the basis of prominence and frequency. However, it is also important to note that numbers of subjective mentions might not necessarily be indicative of primary thematic importance, though it is still an indicator of sorts (Silverman, 2013). Nvivo software was used to facilitate this process. Importantly, the approach to this corpus design enables an insight into the production, circulation and uptake of Commission discourses, shedding light on the processes that can mould textual meaning (Fairclough, 2015; 2010). By situating the data analysis in Fairclough's Three-Dimensional Framework, the textual coding process considers linguistic features, while discourse practice takes into account their institutional production and accordant uptake, and sociocultural practice links these narratives to broader stakeholder perspectives on ageing and digitalisation in the EU and in future policy development by the Commission.

As discussed in Chapter 4 on methodologies, the documents extrapolated during the EUR-Lex database search were extracted and included in this study on the basis of the extent

to which they discuss digital technologies, ageing and older people. Those documents that did not contain such information were excluded from this research. The literature corpus was subject to intensive screening reading through which a rigorous inclusion and exclusion criterion was implemented (Bryman, 2016).

This initially involved an in-depth perusal, memo-writing and appraisal of the text corpus, to identify and record the primary discourses by screening the literature for prominent viewpoints as expressed in the protocols. The data-screening process involved a line-by-line perusal of the literature and the subsequent identification of noteworthy themes and accordant variations between narratives in policies. The initial perusal of the literature comprised the coding of lines of text and the linking of discourses with the meaning derived from the statements and passages. The codes are created through the interpretation of meaning and lexical framings in the text to establish code labels based on the subject matter addressed in therein (Braun & Clarke, 2006; Wodak & Meyer, 2016). In this way, the coding was primarily deductive, drawing on Fairclough's three-dimensional categories (Fairclough, 2003), while also being supported by inductive identification of emergent themes within the dataset.

The dataset, comprising thirty-five comprehensive policy documents from the Commission, span the timeline from 1st of January 2012 to 31st December 2022, a decadal timeframe centred around the most important developments in ageing and digitalisation protocols in the EU, beginning with the 2012 Year of Active Ageing and concluding in the aftermath of the landmark Green Paper on Ageing (European Commission, 2021c; 2021d). The amplified decadal timeframe also allows for the discernment of shifts and developments in attitudinal variations, strategic prioritisation and planning by the Commission with respect to ageing and digitalisation over time. Through this original study architecture, the text

corpus yields substantive insights, variations and nuances into the strengths of individual discourses over the course of the timeframe covered.

The coding of the dataset is undertaken with recognition of the human-rights and public position statements of the Commission that are built on EU values and principles. It is worth recalling that Article 3(3) TEU states that:

> The Union shall establish an internal market. It shall work for the sustainable development of Europe based on balanced economic growth and price stability, a highly competitive social market economy, aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment. It shall promote scientific and technological advance (European Union, 2016; 2012).

The policy documents are lengthy and comprehensive, and they cover a range of Commission activities in primary, secondary and tertiary industries, economic development and general reports on miscellaneous projects intrinsic to the affairs of national development in EU Member States (European Commission, 2024a). As such, they are often not devoted in their entirety to the topics of ageing, digitalisation and disability accessibility. Rather, most of the documents allot significant tracts of text to these topics but also address unrelated issues. Thus, selected tracts of text in the dataset are coded with the relevant discourses accordingly deduced. However, the entirety of the literature corpus is carefully perused line-by-line to ensure that no aspect of relevant data is overlooked. In essence, the passages that address the aim of the study are coded to the relevant discourse and, sometimes, more than one discursive narrative might be applied to specific passages if areas of overlap are identified (Braun & Clarke, 2006; Bryman, 2016).

5.2.2 Identifying the Dataset

The dataset comprises a variegated literature corpus of policy documents authored by the Commission. These texts include Communications, Staff Working Documents (SWDs), Green Papers, Implementing Decisions, Cover Notes on Staff Working Documents, Own Initiative Resolutions, Amended Proposal for Regulations, Proposals for Directives and Decisions, Evaluations, Reports, and Impact Assessments. It is important understand the significance of each of these documents and their intended purpose and function within the context of the machinery of bureaucracy within the Commission (European Commission, 2022a; 2024b).

These documents serve specific purposes in the context of the Commission policy-making processes. The Commission explains that:

> Green papers are documents published by the European Commission to stimulate discussion on given topics at an EU level. They invite the relevant parties (bodies or individuals) to participate in a consultation process and debate on the basis of the proposals they put forward. Green Papers may give rise to legislative developments that are then outlined in white papers (European Commission, 2023a).

In other words, Green Papers are normally discussion and consultation-based papers, with White Papers serving as the means by which proposals may be set forth for future legislation.

The Commission makes extensive utility of SWDs and explains their role and functions:

> SWD is one of the possible codes assigned to documents from one of the most important series of publications issued by the European Commission. SWD-documents are working documents published by the Commission. A fair proportion of

SWD-documents are directly linked to legislative proposals and other documents directly related to the legislative process (European Commission, 2022c; 2023b).

These documents normally provide an overall summary of an evaluation process conducted by the Commission or externally contracted services. According to the Commission:

> The European Commission issues a wide variety of communications. Communications may include policy evaluations, commentary or explanations of action-programmes or brief outlines on future policies or arrangements concerning details of current policy. Policy proposals will never be put forward by means of a communication (European Commission, 2022d; 2024c).

It also explains that their interpretation is non-binding in nature. The Commission clarifies that "Reports are issued by the European Commission to report and assess current policies. A report may provide a basis for policy development" (Ibid.). These documents fulfil an important role in the 'Right of Initiative" held by the Commission, which says "The European Commission is responsible for planning, preparing and proposing new European legislation (European Commission, 2024d). Normally, these proposals are forwarded by the Commission to the EU Parliament and Council, as legislative institutions, for approval prior to their entry into law. In addition, the Commission also develops 'Call for Evidence' documents that determine the remit of "a politically sensitive and/or important new law and policy; an evaluation of an existing law and policy; a fitness check of a bundle of related existing laws and/or policies" (European Commission, 2024e).

Understanding the functions of the documents included in the dataset aids the extrapolation of themes and concepts (Bryman, 2016). As such, this contributes further to the identification of linguistic parameters and interpretative meanings, and the development of categories of thematic discourses that are discerned in the text corpus. In considering the

document types and functions, this helps to give clarity to the ways that linguistic and institutional framings and meanings are formed in Fairclough's terms (1993), while providing an insight into their production and circulation in Commission policymaking processes and their subsequent uptake by stakeholders. The next step towards comprehensive coding of the text corpus, following initial perusal and coding of the dataset to establish the five node hierarchies, entails processes of preparing and reducing the literature.

Date **Chronology**	**Commission Document Type**
17.01.2012	Form: Staff Working Document (European Commission, 2012a) CELEX_52012SC0059_EN_TXT
29.02.2012	Form: Communication (European Commission, 2012b) CELEX_52012DC0083_EN_TXT
20.02.2013	Form: Staff Working Document (European Commission, 2013a) EUR-Lex - 52013SC0038 - EN - EUR-Lex
21.03.2013	Form: Communication (European Commission, 2013b) CELEX_52013DC0149_EN_TXT
22.04.2013	Form: Amended Proposal for a Regulation (European Commission, 2013c) CELEX_52013PC0246_EN_TXT
26.06.2013	Form: Staff Working Document (European Commission, 2013d) CELEX_52013SC0228_EN_TXT
10.07.2013	Form: Proposal for a Decision (European Commission, 2013e) CELEX_52013PC0500_EN_TXT
10.07.2013	Form: Impact Assessment (European Commission, 2013f) CELEX_52013SC0251_EN_TXT

10.06.2014	Form: Staff Working Document (European Commission, 2014a) CELEX_52014SC0181_EN_TXT
26.11.2015	Form: Joint Report (European Commission, 2015a) CELEX_52015DC0700_EN_TXT
02.12.2015	Form: Proposal for a Directive (European Commission, 2015b) EUR-Lex - 52015PC0615 - EN - EUR-Lex
19.01.2016	Form: Staff Working Document (European Commission, 2016a) EUR-Lex - 52016SC0002 - EN - EUR-Lex
08.03.2016	Form: Communication (European Commission, 2016b) EUR-Lex - 52016DC0127 - EN - EUR-Lex
13.06.2018	Form: Own-Initiative Resolution (European Commission, 2018a) EUR-Lex - 52016IP0360 - EN - EUR-Lex
11.12.2019	Form: Communication (European Commission, 2019a) EUR-Lex - 52019DC0640 - EN - EUR-Lex
14.01.2020	Form: Communication (European Commission, 2020a) EUR-Lex - 52020DC0014 - EN - EUR-Lex
05.03.2020	Form: Communication (European Commission, 2020b) CELEX_52020DC0152_EN_TXT
17.06.2020	Form: Report (European Commission, 2020c) CELEX_52020DC0241_EN_TXT
01.07.2020	Form: Communication (European Commission, 2020d) CELEX_52020DC0274_EN_TXT
23.09.2020	Form: Communication (European Commission, 2020e) EUR-Lex - 52020DC0609 - EN - EUR-Lex

30.09.2020	Form: Communication (European Commission, 2020f) CELEX_52020DC0625_EN_TXT
30.09.2020	Form: Staff Working Document (European Commission, 2020g) CELEX_52020SC0214_EN_TXT
13.11.2020	Form: Communication (European Commission, 2020h) CELEX_52020DC0696_EN_TXT
24.11.2020	Form: Communication (European Commission, 2020i) CELEX_52020DC0758_EN_TXT
27.01.2021	Form: Green Paper (European Commission, 2021a) CELEX_52021DC0050_EN_TXT
27.01.2021	Form: Staff Working Document (European Commission, 2021b) CELEX_52021SC0010_EN_TXT
04.03.2021	Form: Staff Working Document (European Commission, 2021c) CELEX_52021SC0046_EN_TXT
15.12.2021	Form: Implementing Decision (European Commission, 2021d) EUR-Lex - C(2021)9128 - EN - EUR-Lex
10.05.2022	Form: Implementing Decision - Annex (European Commission, 2022a) cellar:c1f95e49-d11b-11ec-a95f-01aa75ed71a1.0001.02/DOC_5
10.05.2022	Form: Implementing Decision - Annex (European Commission, 2022b) cellar:c1f95e49-d11b-11ec-a95f-01aa75ed71a1.0001.02/DOC_6
10.05.2022	Form: Implementing Decision - Annex (European Commission, 2022c) Cellar:c1f95e49-d11b-11ec-a95f-01aa75ed71a1.0001.02/Doc_8
07.09.2022	Form: Staff Working Document (European Commission, 2022d) CELEX_52022SC0441_EN_TXT

07.09.2022	Form: Staff Working Document (European Commission, 2022e) CELEX_52022SC0440_EN_TXT
13.09.2022	Form: Cover Note (European Commission, 2022f) CONSIL_ST_12002_2022_ADD_2_EN_TXT
19.12.2022	Form: Staff Working Document (European Commission, 2022g) CELEX_52022SC0404_EN_TXT

Table (1.) List of Commission document types displayed in descending chronological order.

5.3 Coding the EurLex Database (see Appendices F – J)

5.3.1 Analysis of Dataset and Generation of Codes

After creating the node hierarchies during the first perusal of the dataset, the next procedural step comprised the generation of thematic codes under each hierarchical node. Each thematic code acts as a motif label to tracts of text which, together, comprise sub-themes to the overall positional narrative espoused in an individual node (Braun & Clarke, 2006). The coding process operationalises Fairclough's textual analysis by considering the lexical choices, modality and framings of the discourses that are accordingly mapped across the corpus (Fairclough, 2003). Proverbially akin to osmosis, the coding of tracts of text and ascribing of hierarchical node titles to discursive themes therein directly contributes to the interpretative deduction of sub-themes from the data-sample (Bazeley, 2013). This process entails systematic refinement, narrowing and isolation of the prevalent discourses that appear in the literature corpus. The consolidation of the literature corpus is explained in the following subsections of this chapter and is also aided by tables and line charts to visually convey the respective prevalence of relevant discourses (Nowell et al., 2017) (see Appendices F – J). This helps the analysis to highlight how linguistic features contribute to broader

discursive patterns that are linked to institutional practice and sociocultural interpretation and uptake, effectively joining the tiers of Fairclough's framework (Fairclough, 2015).

The thematic code of 'Ageing as a Challenge' features prominently in the text and represents the most prolific discourse within this data-sample. The thematic code of 'Social Inclusion' comprises the second strongest theme in the text, with a significant gap in prolificness between the first and second codes. The third and fourth prominent codes are the 'Digital Agenda for Europe' and 'Ageing as a Resource', respectively. The fifth and least prominent code is the 'Digital Divide'.

The codes are generated under each node hierarchy with careful systematisation and deductive analysis, starting with the most prevalent thematic code of 'Ageing as a challenge' and working in a descending order to the least prominent, the 'Digital Divide'.

The dominant thematic code of 'Ageing as a Challenge' features prominently in the data-sample, with the full literature corpus of EurLex policy and legal texts reflecting the view as a substantive theme in their textual narratives and discourses. Upon comprehensive perusal of the literature corpus, the generation of codes was undertaken through a deductive and summative analysis of the textual narratives and content (Gale et al., 2013), just as in the creation of the node hierarchies. Through this approach, sub-themes within the 'Ageing as a Challenge' category were identified and labelled as thematic codes.

5.3.2 Interpretation-Focussed Coding: Creating the Node Hierarchies

This section discusses the coding of relevant passages of text to identify prominent discourses in the data which connect the discursive narratives with the correct thematic heading to establish 'node hierarchies' (Richards, 2009). The node hierarchies comprise an initial important step towards the implementation of further deeper data coding under each hierarchy in order to identify sub-themes within primary themes. This ultimately helps to

establish linkages between the primary discourses and themes in the literature, and to understand how the sub-themes interact with one another (Saldaña, 2021). To this end, creating the node hierarchies and generating relevant headings that take into account the sub-themes underpinning each discourse facilitates the creation of codes that, altogether, formulate the multilayered discursive pillar upon which the primary narratives are constructed. The codes and node hierarchies are named after the dominant themes that are conveyed by the text. They are created in the screening reading process by ascertaining, through deductive analysis, the key agenda for each sentence of text therein (Tesch, 1990). The grouping of codes into node hierarchies helps to operationalise interdiscursivity by showing how different discourses such as rights-based, inclusive or productivist narratives, are intertwined in Commission policy and through discourse practice (Frabricio & Moita-Lopez, 2020). Indeed, this is linked to discourse practice in Fairclough's framework, as the node hierarchies provide an insight into the production and combination of discursive narratives in institutional texts, prior to their interpretation in relation to prevailing sociocultural contexts.

Node Hierarchy 1.	*Ageing as a Challenge*	**Matching Discourse(s)**	*Political Economy / Free Market*
Node Hierarchy 2.	*Social Inclusion*	**Matching Discourse(s)**	*Human Rights / Modernism*
Node Hierarchy 3.	*Digital Agenda for Europe*	**Matching Discourse(s)**	*Market interventionism / Agents of Change*
Node Hierarchy 4.	*Ageing as a Resource*	**Matching Discourse(s)**	*Productivism / Agents of Change*
Node Hierarchy 5.	*Digital Divide*	**Matching Discourse(s)**	*Critical Realism*

Table (2.) Table displaying node hierarchies and corresponding discourses.

5.3.3 'Ageing as a Challenge' and Relationship with Political Economy and Free Market Discourses

This section discusses narratives that were discerned in the literature and their relationship with relevant discourses. Soll (2022) explains that "In contemporary political discourse, a free market implies laissez-faire—allowing businesses to do what they like, unhampered by the "red tape" of government bureaucracy" (p. 273). This differs substantially from the principle of the single market or social market economy that is legally provided for under EU treaty law and enshrined as a constitutional objective of the union (European Union, 2016). Free market discourses, in the sense described by Backhouse (2023), are primarily concerned with capitalistic interests and infer a recalcitrance towards social spending or economic expenditure in domains that do not serve the interests of profit generation (Harvey, 2007). In this sense, older people can be viewed as an economic burden by traditional capitalist, free market and political economy discourses, as they no longer constitute a contributory economic unit in the wealth generating sense of employment.

The most prominent theme in the literature, 'ageing as a challenge', is matched with the discourses of free-market and political economy theory (Table 2.). This discourse is punctuated by narratives of ageing as a social and economic challenge, and even as a burden in some instances (Cohn-Schwartz & Ayalon, 2020), as terms such as 'old-age dependency ratio' are utilised to describe the fiscal effects of an increasing numbers of retirees coupled with a simultaneously shrinking workforce (Organisation for Economic Cooperation and Development, 2020). Political Economy can be conceived of as the politics, discourses and narratives that influence the proverbial 'tug-of-war' over power relations governing the production, distribution and consumption of economic resources (Mosco, 2009). The

concerns under this narrative are punctuated primarily by economic considerations that are intrinsic to ageing demographics within the EU. This narrative is dominated by themes such as concerns over pension systems maturation, increased healthcare budgetary trends in the short, medium and long terms, and the practical difficulties surrounding widespread digital illiteracy among older people. Further, considerations over the need to radically boost the size of the care workforce, even through increased immigration into the EU (European Commission, 2023), coupled with negative precepts towards growth in average life expectancy and the resultant strain on health sector resources, involves a significant risk of discrimination for many people living with chronic illness and disability in later life.

5.3.4 'Social Inclusion' and Relationship with Human Rights and Modernism

The nodes are categorised in a systemic order comprising five objective node hierarchy themes that are deductively matched with the appropriate headings inspired by the relevant discourse theory. The second prevalent theme in the literature corpus is the thematic node of 'Social Inclusion', which the UN defines as, "the process of improving the terms of participation in society, particularly for people who are disadvantaged, through enhancing opportunities, access to resources, voice and respect for rights" (United Nations, 2016). This is matched with sections of narrative within Commission policies on ageing, disability and digital inclusion that advocate the beneficent utility of connected technologies to facilitate greater social equality and access to healthcare for older adults (European Commission, 2021). This node is also influenced by themes of person-centredness in the digitalisation process that advocates for the utility of connected technologies to promote active ageing, improve quality of life, and reduce caregiver reliance for older people and persons with disabilities. Frezzo (2011) explains that, "In short, human rights norms constrain and facilitate the undertakings of both state and nonstate actors; offer inspiration to scholars,

policymakers, and activists; and provide a grammar and vocabulary for the articulation of demands and the settlement of disputes" (p. 4).

The social inclusion node is matched with the discourses of human rights and modernism, as they comprise a combination of narratives that advocate for the person-centred development of digital technologies to promote tangible near-term social inclusion and corporeal independence of the older person, echoing a strongly humanitarian approach to digitalisation and ageing. Reiss (1985) demonstrates the evolution of modernism in discourse over time, whereby established discursive themes are continually displaced by ones that, while novel, have evolved from those which it replaced. Such transformations might appear as outright schisms between prevailing contemporary discourses and traditionalist narratives, however, upon empirical deconstruction, it is possible to discern the conception of novel themes from the established precepts of former conservative progenitors.

Modernist discourses feature strongly in the text corpus, being frequently interwoven with human rights narratives; they address the latent potential of digital technology to substantially facilitate quality of life improvements for older people and to promote access to connected health services and enhance mobility (Neves & Amaro, 2012). The modernist aspect of the digitalisation process in an ageing society is reflected in discussions of longer-term strategic visions that are substantially aspirational in their phraseology, envisioning increased future utility of digital technologies by older people on an independent basis with a greatly reduced reliance on caregiver support.

5.3.5 'Digital Agenda for Europe' and Relationship with Market Interventionism and Agents of Change

The third prominent theme in the literature comprises the stratagem of viewing 'ageing as a resource'. This theme is matched with the discourse of 'productivism', though it

shares aspects of overlap with narratives of human rights and political economy. There is a nascent desire in the Commission to harness the latent socio-economic potential of older people as an expanding social demographic and inclusively malleate the increasing age-range dynamics of the workforce through the extension of employment beyond traditional ages of retirement and by promoting digital literacy (European Commission, 2010). It is hoped that this would entail resultant economic and personal benefits for persons in later life through increased participation in society and the workforce, enabling them to achieve agency amidst the symbiotic conceptual loop of 'independence through productivity'.

Increased retirement ceilings are seen as a necessary measure, in conjunction with the rapidly expanding capacities and applications of digital technologies, to mitigate potentially negative long-term social and economic trends of ageing demographics in traditionally rigid societal structures that have not yet adapted to meet this change (European Commission, 2021). Moreover, the productivist view of ageing and digitalisation also advocates a general increase in opportunities for older adults in a digital society through greater access to social and public life to undertake activities such as volunteering and actively participate in a digitalising society in a contributory manner involving civic and economic processes (Graafland & Verbruggen, 2022; Foster & Walker, 2015). The productivist model of ageing also intends to promote a renewal of public narratives and perceptions of old age by empowering older people to enhance their contributory value to society in numerous ways (Mladenov, 2016).

5.3.6 'Ageing as a Resource' and Relationship with Productivism and Agents of Change

The fourth theme in the literature corpus is the 'Digital Agenda for Europe' which espouses aspects of 'agents of change' and 'dirigisme' through the modification of rules and regulations in pursuit of the social market economy. Caldwell (2003) explains agents of

change as an "internal and external individual (…) responsible for initiating, sponsoring, directing, managing or implementing a specific change initiative, project or complete change program" (p. 139-140). In the context of the EU, the agents of change arguably comprise the bureaucratic oversight mechanisms of the Commission whose instrumentality is directed through stakeholder engagement, impact assessments and affected parties, to facilitate the transmission of discursive data and interactionism between the respective domains of groundswell and institutional agency. The agents of change discourse is prevalent in the theme of the Digital Agenda for Europe as it advocates the advancement of digital skills across all age groups through lifelong learning programmes (European Commission, 2010). This theme supports the expansion of the internet of things, accessible cities and public spaces, and the creation of 'smart' networks that facilitate digitalisation in urban and rural areas. It advocates the concept of ageing in place through the geographical proliferation of the digital economy and IoT to cover all users irrespective of age group and supports the comprehensive utility of connected technologies by older adults (Arieli et al., 2023).

Discourses of dirigisme reflected in the dataset diverge from traditional fiscal connotations pertaining to strategies of market interventionism (Greenwald & Stiglitz, 1993). Instead, they indicate the willingness of the Commission to leverage the power of both hard law and soft law to prompt the creation of a stronger Digital Single Market. This discourse reflects a critically important thematic pillar of social policy that can, if successfully implemented, help to 'bridge' the gap between traditional and increasingly outdated models of ageing such as wardship practices in healthcare for older people and youth-oriented digitalisation policies, with those of a modernist and human rights-oriented strategic vision by the Commission, to fully include persons in later life in all beneficial aspects of the digital revolution.

5.3.7 'Digital Divide' and Relationship with Critical Realism

The fifth prominent narrative in the text is the theme of the challenges and realities associated with the 'Digital Divide'. This theme is deductively matched with the discourse of 'Critical Realism', as the sub-themes in this narrative highlight a general awareness of the challenging realities that present themselves as obstacles of strategic friction towards the implementation of human rights and modernist elements of Commission policies to promote active ageing and digitalisation. The discourse of critical realism is readily apparent in the subthemes that constitute the thematic heading of the digital divide, as they generally entail lucid and straight-talking appraisals of the current realities facing older people in the context of digitalisation.

The subthemes acknowledge a significant lack of digital literacy among older adults. The dataset also recognises the obstacles facing efforts to promote universal design in digital technologies and facilitate the production and availability of cost-effective and accessible devices and services for older adults and persons with disabilities (Bhaskar, 2008). Moreover, themes in the discourse of critical realism reflect cognisance in Commission policies of the challenges associated with harnessing digital technologies and services to offset the pressing necessity of larger and more costly healthcare systems and caregiver workforces. Further, these themes convey an awareness that digitalisation policies have been substantially oriented towards the upskilling of the labour force, primarily involving younger people of working age (Selwyn, 2004). It reveals a recognition within the Commission that ingrained and negative stereotypes of ageing, a youth-centric digital industry, alongside the privacy and monitoring concerns of older people, all represent significant structural challenges to the implementation of humanitarian and modernistic reforms.

In summary, the five node hierarchies derived from the text-corpus are matched with their cognate discourses and are displayed in order of their frequency of utility in the dataset in the table below:

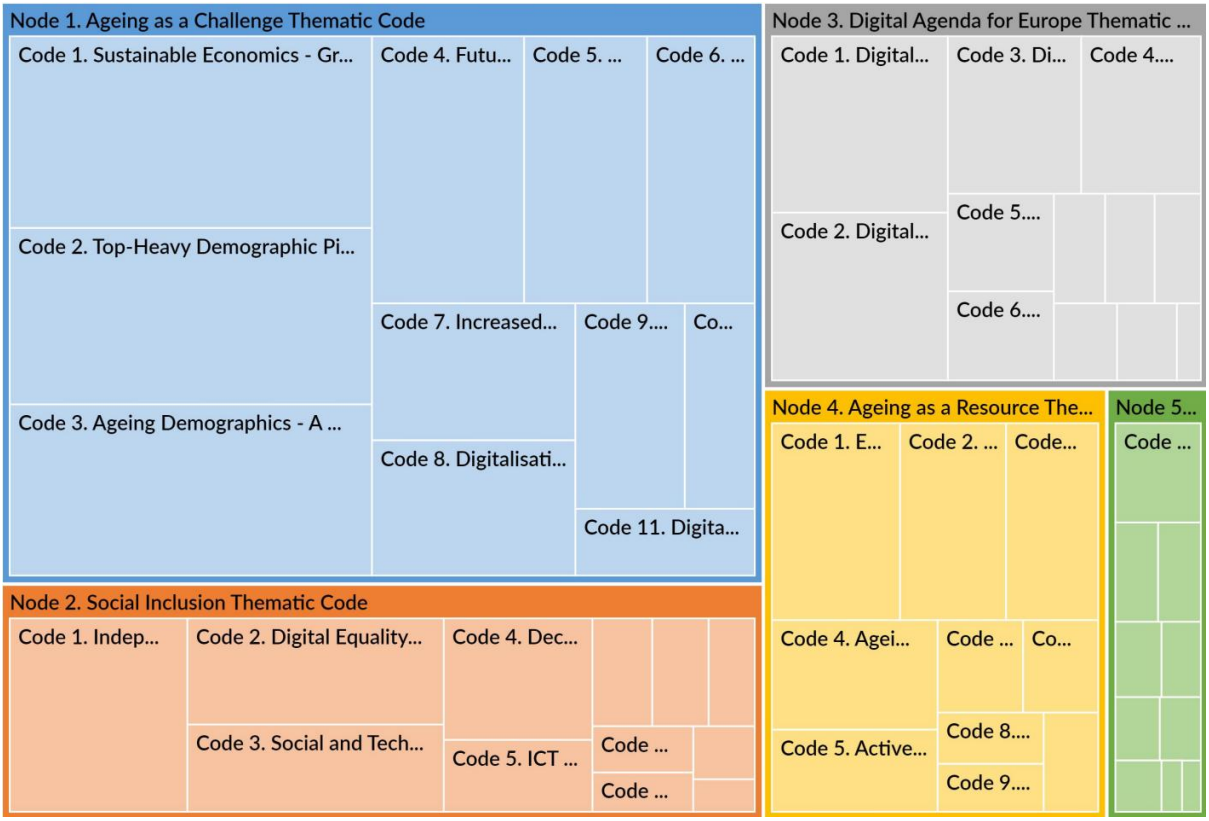

Table (3.) Block chart of hierarchical nodes based on numbers of coding references

5.3.8 Example of the Coding Process in Action

Appendices 'F-J' provide comprehensive worked examples of the line-by-line coding process alongside a subsequent discussion of each code as implemented in the analysis of the EurLex text corpus. However, in order to boost the visibility and transparency of the data analysis, this section provides some worked examples of the coding process to show how the EurLex dataset was coded. For instance, under the node hierarchy of 'Ageing as a Challenge', the first code is titled 'Sustainable Economics – Greatly Increased Healthcare Costs in an Ageing Population', and it references tracts of text that relate to this heading, such as the following passage which was discussed in the context of demographic ageing, "For the

EU, it is projected that total government spending on pensions, healthcare, long-term care, unemployment benefits and education will increase by almost 20 per cent between 2010 and 2060" (European Commission, 2013a, p. 13).

Similarly, for the node hierarchy of 'Social Inclusion', the thematic code titled 'Digital Equality – Accessible ICT and Digital Goods and Services' includes the following excerpt as an example of the content that is coded under this heading, "To support the set-up of favourable framework conditions, the Commission will: accelerate standards development under the standardisation mandates on ICT, built environment and mainstreaming accessibility following "design for all" concepts and propose mandates in eHealth and independent living" (European Commission, 2012b, p. 4).

In the node hierarchy of the 'Digital Agenda for Europe' the following sentence is coded to the thematic code called 'Digital Agenda for Europe', "The AAL Joint Programme aimed at using intelligent products and providing remote services in order to extend the time elderly people can live independently in their home environment" (European Commission, 2016b, p. 292).

For the node hierarchy of 'Ageing as a Resource', the following extract is coded under the code heading 'Civic and Social Engagement: Challenging Ageist Discrimination Amidst Digitalisation':

> The Commission encourages Member States (including relevant national and regional authorities) to: (…) make effective use of Structural Funds, in line with the Partnership priorities, as appropriate, in particular with a view to: (…) enhancing the use, quality, interoperability of and access to ICT including e-health, and strengthening research, technological development and innovation; (…) promoting measures to fight against discrimination of older people both in accessing the labour

> market and in the work place (e.g. innovative, accessible and age-friendly forms of work organisation, longer healthier working lives); (European Commission, 2012b, p. 11).

In the node hierarchy of the 'Digital Divide', the code titled 'Innaccessible Technology – Barriers to Equal Digital and ICT Utility' incorporates the following tract of text, "The institutional embedding of ICT-based products and services for ageing well has not yet been established properly at national - let alone at a European – level" (European Commission, 2013b, p. 16).

5.4 Findings

5.4.1 Interplay of Discourses

The most prominent themes in the discourses are not especially distinct from one another and there exists a significant amount of interplay and overlap between them, which ultimately precludes any presentment of contradictory or conflicting visions in Commission policy (European Commission, 2021e). The literature reveals that the Commission systematically integrates key priorities into the corpus of policies that it produces in accordance with the humanitarian and welfare aspirations of the EPSR and the legal basis provided in the cornerstone instruments of the EU such as the CFR, and the TEU. The below table (Table 4.), displays the interplay between the dominant discourses embedded in the five node hierarchies, as well as their according sub-themes, which speak to each other in a feedback loop of discursive agency and linguistic impulsion within policy.

Each of these discursive themes are embedded in the dataset with varying degrees of emphasis, but they are not contradistinctive and nor do they refute the agency of the other (Fairclough, 1995). For example, the digital divide, as a phenomenon that is intrinsically

linked to equality, is entrenched within the literature corpus and the discourses extracted therein. For instance, economic arguments surrounding the digital divide relate strongly to productivist themes whereby one is not as productive if they cannot access digital resources or skills (Mladenov, 2016). In this sense, the discourses and themes in the literature corpus are not siloed and segregated, but instead, share significant strands of interplay with one another, either through prominent visibility or with more subdued conspicuity. In this vein, they transmute to each other in areas where overlapping interests are identified (Wodak & Meyer, 2016). Sometimes, solution-oriented approaches are subsequently pursued by the Commission where there exists introspective awareness as to the necessity for reforms (European Commission, 2020d). The overlap and interplay of discourses is reflective of Fairclough's conception of interdiscursivity whereby (Fairclough, 1995), at the level of discourse practice, policy narratives interact and intertwine with each other, and, in the sociocultural domain, this interplay illustrates the weighing and balancing by the Commission of economic, welfare and rights-based imperatives.

Node 1.	**Node 2.**	**Node 3.**	**Node 4.**	**Node 5.**
Ageing as a Challenge.	**Social Inclusion.**	**Digital Agenda for Europe.**	**Ageing as a Resource.**	**Digital Divide.**
Dominant Discourses: *Political Economy; Free Market*	**Dominant Discourses:** *Human Rights; Modernism*	**Dominant Discourses:** *Agents of Change; Market Interventionism*	**Dominant Discourses:** *Productivism; Agents of Change*	**Dominant Discourses:** *Critical Realism*
Sub-Themes: *Productivism; Critical Realism*	**Sub-Themes:** *Agents of Change*	**Sub-Themes:** *Human Rights; Dirigisme*	**Sub-Themes:** *Modernism; Human Rights; Social Inclusion*	**Sub-Themes:** *Agents of Change; Social Inclusion*
Expresses: *Concerns over health and sustainability of economy and society;*	**Expresses:** *Ambitious and quasi-utopian objectives;*	**Expresses:** *Inclusive digitalisation policies;*	**Expresses:** *Digital social and economic readjustment to new demographic realities;*	**Expresses:** *Appraisal of scale of reforms needed to reverse ageist digital inequalities;*
Sober appraisal of challenges;	*Imbues ageing and digitalisation policies with tangible human rights-oriented goals;*	*Accessible digital technologies and services for older adults and people with disabilities;*	*Concerns over sustainability of EU economy and market competitiveness;*	*Project reliance on increasing numbers of caregivers despite latent potential of ICT and digital technologies and services;*
Evolves over time to take an increasingly solution-oriented and productivist-leaning view of ageing and digitalisation	*Seeks a radical replacement of traditional discourses with new and inclusive narratives*	*Reversing the digital divide;*	*Old age as a latent and untapped resource to extrapolate through digital inclusion, productivism and increased retirement ceilings.*	*Ageist stereotypes and narratives that drive a youth-oriented digital economy.*
Shares Significant Interplay with: *Node 4: Ageing as a Resource*	**Shares Significant Interplay with:** *Node 3: Digital Agenda for Europe;* *Node 4: Ageing as a Resource*	*Utility of Commission legal and fiscal powers to create an equal and person-centered digital technology market with flourishing PPI initiatives* **Shares Significant Interplay with:** *Node 4: Ageing as a Resource*	**Shares Significant Interplay with:** *Node 2: Social Inclusion*	**Shares Significant Interplay with:** *Node 2: Social Inclusion*

Table (4.) Dominant discourses and sub-themes in each node; correlating interplay between each node.

The primary hierarchical node of ‘ageing as a challenge’ shows remarkable evolution over the time encompassed by the dataset. In between 2012 and 2022, the term ‘old-age dependency’ declined in frequency of utility in the literature (European Commission, 2020c).

The phraseological approach used in the appraisal of the demographic ageing 'challenge' connotation with respect to this code is one that adopts an increasingly solution-oriented overtone in the latter portion of this timeframe. Though the 'political economy' and 'free market' discourses underpin the view of 'ageing as a challenge', the dataset reveals growth in the sub-themes of 'productivism' and 'critical realism' in this node over time (Mosco, 2009).

Mosco (2009) says that "one can think about political economy as the study of social relations, particularly the power relations, that mutually constitute the production, distribution and consumption of resources" (p. 24). However, there is a discernible increase over time in solution-oriented appraisals of the 'challenges' that pose a threat to economic health, and in the suggested remedial measures that embrace narratives of 'productivism' as the answer to fiscal concerns posed by demographic ageing (Mosco, 2009; Gunn, 1989). Furthermore, there is evidently a recognition that digital technologies can provide a vehicle for this change and embrace the previously untapped latent potential of older people as economic and voluntary contributors to society (European Commission, 2020d). In this way, this node overlaps with the narrative of 'ageing as a resource'.

Modernist and human rights discourses appear to strengthen during this timeline with respect to the promotion of person-centred digitalisation and inclusive active ageing policies. Meanwhile, the term 'old age dependency' experiences a decline in usage frequency and (European Commission, 2020c), echoing theories of critical realism, the extent to which the effects of the digital divide, ageist discrimination, and inclusive digitalisation are discussed in the text corpus increases significantly towards the latter half of the specified timeframe. This is indicative of an overall trend of strategic reorientation and adjustment within the Commission policy-making bureaucracy to the challenges of rising healthcare costs, a large care workforce, uneven and ageist digitalisation and an ageing population. The view of ageing as a challenge features strongly in the dataset, but with increasingly solution-oriented

language over time that speaks to the gradual strengthening of discourses of human rights and productivism.

The second hierarchical node of ‘social inclusion’ embodies ambitious and quasi-utopian objectives for the near and long-term future respectively. However, this discourse appears more frequently towards the latter portion of the timeframe encompassed by the dataset (Table 5.) (European Commission, 2021b). Through soft law, the Commission is making visible attempts to ensure that human-rights and person-centeredness in digital technologies and services become indispensable pillars of future digitalisation and active ageing policy. Further, these efforts are part of a broader initiative by the Commission to replace traditionalist and ageist narratives that glaciate the pace of reforms for improving the quality of life for older adults (Wodak & Meyer, 2016). The Commission is vocal of the need to create a strong welfare state and social safeguard system for older adults in a society where demographics will continue to age and numerically decline into the latter part of the century. Human rights-oriented integration of digital technologies and a radical reform of ageist narratives are viewed as the obvious drivers of this change. In this sense, there exists a sub-theme of agents of change narratives within the social inclusion discourse (Caldwell, 2003). This discursive pillar also overlaps with, and informs, the third and fourth hierarchical nodes of the ‘Digital Agenda for Europe’ and ‘Ageing as a Resource’, respectively (European Commission, 2020d).

The third hierarchical node of the ‘Digital Agenda for Europe’ is underpinned by ‘market interventionism’ and ‘agents of change’ discourses. Sub-themes of ‘dirigisme’ (Seidl & Schmitz, 2023), and ‘human rights’ are evident. The Digital Agenda for Europe is punctuated by a desire to stimulate the single market, and intervene directly with fiscal and legal agency, to work with and encourage the private sector to foster a competitive environment for the design and development of accessible and affordable digital goods and

services in the EU economy (European Commission, 2020d). Large scale strategic initiatives such as Horizon Europe are yielding positive results in Patient Public Involvement (PPI) initiatives, entailing a growing emphasis on cooperation with university-based research communities (European Commission, 2021e). The nascent interventionist or dirigiste stance of the Commission to develop the social market economy along with a strong welfare component for an ageing population in a digitalising society is arguably informed by underpinnings of humanitarian and modernist theory (Graafland & Verbruggen, 2022).

The rationale of the Commission is, assertedly, to create a strong social market economy that will, through competitive efficacy in conjunction with humanitarian principles, reinforce the welfare safety net of the overall societal structure, deriving success from a synergistic model that operates in a veritable feedback loop of economic and human rights policy-intertwinement. This is akin to what Graafland and Verbruggen (2022) describe, "The adoption of a minimal state would thus foster an environment in which markets would flow by themselves completely undisturbed, in such a way would deliver the desired welfare enhancing outcomes, while, simultaneously, guaranteeing individual rights and freedoms" (p. 1117; Chang 2014). Invariably, digital technology is intended to underpin this change, and act as a vehicle to deliver upon these objectives. This also overlaps with the fourth node hierarchy of 'ageing as a resource', as there are many aspects of the Digital Agenda for Europe that are intended to facilitate productivity and social interactionism by older adults.

The fourth hierarchical node of 'ageing as a resource' incorporates discourses of productivism and agents of change, and is underpinned by sub-themes of modernism, human rights and social inclusion (Mladenov, 2016). Similarly to the first and second node hierarchies, the maintenance of a strong single market that can retain global competitiveness in the face of an ageing population and shrinking workforce is viewed as a critical concern by the Commission (European Commission, 2021e). The precept of 'ageing as a resource', is a

novel view that emerges strongly in the latter part of the dataset. It is underpinned by a narrative that increasingly perceives the potential austerity of increased retirement ceilings and prolonged involvement in the employment and voluntary sectors as being offset by reforms of social inclusion through person-centred digitalisation that will radically change the normative experience of old age (European Commission, 2020d). The Commission seeks to utilise this narrative to redouble efforts to reform normative precepts of older age and, instead, promote a view of people in later life as being representative of a significant and widely untapped social and economic resource (Wodak & Meyer, 2016). This node speaks strongly to the discourse of 'social inclusion', underpinned by human rights, as it invokes a view of enhanced communal interactionism for older adults through continued participation in the employment and voluntary sectors, aided and facilitated by accessible and inclusive digitalisation (Fairclough, 1995).

The fifth hierarchical node of the 'digital divide' is driven by the discourse of 'critical realism' (Gunn, 1989). Similarly to the first node on 'Ageing as a Challenge', it entails a lucid appraisal of the difficulties facing the Commission in remediating ageist and discriminatory digitalisation trends driven by youth-oriented digital economies and unregulated proliferation of inaccessible technologies and services that have often disempowered millions of older people in the EU through an arguably coercive model of emergence (European Commission, 2020d). The discourse of the digital divide is concerned with identifying challenges and, in effect, listing them and appraising the scale of their impact. Among these concerns is the projected increase in reliance on caregivers in the absence of accessible digital technologies in the care environment, precluding independent living for many older adults (European Commission, 2018b). Undoing ageist narratives and stereotypes and overcoming market recalcitrance towards universal design and the manufacture of universally accessible technologies and services also comprises an aspect of

this node (European Commission, 2019). Additionally, it speaks to elements of the second node on 'social inclusion' and incorporates aspects of the 'agents of change' discourses through the listing of clear and present challenges that face the Commission, but with a solution-oriented approach in the linguistic framing of these difficulties (Wodak & Meyer, 2016).

5.4.2 Effective Democratic Social-Interactionism and Transmission of Discourse in Commission Bureaucracy

The discourses and themes within the data-sample are nuanced and multilayered. After synthesising the literature and appraising the themes therein, it is evident that the Commission is lucidly clear about the challenges and opportunities that are facing it with respect to the institution of inclusive digitalisation and ageing frameworks (European Commission, 2021). The Commission data-sample is informed by comprehensive stakeholder engagement that provides a clear vision of the inhibitory barriers and experiences faced by older people in the context of the digital divide (European Commission, 2020). Indeed, the digital divide emerges in various contexts within the literature corpus. Further, this dataset reflects the efficacy of the bureaucratic processes of the Commission in the gathering of data and accordant feedback from the grassroots level of society, lending substantial credibility to the human rights-oriented approach it espouses (European Commission, 2021). At a summative level, the discourses and thematic perspectives reflected in the literature arguably bolster the validity and reliability of the democratic civic engagement processes of the Commission in the creation of legislation and policy that protects the interests of the individual (European Commission, 2018). This builds upon the dimension of discourse practice by considering how stakeholder interaction, and bureaucratic procedures, influence the production and circulation of discursive meaning (Wodak & Meyer; Fairclough, 2010).

With respect to Fairclough's framework, the lexical framing of rights, barriers and inclusion are interpreted through these discourse practices and at the sociocultural level, as they provide an insight into the weighing and consideration by institutional Commission policy of human rights, stakeholder engagement, as well as digital, economic and demographic imperatives.

This finding may allay some of the criticisms pertaining to adequate stakeholder engagement and transparency within Commission policymaking processes, particularly in the often highly dubious and sensitive fields of digitalisation and ageing, but it does not obfuscate the need for effective democratic oversight mechanisms in the relationship it has with civil society and affected parties (European Ombudsman, 2023). Rather, this study considers the above to reflect a system that, upon scrutiny of empirical evidence, appears to be working well at present and is actively responding at the strategic level, albeit slowly, to developments as they occur at the ground and grassroots stratum. The Commission, as the EU Institution with the solely invested power of legislative initiative (Ponzano et al., 2012), is pursuing this agenda and responsibility in a manner that is visibly informed by real-world events and stakeholder engagements at the ground level (Treaty on European Union, 2012, Article 17). The literature corpus strongly reflects this, and it shows how the Commission has adjusted its policy and strategic priorities over the course of a decadal timeframe between 2012 and 2022 to remain in synchrony with global events and developments. It also uncovers the desire of the Commission to be a world leader in this field with flagship aspirations for inclusive ageing and digitalisation initiatives rooted in international human rights law and policy (United Nations, 2006).

5.4.3 Human Rights, Inclusivity and Productivism: A Novel Trifecta Policy Agenda for Older Adults in a Digitalising EU?

The incumbent EU Commission President, Ursula Von Der Leyen, declared in 2021 that:

> As we overcome the pandemic, as we prepare necessary reforms and as we speed up the twin green and digital transitions, I believe it is time to also adapt the social rulebook. A rulebook which ensures solidarity between generations. A rulebook that rewards entrepreneurs who take care of their employees. Which focuses on jobs and opens up opportunities. Which puts skills, innovation and social protection on an equal footing (Von Der Leyen, 2021).

This arguably infers the advancement of the EPSR and the CFR within inclusive digitalisation policies that extend their provisions to older people and persons with disabilities. Ensuring equitable access to affordable digital technologies and services that incorporate broader accessibility and universal design standards is essential to the realisation of this objective (European Commission, 2021). Frezzo (2011) explains 'human rights' and 'rights discourse' in the following terms:

> By definition, human rights are a set of protections and entitlements held by all members of the human species irrespective of race, class, gender, sexual orientation, cultural background, or national origin. If membership in the human community is the only precondition for human rights, then the same protections and entitlements should be available across the global system. In appealing to universalism—the regulative idea that all humans have the same fundamental needs, deserts, and aspirations—rights discourse stresses the importance of eliminating inequalities not only within nation-states, but also between them.

As mentioned previously, Article 25 of the CFR on ‘The rights of the elderly’ is enshrined into European Union Law (European Union, 2000, consolidated in 2012, Art. 25). Furthermore, “The Union recognises and respects the rights of the elderly to lead a life of dignity and independence and to participate in social and cultural life” (Ibid.). Article 26 of the CFR covers the ‘Integration of persons with disabilities’, saying that, “The Union recognises and respects the right of persons with disabilities to benefit from measures designed to ensure their independence, social and occupational integration and participation in the life of the community”. It is noteworthy that the wording of the two articles, which frequently encompass demographics that intersect both provisions with respect to older adults who may suffer from a disability, is contradistinctive. Article 25 CFR does not legally enshrine the same principle of a ‘right to occupational integration or participation in the life of the community’ for older people in the same manner that Article 26 CFR does for people with disabilities (Ibid.). In this sense younger people with disabilities can receive greater attention than older adults in Commission policymaking to empower them to engage in society and participate in work and civic life. As such, intersectional discrimination along the lines of age and ability can flourish amidst inconsistencies in law and policy, and digitalisation can compound these inequities in the absence of remedial measures to prevent such outcomes (Mladenov, 2016).

Further, this appears to be contraindicative of the advertised direction of Commission policies designed to meet the needs of an ageing and digitalising society. The Green Paper on Ageing, adopted in 2021, expresses the desire for increased entrepreneurship among older people, as well as more accessible ICT devices and services for personal, professional and health-related utility, and further opportunities for an older workforce (European Commission, 2021). There is, discernibly, a desire within this strategic vision for an ageing demography that can actively contribute to society, including as part of the workforce, and

work in professional employment and voluntary capacities. Moreover, it reflects broader concerns within the Commission about the maintenance of sustainable economics amidst a steadily shrinking EU workforce and simultaneous growth in numbers of retirees. Concerns regarding the sustainability of pension systems are partly reflected in these considerations (European Commission, 2020).

Over the past decade, noteworthy progress has been made in promoting accessibility in digital devices and services for people with disabilities in the EU. The number of people with disabilities has increased along with the overall population of older adults aged 65 and over (Eurostat, 2023). However, despite the high incidence of intersectionality between old age and disability (Yeung & Breheny, 2022), efforts to promote digital inclusivity in employment and social life has been punctuated by youth-oriented policies and ageist precepts (Foster & Walker, 2015). Despite the apparent need for greater inclusivity of older adults in a shrinking EU workforce, there appears to be a preference at the strategic level within the Commission that, to date, has focussed more on leveraging the power of digitalisation to effect robust employment-oriented policies that are focussed on people with disabilities as well as younger age groups (European Commission, 2021).

Indeed, an emphasis on the potential of a silver economy and the harnessing of digitalisation to promote greater employment opportunities for older adults is a relatively novel policy ambition within Commission digitalisation and ageing policies (European Commission, 2015). Efforts by the Commission to foster disability inclusivity in digitalisation has arguably progressed several steps ahead of active ageing policies in the EU. The Accessibility Act provides significant legal agency to EU legislators, the Parliament and Council, to implement Articles 19 and 29 of the CRPD, by underscoring respectively the lawful bases for, ‘Living Independently and Being Included in the Community’ and ‘Participation in Public and Political Life’ (European Union, 2019). Moreover, it also

provides for the further implementation of CRPD Article 24 on 'the Right of Persons with Disabilities to Education'. Directive 2019/882 supplements the Commission's SRPD 2021 – 2030 and it aims to "improve the functioning of the internal market for accessible products and services…" (Ibid.). However, the achievement of these policy milestones towards greater inclusion of people with disabilities has not been as harmoniously extended to older adults with the same rigour or public prominence. In addition, the prominent discourses of human rights and the social market economy may not be as all-encompassing within Commission active ageing, digitalisation and disability policies, with the real drivers of institutional policy and vested stakeholder narratives likely being complex, nuanced and, perhaps, even contradictory (Mosco, 2009). The discursive strands identified in the data analysis reveal how Commission policy enmeshes distinct orders of discourse, such as social inclusion, market/productivism, and rights-based narratives, in single texts and strategies (Fairclough, 2003). In this sense, the analysis is firmly grounded in Fairclough's Three-Dimensional Framework as textual features such as rights-based or productivist language is identified and, at the discourse practice level, these individual strands are proven to be intertwined throughout the dataset while, in the domain of sociocultural practice, they uncover a tense dynamic between human rights, economic and inclusivity demands in the ageing and digitalisation agenda of the Commission.

5.4.4 Driving Discourses and Bureaucratic Machinery

The human rights-oriented motto 'unity in diversity', was adopted by the EU in 2000 to convey to the world, and to EU citizens, the ethos of inclusion and the celebration of cultural, linguistic and traditional distinctions as a core mission of the union (European Union, n.d.; European Parliament, 2007). Since then, however, older adults and people with disabilities have often been omitted from the socio-cognitive precepts of what constitutes a

diverse and inclusive society. Gradually, the narrative of inclusivity has been bolstered by significant inward migration into the EU and through the gradual extension of greater rights and freedoms to people with disabilities as a result of strong EU leadership in international disability law and policy (Degener, 2016).

The ageing demographical trends of many EU Member States has given rise to a view of the EU as a multilateral entity that espouses the values of a robust social market economy that protects the rights and civil liberties of those who reside within the boundaries of the union. This economic model differs slightly from the principles of a free market, as the EU is arguably showing a stronger inclination over time to utilise regulatory controls to advance equality and employment opportunities for people with disabilities, with older people traditionally receiving markedly less attention to this end. The EU wishes to preserve and reinforce the social safety net for those who are marginalised and vulnerable. Graafland and Verbruggen (2022) note that, "Finally, proponents of free-market economics espouse that in their preferred market form, there is simply no safety net, except at a base minimum, and income redistribution policies" (p.95).

The fundamental principles of the social market economy in the EU embraced migration as an economic counterweight to an ageing population and the resultant dynamics of a shrinking workforce in relation to the number of retirees (Warner et al., 2025). The increase in average life expectancy in the EU has not necessarily correlated with improvements in quality of life and, despite the themes of a social market economy that provides a structured welfare state for those who cannot work, there have been signs of a growing institutional recalcitrance to some of the effects of the continuing trends towards longevity extension and overall numbers of older adults in the EU. Indeed, the Commission is mindful to balance fiscal concerns and market competition from the political economy perspective whilst trying to mitigate the erosion of the welfare state. Mosco (2009) explains,

"Offering a conceptual point of view, a dictionary of economic terms tells us that "Political Economy is the science of wealth", and deals with efforts made by man [sic.] to supply wants and desires" (p. 25; Eatwell et al., 1987).

The Commission has developed closer stakeholder engagement mechanisms with the private sector and grassroots organisations representing affected parties with respect to proposed policy and legislation. For the Commission:

> Civil society, private sector and other stakeholder engagement is one of the key strands of the "whole of government approach" to implementing the SDGs by the Commission. Both are an important part for a holistic strategy towards reaching the goals (European Commission, 2023).

Further, "Stakeholder engagement by the European Commission Under Article 11 (3) of the TEU, the European Commission is required to conduct broad consultations with parties concerned in order to ensure that the EU legislation is coherent and transparent" (Ibid.). This process, however, has arguably been subject to ageist permutations (Emmesjö, 2025; Foster & Walker, 2015). In this sense, the analysis establishes a link between lexical choices and the institutional order of discourses through which policy and bureaucratic agency is exercised and legitimated (Fairclough, 2015). The textual markers such as 'dependency' arguably point to underlying precepts embedded in policy (European Commission, 2020c), and the discourse practice tier of Fairclough's model is assertedly evident through the ways in which bureaucratic narratives and consultation mechanisms can influence such framings (Fairclough, 2015).

People with disabilities, particularly younger adults and those who are in education in a pre-employment stage in their lives, have received discernibly greater attention from the Commission in stakeholder engagement processes, and in subsequent policy, than older adults. This is especially the case, since there are nascent efforts, as evidenced in

Commission proposals, to expand the number of younger employees through the introduction of accessible digital technologies and by encouraging employers to adapt to reasonable accommodations, whilst older people have traditionally been omitted from the opportunity to be a part of stakeholder engagement dialogues and processes (Ibid.). NGOs and civil society in the EU have been attempting to raise awareness of the discriminatory structures and barriers faced by older people in a digitalising society, highlighting rife ageism in employment, institutional civic policy and in wider societal precepts of old age (European Commission, 2021).

Notably however, the EurLex dataset pointedly reveals that inequalities experienced by older people have received significantly improved levels of attention from the Commission in the wake of the Covid-19 pandemic. NGOs have echoed this development, citing the pandemic as an event which shone the spotlight on the ageist barriers and wardship practices that are still commonly faced by older adults (Age Platform Europe, 2020; European Commission, 2020). The relative position of civil society asserts that policies to promote accessibility at an EU level for people with disabilities have been in place for some time now. It contends that, whilst comprising a work in progress, the same initiatives have largely not applied to older adults, whose ageist disempowerment in modern digital society has been treated as inevitable and unavoidable (Frezzo, 2011; Mladenov, 2015; Hill et al., 2015).

In this sense, the lobbying of the Commission by civil society to reform ageist and exclusionary barriers faced by older people, arguably reveals aspects of traditionally embedded political economy and free market perspectives towards ageing populations in the EurLex data-sample that predates the pandemic (Graafland, 2021). For example, the Commission has made use of terms such as ‘old age dependency’ to describe the ratio of older adults in comparison to the number of economically active persons within the

workforce (European Commission, 2020c). To this end, the dataset reflects that overarching concerns over pension systems maturation, labour market growth, and sustainable economics, tend to dominate as prevailing discourses that drive wider socio-economic views of old age within the EU (Ibid.). This may lend an insight into the often-glacial pace at which human rights and modernist social discourses extend their beneficent currency to the older portion of the population (Foster & Walker, 2015; Peine & Neven, 2020). Particularly when reforms in disability law and policy for younger and more economically active age groups tend, in tangible practice, to supersede attempts to provide these benefits to those in later life.

5.4.5 Alterations in Discourse Over Space and Time: Adjusting to Real-World Events

This section provides an insight into the way in which the data analysis, as presented earlier in this chapter, drives the following interpretations. The thesis asserts that discourses of social market economy and modernist human rights values within the dataset are discernibly punctuated by aspects of ‘dirigisme’ or ‘market Interventionism’. Greenwald and Stiglitz (1993) encapsulate the fundamental elements of Keynesian economic theory of market interventionism by stating that the governing precept behind this doctrine is that it argues that markets are imperfect and that the state should remedy these deficiencies. Dirigisme, on the other hand, refers to far greater levels of deeper interventionism in market economies (Ibid.). Seidl and Schmitz (2023) explain, in reference to the contemporary nature of technological and social intertwinement within the context of European economy and industry that:

> The fear of falling behind has been a driving force of European integration. Historically, Europe’s response to the looming angst of declining competitiveness has – in the name of safeguarding Europe’s technological sovereignty – taken on a much

> more active role in directing economic activity towards sectors and technologies deemed geopolitically or geoeconomically important (p. 2147).

They argue that this is prompting dirigiste tendencies in this sector of the technological economy, which is also fundamentally tied to people and industry. When considered from a diachronic perspective, these changes are indicative of recontextualization processes where framings change and are shifted across contexts to adapt to evolving policy agendas over time (Wu et al., 2015).

The EurLex text corpus reflects a burgeoning inclination towards tentative and cautious approaches to market interventionism. Ostensibly, these interventions entail fiscal and legal dimensions; they are complemented by funding projects such as Horizon Europe, and the power of the Commission legislative process in creating the Accessibility Act 2019, whilst more recently utilising soft power mechanisms through an inclusive novel digitalisation agenda (European Commission, 2019; 2013). However, the true picture of Commission interventionism in the social market economy to promote an inclusive digital future is nuanced and multilayered. The EurLex dataset displays significantly heightened cognisance within the Commission of the need to leverage the power of the EU economy, legal instruments and single market, to foster an inclusive digital transition. Spanning the years 2012 to 2022, it also shows that the use of language advocating transformative processes underpinned by market interventionism and human rights discourses, has occurred steadily over the course of this timeframe and is reflected in the thematic styling of the strategic initiatives set out in the documents. The text corpus reflects an expanding willingness within the Commission to wield soft power and work with civil society to encourage social change with respect to disability inclusion, reasonable accommodation, and access to digital technology (Wodak & Meyer, 2016).

The Commission has developed a record of utilising soft legal policy measures ahead of eventual moves to invoke legislative powers to enshrine new provisions in hard law. Among the significant policy initiatives brought into being by the Commission utilising soft law are the 2012 Year of Active Ageing, the EDS 2010 – 2020, the SRPD 2021 – 2030, and the Green Paper on Ageing, among other adjunct schemes (European Commission, 2021). These soft law policy initiatives recognise the social and economic necessity of fostering the inclusion of older adults and people with disabilities in society. However, they are also cognisant of the potential costs that surround the stimulation of the private sector with respect to the provision of care services and the production of digital technologies and services. There is a general sense in these documents that cost mitigation, alongside the power of persuasion to foment social change, underpins the current Commission approach to the proliferation and uptake of broader inclusivity and accessibility standards for older people in society. At this juncture, there appears to be a hesitancy to commit to utilising the significant financial power of the single market to embark on a stratagem of 'deep interventionism' in the care and technological sectors to promote universal design and to utilise latent technological potential to decentralise healthcare and facilitate the large-scale reduction of wardship models of accommodation for older people (European Union, 2019).

The passage into effect of the Accessibility Act comprised a significant milestone in leveraging the power of EU law to achieve greater inclusivity. This Directive intends to stimulate the availability and adoption of accessible digital devices and services by putting in place a common set of rules throughout the EU for the trade in, and sale of, these goods (Ibid.). Further, this measure is intended to facilitate a competitive market for digital technologies to ensure that they are cost effective and accessible for older people and persons with disabilities. This Act comes on the heels of the 2016 WAD which applies to public sector organisations in EU Member States and aims to promote their accessibility for older

people and persons with disabilities (European Union, 2016). Both Directives are significant as they symbolise an increasing willingness by the Commission to utilise hard law to effectively implement policies of societal change, whilst arguably incorporating elements of dirigisme or market interventionism to enhance the social market economy by making it more accessible for older people. The Accessibility Act, which came into full effect in June 2025, represents a noteworthy milestone in the promotion of e-accessibility and direct action on the part of the Commission to mitigate the effects of the digital divide that has yielded alarming levels of widening discrimination along ageist and ableist lines over the past 20 years (European Disability Forum, 2023).

By gradually restructuring the rules of the single market through novel laws and policies to promote digital accessibility and inclusivity, the Commission is assertedly displaying a growing awareness that an institutional-level stratagem of modernism and person-centredness in civic administration policy may serve as an appropriate solution to the practical needs of an ageing and digitalising EU. Although the passage of laws such as the Accessibility Act does not necessarily equate to a market interventionist stimulus through financial means, the strategic effect yielded in this approach by the Commission through an amalgam of soft and hard law may actually bring about the desired change through the establishment of long-term and sustainable conditions for the creation of accessible digital goods and services (Graafland & Verbruggen, 2022). This may break the cycle of bureaucratic market stagnancy in digital health technologies that has arguably stifled innovation in this sector over many years.

Legislative adjustments by the Commission preceding any potential direct fiscal market intervention arguably reinforces the legal efficacy of the EU fundamentals of accessibility, such as the ‘Design for All’ concept, a long-held EU vision for accessible designs in built environments and public spaces as well as digital technologies and services

(European Commission, 2023). According to the Commission, “Design for All is design for human diversity, social inclusion and equality. This holistic and innovative approach constitutes a creative and ethical challenge for all planners, designers, entrepreneurs, administrators and political leaders” (European Commission, 2010, p. 2). This has contributed to the development of European Standards for Digital Accessibility which specifies the requirements for digital technologies to be accessible for older users and people with disabilities, and it also covers mobile and web applications (European Telecommunications Standards Institute, n.d.). As such, the Commission approach of using soft law through policy and coordination with civil society, and by means of engagement with affected parties as stakeholders in the drafting and proposal of novel protocols, may yet experience significant credible reinforcement with the prospect of the eventual passage of future Directives to cement established administrative guidelines (European Commission, 2022; Peine & Neven, 2020).

In this way, the private healthcare and technological sector may be encouraged to perceive and abide by the soft law and policy bureaucracy of the Commission with greater earnestness as it is likely that those same protocols will transmute into EU Directives in due course, even if there is a significant moratorium on this eventuality (European Commission, 2022). This approach arguably reflects the desire on the part of the Commission to manage the transition of the legal and functional policy bureaucracy of the single market over time to accommodate the production of inclusive technological goods that incorporate high accessibility standards (European Telecommunications Standards Institute, n.d.). Aspects of human rights, modernist, political economy and interventionist discourses of dirigisme behind these Commission policies are also discernibly influenced to a significant extent by narratives of ‘critical realism’ and ‘productivism’ (Gunn, 1989; Mladenov, 2016). Mladenov (2015) explains that productivism effectively, “becomes a standard-bearer of moral meaning

– it defines whether or not individuals feel worthwhile and socially valued" (p. 175; Giddens, 1994). Mladenov also expresses that, "At the same time – productivism is more than an ethos – it is a mechanism which, besides the cultural element of moral-psychological compulsion to work, is also constituted by material coercion to work" (p. 175). However, the Commission is arguably attempting to soften this aspect of a productivist impulsion through the reinforcement of welfare structures with elements of a human rights-oriented inclination.

The critical realist approach to philosophical reflection and social investigation is geared towards a critique that aspires social change. As Eslava (2019) explains that, in its relationship with Marxism, critical realism:

> (…) is critical because, rightly, it refuses to take appearances at their face value (…), it is realist because it believes that the 'structures' and 'mechanisms' which it regards as generating appearances exist not merely as theoretical constructs but objectively, and in practice, as well. From this understanding, critical realism makes the relation between structure and agency central to social analysis and action. The point here is to clarify the terms and conditions of how to assess and possibly change complex social realities, which are always historically constituted and multi-layered (Gunn, 1989; Eslava, 2019, p. 370).

To this end, the Commission is lucidly appraising the fundamental realities associated with the challenges posed by ageing and digitalisation.

The EurLex dataset reveals that these discourses, as prominent drivers of strategic initiatives, reflect recognition by the Commission of the critical necessity of offsetting the effects of a shrinking workforce and ageing population by harnessing digital technologies and literacy to enhance the silver economy (European Commission, 2018). The dataset also stresses the need for the utility of the latent potential of digital technology to mitigate the

pressing requirement for a much larger and more expensive healthcare system and extensive care workforce in the coming years (European Commission, 2015).

In this respect, there is a clear enmeshment of discourses within the text corpus. The discourses of human rights, modernism, critical realism, political economy, social market economy and dirigisme, though featuring as prominent themes within the text corpus, are evident in their own right, but they also share intricate relationships and substantial thematic interplay with one another. These six prominent institutional discourses present themselves as the primary drivers of Commission policy with respect to digitalisation and ageing protocols that also overlap pronouncedly with healthcare reforms and disability inclusion strategies. It is imperative to 'look-past' the dominant themes and to understand the multilayered narratives within each discursive strand in the dataset. Understanding the sub-narratives that, together, can underpin the pillars of prominent policy discourses, is critical for the purpose of reverse-engineering the complex multiplicity of core considerations and proverbial 'moving parts' that inform the language and thematic posture of the institutional protocols of the Commission with respect to ageing and digitalisation. When considered in a diachronic sense, Fairclough's sociocultural practice tier is actualised in the analysis of the dataset (Fairclough, 2015), revealing how discursive changes are interpreted with respect to broader economic, demographic, digital and political transformations; thus demonstrating how lexical choices and institutional practices adapt to meet and reflect the evolving fiscal, social and technological landscape of an ageing population in the EU.

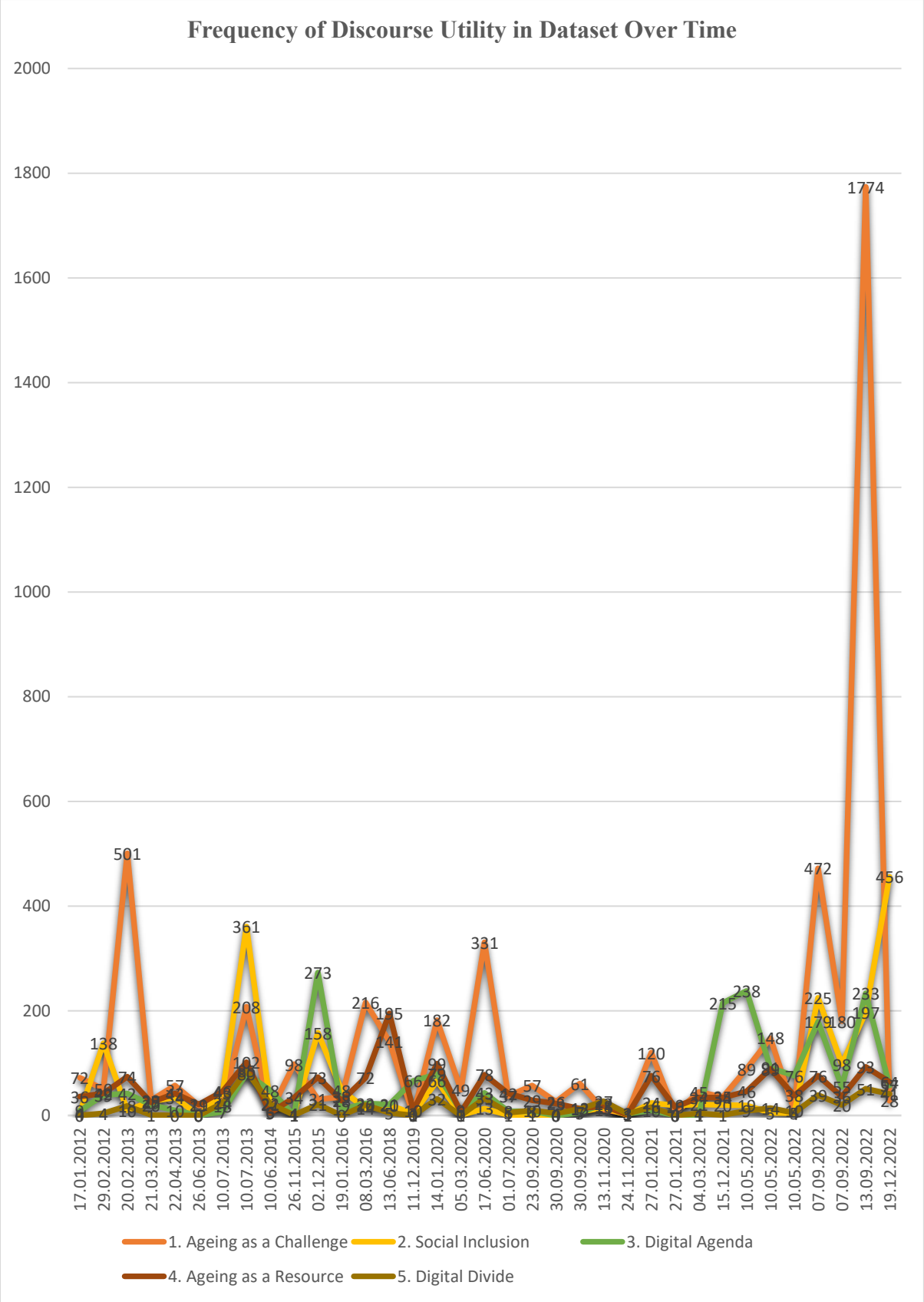

Table (5.) Line chart displaying the respective prevalence of each discourse node over time

5.5 Summary

In summary, the five node hierarchies, including their codes, entail primary driving discourses and narratives that frame and deconstruct precepts of ageing population trends and a rapidly digitalising society from various thematic angles. Critically however, this thesis finds that these angles are not juxtaposed to one another, and they do not offer an insight into the existence of, or indeed identify, any pronounced contradiction in the policy agendas of the Commission (European Commission, 2021e). Rather, they share a cohesive purpose of investigating the challenges posed by ageing and digitalisation from different discursive and thematic aspects that are reflective of a multisectoral approach to the tackling of large-scale strategic hindrances that are nuanced and multidimensional in nature (Wodak & Meyer, 2016). Overall, the narratives and discourses share empirical and logical interplay with one another, but with a sweeping trajectory that allots the greatest emphatic strength to the themes of human rights, productivism, social inclusion and political economy. The dataset does reflect the growth and evolution of a nascent strategic shift over the timeframe encompassing 2012 to 2022 towards the addressment of ageist digitalisation processes, and a growing willingness to use digital technologies to reinforce the human rights and independence of older people (European Commission, 2020d).

The discourses discerned from the text corpus are neither truly distinct nor monolithic in their aspect. Instead, they are interwoven with one another, and they share many points of convergence, interdiscursivity and overlap (Fabricio & Moita Lopez, 2020). One example of this is the digital divide, which is tied to discourses of human rights, equality, political economy and productivity (Fairclough, 1995). The economic and productivist perspective on digitalisation and ageing arguably conveys a policy precept which, assertedly, perceives older people who lack to access digital resources and skills, as being unable to perform the role of a contributory and productive member of society (Mladenov, 2016). Thus, the digital divide,

embedded as a theme within the literature, appears in a variety of ways and formats within the dataset.

However, effective civic engagement mechanisms and strategic adjustments in policymaking informed by grassroots level bodies, stakeholders and individuals, wield an arguably tenuous, but gradually flourishing role in the instructive lobbying of protocols developed by the Commission (European Commission, 2021b). This is helping to ensure that democratic social interactionism through the transmission of discourse from the ground level to the strategic domains of institutional policy is being pursued by the Commission with increasing vigour. The language of Commission policy suggests a significant desire to crystalise these engagement mechanisms, strengthening them to ensure that ageing and digitalisation laws and protocols are informed by those whose interests are at stake (Age Platform Europe, 2020). The dataset reveals that this process has been lethargic in previous years but that it has acquired some apparent vigour as of the 2020s, arguably due to the recent pandemic, as well as the progressively shifting sands of the demographic and techno-social environment in the EU (Zanchetta et al., 2022). Ultimately, the relationship between the discourses extrapolated in this chapter reveal a nascent but discernible influence of the principles of the social market economy as the constitutional objective pursued by the Commission, particularly in the latter portion of the dataset (Graafland & Verbruggen, 2022). Thus, this chapter asserts that the Commission is moving forward, albeit slowly, by imbuing the discourse of policy on older age and digitalisation with the values of the social market economy through a greater intertwinement of human rights narratives into themes of ageing as a resource, productivism, tackling the digital divide, and promoting social inclusion in the Digital Agenda for Europe (Ibid.).

The Covid-19 pandemic arguably expedited this impetus, as reflected within the dataset. There are some uncertainties that remain, such as the extent to which older adults

may benefit from digital technology in a productivist society where some are engaging with work and the voluntary sector, whilst others are not. It is foreseeable that this may create a two-tiered structure to old age in a digital society that is strongly underpinned by productivism, where the less engaged may still experience discrimination, particularly when the success of a welfare model is likely to be increasingly dependent upon the continued socio-economic engagement of older people (Foster & Walker, 2015). Achieving the balance between inclusive human rights, productivism and digital inclusion in society for older people may be challenging, as the necessity of continuous labour-force engagement to sustain the welfare structures of the social market economy might, if mismanaged, eventually manifest itself as a form of economic austerity in old age that is accompanied by increasing socio-economic compulsions to participate in work and the voluntary sector in place of retirement. Mladenov (2015) provides a warning of this danger, "in a productivist society, those who are considered unable to work get culturally devalued (stigmatised)" (p. 4).

This thesis emphasises the critical necessity of comprehending how discourses embodied within Commission policy in reference to ageing and digitalisation, published with increasing frequency over time and subject to linguistic aspirational buttressing whilst receiving tangible reinforcement through legal and policy mechanisms (Fairclough, 1995; Chouliaraki & Fairclough, 1999), are informing sectoral discursive narratives on older adults and digital technology within the care and private sectors. Fairclough's Three-Dimensional Framework is operationalised in this chapter (Fairclough, 2015); the textual analysis tier identified the linguistic framing of older people and digitalisation in Commission policy, while the discourse practice level revealed the circulation of these depictions through bureaucratic processes in policy and in interactions with stakeholders, and sociocultural practice explored their resultant linkage with wider socio-economic, digital and demographic transformations in the EU.

To this end, the Commission is displaying an increasing willingness to pull tightly on the proverbial reigns of the horse and steer the single market towards the policy vision underpinned by the discourses discussed in this chapter (Graafland & Verbruggen, 2022; European Commission, 2021). How these measures are received and complied with by the care sector and, indeed, by older adults themselves, and the way this ultimately impacts the relationship between persons in later life and digital technologies, is of great importance to deduce and comprehend. The Chapters 6 and 7 attempt to acquire an insight into the discourses that are transmitted within these sectors and to discern the extent to which they are informed by the policy narratives of the Commission.

Chapter 6: Analysing the Discourses of the Datasets Retrieved from the ProQuest ASSIA Database

6.1 Introduction

This chapter explores the opinions and experiences of care sector workers in the employment of digital technologies in the care environment for the delivery of healthcare services to older people. It investigates and discusses literature represented within the ProQuest ASSIA database which specifically relates to the perspectives of carers on the relationship between older adults and digital technology and synthesises the text corpus in accordance with the research methodology outlined in Chapter 4 (Wanka & Gallistl, 2021). The process of coding the data was undertaken with cognisance of the key discourses discerned from the EurLex text corpus, as well as the prolific public-facing position of the Commission towards older adults and digitalisation. The extent to which Commission policy discourse informs caregiver opinions on the role of digital technologies in the care environment and in the lives of older adults in general is discussed in-depth.

The chapter begins with a discussion on the place of caregivers in contemporary society and emphasises the important social locus they occupy and their subsequent role through interactionism with patients and explores the according aspects of discourse creation and transmission in this regard. This facilitates the CDA approach in the process of assessing the translation of Commission policy into tangible effect at the grassroots level, in a top-down fashion, from the strategic to the tactical domains of institutional agency and social interactionism (Skär & Söderberg, 2018). Conversely, it also lends an insight into the processes behind bottom-up flows of information, by way of discourse transmission, regarding the experiences and perspectives of caregivers. As previously mentioned, Fairclough's model of CDA, with some references to aspects of Van Dijk's socio-cognitive

approach, provides the optimal methodological framework for capturing ebbs and flows of discourse transmission in an institutional setting. Indeed, it can provide an insight into the extent to which caregiver considerations are taken into account by institutional authority, helping to shape Commission policy in a strategically reactive manner to an evolving contextual dynamic of care delivery at the patient-facing level.

The primary discourses identified in the literature corpus are catalogued in the same format as articulated in the analysis of the EurLex database in Chapter 5; their underpinning thematic discursive narratives are then discussed to identify interwoven patterns of driving motifs that illustrate caregiver views on the digitalisation of the care environment of older people (Boots et al., 2021). By considering and synthesising the elements that shape caregiver appraisals of digital technology for older people, this thesis acquires an original perspective on the way in which the thematic discourses of care workers, as represented in research literature, and the institutional agency of Commission policy, interact with one another through dynamics of top-down and bottom-up transmissions of discursive themes and flows of narratives. To this end, the acquisition of a novel perspective on discourse transmission between caregivers and the institutional agency of the Commission renders possible the determination and highlighting of areas of convergence and divergence in the discursive narratives of EU policy and the professional experiences of caregivers at the ground level (Woolham et al., 2017).

Additionally, this chapter includes a discussion and evaluation of alterations in caregiver discourses over space and time within the context of the chronological coverage of the dataset. Through this process, it is possible to highlight noteworthy changes in caregiver discourses over a timeframe during which digital technologies have made their presence increasingly felt in every aspect of modern life (Boots et al., 2021). As such, it is important to identify the areas where significant alterations in caregiver perspectives on digitalisation and

ageing during this timeframe yield thematic discourses that profoundly resonate within the context of Commission policy, or in a general sense, with regard to the delivery of care for older people in the digital environment (Ibid.). Caregiver attitudes in this domain are evaluated and discussed, and prominent discourses are identified along with key focal points of thematic interplay and interdiscursivity between the dominant narratives (Fabricio & Moita Lopez, 2020). This provides a unique insight into the interactionism between the mechanisms of policy, and methods of tangible implementation by caregivers at the ground level, in a dynamic environment amidst the disruptive circumstances of expeditious digitalisation and demographic ageing (Woolham et al., 2017; Wanka & Gallistl, 2021). To this end, Fairclough's Three-Dimensional Framework is applied (Fairclough, 2003; Wodak & Meyer, 2016), starting with the textual analysis of care sector portrayals of older adults and digital technologies. The subsequent production and circulation of these discourses is also considered, before contextualising them within wider contemporary discourses on ageing and digital technology. Through this approach, Fairclough's model is operationalised through the scrutiny of lexical portrayals and caregiver narratives (Fairclough, 2003), while discourse practice is explored to examine the circulation of discourses, and the sociocultural practice tier is also assessed with regard to the interactions of these narratives with digital, demographic and economic transformations in the EU.

6.2 Care Sector Views on Digital Technology for Older People: Implications for Tactical and Strategic Decision-Making

The recent Covid-19 pandemic shone a spotlight on the difficulties faced by healthcare workers and both formal and informal caregivers. The term 'frontline workers' appeared in the headlines, conjuring a perception of these vocational, and sometimes voluntary, members of the healthcare sector as being analogous to a foot-soldier in a military

organisation (Billings et al., 2021), representing the proverbial ‘boots on the ground’, where the action is, at the ‘tactical level’. This analogy is useful for comprehending a broad realisation that formal and informal workers in healthcare and caregiving capacities comprise a tool or ‘army’ of sorts (Zhou et al., 2025). Carers, as a force of utterly critical importance, are the final point from which in-person service is delivered from a large and complex system governed by an amalgam of policy and regulations transmuted through institutions and, finally, the corporeal caregiver themselves via their professional social interactionism (Beach et al., 2022). To expound upon the useful example of a military organisation comparison, the legal rules and policy architectures governing healthcare workers can be compared to martial ‘rules of engagement’, which define the appropriate approach to their work and establish a lawful framework for the delivery of services.

In assessing the relations between government policy, healthcare services, localised institutional practices and quintessential frontline workers, one can aptly ascribe the levels of grand strategic (Allen et al., 2012), strategic, operational and tactical levels of agency to each of these respective bodies. The grand strategic level refers to the amalgam of national or international levels of socio-economic and political intent through government decision-making processes to transform discourses of will and motivation into policy and institutional agency (Smith, 2011). The strategic level refers to the application of these combined resources towards the achievement of a tangible policy objective (Kolade et al., 2024; Huebner & Flessa, 2022). The tactical level refers to the environs in which healthcare workers employ their skills, interact with patients, adapt their approach to work to harmonise professional conduct with novel developments in law and policy for the implementation of best practice, and pursue continuous professional development (Allen et al., 2012). Further to this, these complex domains are all fused together, and they experience reciprocal

interactionism with one another through the trickle down of discourses from law and policy at the grand strategic level downwards to the individual frontline worker.

Conversely, as inferred by Sadler and McKevitt (2013), the frontline caregiver, being at the grassroots level, garners experience that can inform policy if tapped into and provided with adequate medium for the projection of experiential discourse reflecting the years of professional practice of individual workers with patient-facing expertise. This two-lane flow of discourse transmission and institutional interactionism with groundswell engagements between healthcare workers (Wanka et al., 2023), patients and, increasingly, the industry of digital health technologies, has developed slowly over the course of the 2010s and early 2020s thanks to the cautious approach of the Commission toward the embracement of the digitalisation of care. However, a circumspective approach can conceivably translate as one that is slow and, potentially, remaining in a primarily gestational phase for an extended period of time.

As such, the experiences of healthcare professionals, and informal caregivers, in the formative years of trialling the employment of digital technologies and services within the care environment, are of critical importance for informing best practice in policy and law-making. The social interactionism and exchange of discourses at the grassroots level by carers and patients represent an important channel of discursive communications that (Shi et al., 2025), in their own right, should inform regulatory and policy-making initiatives at an institutional level, and in the grand strategic domain of the Commission. Understanding the experiences of healthcare workers and informal caregivers who operate and work ‘where the rubber meets the road’, is indispensable in formulating novel policy frameworks that can integrate person-centred technologies whilst retaining synergetic dynamism and flexibility to adapt to new challenges and modes of better practice as appropriate (Cylus et al., 2019; Wanka et al., 2023). Indeed, lexical framings in the literature corpus may position older

adults as capable users or dependent subjects which can, in turn, shape how problems and solutions are depicted and constructed (Fairclough, 2003; Reisigl & Wodak, 2009). At the discourse practice level, such textual framings are reflective of how caregiver narratives are mediated through scholarly publications and professional process, whereas at the sociocultural practice level they may resonate with broader policy debates on digitalisation, rights, productivity and welfare in the EU.

To this end, the reduction and coding of the dataset extracted from the ProQuest ASSIA dataset is designed to shed light on the experiences and opinions of healthcare professionals in the introduction, utility, and integration of digital technologies in the care environment. The identification of prominent discourses from the perspectives of healthcare professionals and caregivers comprises a key prerequisite for identifying the most compelling and challenging aspects of digital integration in the care sector that require urgent attention from practical (Xiong et al., 2022), legal and policy standpoints. Moreover, understanding the discourses and concerns promulgated through the social interactionism between frontline healthcare workers, formal and informal caregivers and older adults (Ibid.), can facilitate the identification of deficiencies and deficits in current law and policy.

6.3 Dataset and Method of Analysis

6.3.1 Overview of Care Sector Approach to Digital Technology and Older Adults – Driving Discourses

Understanding the experiences, observations and concerns of caregivers regarding the digitalisation of the healthcare sector and care environments is critically important (Ibid.; Merchán-Baeza et al., 2023). Reflecting upon the analogy of grand strategic and tactical domains of institutional agency driving the delivery of healthcare in the EU (Allen et al., 2012), it is apparent that the Commission has begun to take certain limited measures to

enhance caregiver involvement in the digitalisation of health services and the care environment (European Commission, 2019). This process can hopefully help to mitigate sources of strategic 'friction' between the grand strategy of Commission policy and law-making competences, and the transposition of protocols and legislation into tangible affect at the ground and grassroots level (Smith, 2018). Decision-making at the grand-strategic level in the EU, irrespective of the sector, is practically and invariably influenced by traditional social and economic constraints that are shaped by the extent of available means (Ricciardi et al., 2014), accompanied by attitudinal precepts pertaining to new societal phenomena. This is perceptible when analysing the cautious strategic legal and policy decisions of the Commission with respect to ageing and the digitalisation of care since 2012 (European Public Health Alliance, 2019). Whilst the Commission perspective on these changes has been thoroughly analysed in Chapter 5, the care sector perspectives on such transformations is nuanced and subject to a variety of considerations and influences that inform caregiver attitudes towards digitalisation in the provision of health services for older people. In an analytical sense, the grouping of codes into node hierarchies helps to trace interdiscursivity in the ways that care, inclusion, market, productivist and rights discourses interact within a scholarly genre, linking textual patterns and discursive practice in the process (Wodak & Meyer, 2015; Wodak, 2015). By progressing from textual analysis of caregiver perspectives and framings to discourse practices in the scholarly literature corpus and subsequently linking them to sociocultural approaches to ageing and digital technology in the EU, this process grounds itself firmly in Fairclough's framework (Fairclough, 1995; Chouliaraki & Fairclough, 1999).

Indeed, a collective appraisal of care sector perspectives on the digitalisation of healthcare services is a challenging phenomenon to quantify and interpret. Interestingly however, despite certain variables in the data sample (Roberts et al., 2015), there exists clear

evidence that irrespective of geographic location, some pronounced uniformity in socio-cognitive impressions pertaining to the digitalisation of care in the EU exists. To this end, an attitudinal standpoint regarding digital health technology reflects the 'Extitutional Theory of Discourse' and is discernible from the application of deductive reasoning, coding and CDA to the ProQuest ASSIA database. The Extitutional theory of discourse is expressed by De Filippi and Santolini (2023):

> Yet, while most of these frameworks do recognize the interplay that subsists between the structural elements and the cultural components of these social groups, they often assimilate both of these components into a monolithic framework of analysis–thereby limiting the opportunity to distinguish between the different logics that animate each of these components (p. 149).

This infers that a singular theoretical framework cannot adequately capture the complexity of particular social phenomena (Ibid.). As such, such a viewpoint towards digital health technology is broadly reflected among healthcare professionals, volunteers and the care sector at a local level throughout the EU. This precept attaches itself to the way in which carers and healthcare workers experience and perceive the digitalisation of the standard modus operandi in their work and in the environment of care provision for older people.

Simply put, the Extitutional theory of discourse expresses itself in the individual and collective experiences and precepts of carers and professionals, both individually, and within the healthcare sector at large, that digital technologies represent a novel, complex and uncharted phenomenon. This is cognate to the systems perspective of digital technologies in healthcare described by Stoumpos et al. (2023). Further, caregivers perceive digital technologies in their current form with a degree of apprehension and caution, particularly in the absence of their large-scale, smooth and effective transversal integration into healthcare services, as of yet. The literature corpus reveals a lucid clarity among caregivers and

healthcare professionals towards the potential for digital technologies to yield both positive effects (Roberts et al., 2015), as well as negative consequences for the care sector and for individual carers and patients, depending upon variables such as the manner of device utility and integration (Donnelly et al., 2018).

In essence, caregivers and healthcare professionals are awake to the fact that a smooth integration of digital technologies into health services to facilitate the wellbeing, autonomy and independence of the user, depend upon a significant multiplicity of determinants (Askari et al., 2020). These variables require adequate synergetic harmony for successful implementation of digitalisation to be achieved. Moreover, as an adjunct consideration to these viewpoints, healthcare workers and caregivers in the EU tend to project significant confidence that digital technologies, including robotics, will not eliminate the need for the corporeal human carer (Łukasik et al., 2020). Rather, caregivers and healthcare professionals believe that digital technology will transform the relationship dynamics and interactionism between the carer and the patient (Ibid.).

6.3.2 Reducing the Dataset: Operationalisation

This dataset was interpreted, reduced and operationalised through a systematic implementation of screening readings and thorough perusals in combination with deductive analysis in Fairclough's method of CDA, to identify and evaluate primary discourses alongside their constituent themes and subthemes. The dataset is distinct from the EurLex literature corpus as it comprises a series of recently published journal article publications whose contents are arguably more traditionally disposed to the implementation of CDA. The timespan recorded in the ProQuest ASSIA literature corpus is dated between 2015 and 2022. The date range was calibrated to encompass the years 2012 to 2022, but the documentary

sources dated between 2012 and 2014 fell outside of the remit of this investigation as they applied to non-EU Member States and, accordingly, were excluded from the thesis.

The methodological rationale for applying CDA to this dataset is partly influenced by the need to understand how individual attitudinal standpoints and opinions based on experiential learning and professional practice among caregivers is informed by developments in EU policy, and the advent of novel digital technologies. To this end, Öhlén and Friberg (2023) stress that:

> Since 1990 *phenomenological research* is included as a subject heading in the database *Cumulative Index to Nursing and Allied Health Literature* for "research designed to discover and understand the meaning of human life experiences." The majority of references indexed under this term appear after the millenium shift (p.1).

The capture and interpretation of care sector perspectives encompasses the scrutiny and determination of the role of institutional discourses and their interactions with the opinions and experiences of the corporeal individual at the forefront of caregiving and their subsequent views on sectoral change management activities. In this sense, it is possible to acquire an insight into the discourse practice domain of Fairclough's model with respect to these scholarly publications representing caregiver perspectives, as they shed a light on framings of ageing and digitalisation that circulate and gain legitimacy from a stakeholder standpoint, which influences and is influenced by, institutional discourses on the same (Fairclough, 1992; van Leeuwen, 2008). Moreover, when considering the tier of textual analysis in the lexical and thematic scrutiny of caregiver perspectives, alongside the domain of sociocultural practice by contextualising these views against the digitalisation and demographic ageing agendas of the Commission, the coding process operationalises Fairclough's methodology in a layered, rather than purely descriptive, sense (Fairclough, 2003; Wodak & Meyer).

This stratagem of CDA allows for a succinct analysis and portrayal of the effects of discourse on both ends of the policy-making process, from the grand-strategic level to the individual clinician and caregiver working within the healthcare environment on a personal basis. As such, it is possible to discern, with a degree of hypothetical accuracy based upon empirical evidence, that there is a cyclic or convectional top-down and bottom-up movement in the agency of institutional healthcare policy apparatuses within the EU. As seen in the previous chapter, the civic engagement mechanisms of the Commission have slowly strengthened to form a nascent grouping of interested parties, including individual citizens, industry, healthcare workers and digital experts amongst others, when creating new policy or proposals for regulations (European Commission, 2018). Over the course of the past decade, the care sector has experienced increased engagement by the Commission on issues of policy. The Commission is pursuing strategic inter-agency and cross-sectoral cohesion in policymaking by involving civic elements, professionals and informal caregivers, civil society and industry as interested stakeholders in the development of protocols and regulatory change (Ibid.). This is central to the holistic 'whole of government' approach to meet the objectives of the Sustainable Development Goals outlined in the UN 2030 Agenda for Sustainable Development (Conboy, 2021; European Commission, 2023).

The Commission elucidates upon these objectives, stating that:

> Delivering on the SDGs is not only a matter for public authorities; it also requires the full participation of civil society and the private sector. For the implementation of the SDGs to be effective, they must be actively supported by communication that engages with citizens as well as national, regional, and local authorities, media, civil society organisations, the private sector, and stakeholders on the ground. The benefits should be clearly presented, while addressing remaining challenges in a transparent manner (Ibid.).

The dataset reflects that caregivers represent a natural proverbial ‘tip of the spear’ in efforts to reform policy and identify potential models of best practice in healthcare. The Commission appears to be responding to these views by slowly enhancing engagement mechanisms that enable carers to shape the discussion and discourse around digital technologies (European Commission, 2018). Caregivers, for their part, are eager to pursue avenues of change and engage in the creation of policy surrounding the design, production, procurement and introduction of digital technologies (Peek et al., 2016). Moreover, they regularly express concern at the slow pace of change and the lack of adequate interagency coordination in these areas (Łukasik et al. 2020). Over time, healthcare professionals and carers have voiced increasing openness to the digitalisation of the care environment if they can be empowered to exert a significant degree of guiding agency over the direction of new policies and frameworks for implementation (Peek et al., 2016).

The literature corpus extracted from the ProQuest ASSIA database comprises a compilation of 21 scholarly journal article publications that deal directly with the perspectives and experiences of caregivers in the implementation and observation of digital technologies, services and robotics, in the care environment of older people. The publications provide invaluable caregiver insights on the trial and observation of these technologies in the care environment. They constitute an assortment of healthcare opinions on the challenges and perspectives pertaining to the introduction of digital technologies and robotics in the care of older adults and their utility both inside and outside of institutional and wardship ministration. Furthermore, they elucidate on multiple aspects and considerations to the utility, procurement and potential applications of digital technologies in the care of older people. This lends further insight into the relationship between the established professional practices of caregivers, the emergence of new technologies and the resultant need for new policies that take into consideration their concerns and recommendations.

Date Chronology	ProQuest ASSIA Document Type
2.9.2015	Form: Journal Article – Original Paper (Roberts et al. 2015)
27.12.2015	Form: Journal Article – Original Paper (Burstein et al., 2015)
1.1.2016	Form: Journal Article – Original Paper (Mohammadi et al., 2016)
28.1.2016	Form: Journal Article – Original Paper (Chen & Schulz, 2016)
21.11.2016	Form: Journal Article – Original Paper (Østensen, 2016)
13.05.2016	Form: Journal Article – Original Paper (Peek et al., 2016)
7.2.2017	Form: Journal Article – Original Paper (Tobis et al., 2017)
31.8.2017	Form: Journal Article – Original Paper (Young & Tinker, 2017)
19.6.2018	Form: Journal Article – Original Paper (Donnelly et al., 2018)
9.9.2018	Form: Journal Article – Original Paper (Coco et al., 2018)
4.9.2018	Form: Journal Article – Original Paper (Vermeer et al., 2018)
12.8.2020	Form: Journal Article – Original Paper (Łukasik et al., 2020)
4.9.2020	Form: Journal Article – Original Paper (Askari et al., 2020)
15.9.2020	Form: Journal Article – Original Paper (McCall et al., 2020)
1.12.2020	Form: Journal Article – Original Paper (Willard et al., 2020)
10.5.2021	Form: Journal Article – Original Paper (Kodate et al., 2021)
28.7.2021	Form: Journal Article – Original Paper (Stirling & Burgess, 2021)
7.4.2022	Form: Journal Article – Original Paper (Hajek & König, 2022)
27.4.2022	Form: Journal Article – Original Paper (Su et al., 2022)
9.5.2022	Form: Journal Article – Original Paper (Coley et al., 2022)
17.10.2022	Form: Journal Article – Original Paper (Murciano-Hueso et al., 2022)

Table (1.) List of ProQuest ASSIA documents in descending chronological order

6.3.3 Data Familiarisation and Substantive Significance of the Dataset: Digital Technology in the Care Environment

As mentioned previously, the dataset is comprised of original papers from scholarly journal article publications and encompasses the timeframe from 2015 to 2022. It contains contemporary insights into the perceptions of caregivers and healthcare professionals on the prospect of the digitalisation of care environments through the introduction of smart devices, robotic technologies and connected services. According to the dataset, trials of digital technology as flagship projects in the care environment enable carers to gain an understanding of the optimal roles and applications of these new devices in practice (Coco et al., 2018). Moreover, they also enable the caregiver to share their feedback on the positive or negative aspects of the digital technology, the manner of its implementation, and the resultant affects upon the patient and caregiver (Ibid.). The familiarisation step establishes a nexus between textual framing and discourse practice by conveying the way in which consistent and recurrent patterns are enmeshed in the language of the scholarly corpus (Fairclough, 2003).

Through careful screening readings undertaken prior to the coding process to acquire an in-depth insight into the issues that manifest themselves as prominent themes within the discourse of the publications, it is possible to understand and set out the general thematic gist of the literature corpus in a piecemeal fashion. This represented an important step prior to the coding phase, as it enabled the identification of a multiplicity of themes and sub-themes conveyed within the literature, ahead of their ultimate coding and categorisation in order of occurrence, from highest to lowest incidence of usage (Braun & Clarke, 2006). As such, the substantive significance of the dataset is fully appraised, and the relevant thematic information is isolated and listed prior to the step of coding the literature. This passage contains an overview of the key thematic information points elucidated by caregivers within the dataset surrounding the digitalisation of the healthcare system and in the administration of care for older people. By analysing textual practices and the language employed when

discussing older adults and digital technology through potential framings such as ‘competence’ or dependence’ (Fairclough, 2003), it is possible to gain an insight into the way in which people in later life are portrayed as agents and beneficiaries of, or even burdens upon, digitalising societies.

Preliminary observations of the literature reveal that the dataset contains multiple references to perceived trends of increased familiarity with digital technologies and greater confidence and knowledge regarding their utility among older adults who are in younger old age. Further, people who were born in the 1950s and 1960s are often labelled as ‘late boomers’ (Young & Tinker, 2017). This indicates that there is a definite recognition amongst caregivers that adults in the young-old or late boomer categories are generally more willing and able to utilise digital technologies in comparison with their counterparts in middle or later old age. In addition, the dataset also reflects an apparent cultural and socio-cognitive distinction between people in the pre-retirement cohort, the young-old, and those who are above the age of 75. The young-old and pre-retirement age groups generally embrace a youthful self-image and are more open to, and familiar with, digital technologies. As such, caregivers view this as a sign of positive change for future generations of older adults, particularly for pre-retirement age persons, who will begin to retire in the short to medium term future (Vassli & Farshchian, 2018).

6.3.4 Analysis of the Dataset and Creation of Codes

Unlike the policy papers of the EurLex text corpus, the scholarly journal articles in this dataset are written in the normative scholastic style utilising empirical writing that is brief, concise and to the point. This is beneficial to the task of conducting CDA on the literature corpus. It does not require the same measure of summative and deductive synthesis of the materials as that which was undertaken on the EurLex database to decode policy discourses

with general, vague, broad or indeterminate linguistic phraseology. The literature coded in this chapter clearly expresses the themes, attitudinal expressions and experiences of caregivers through their social interactions with digital technologies and older persons. The linguistic and objective clarity of the documents lends significant support to the coding of the scholastic texts based on their clear expression. This mitigates the requirement for comprehensive deductions and summative analyses to extrapolate meanings and nexuses between passages in the literature. Thus, Fairclough's tier of textual analysis is operationalised in the coding process through consideration of lexical, rhetorical and thematic styles in the literature corpus, helping to link them to discourse practices and sociocultural interpretations (Fairclough, 2003).

Formulating node hierarchies based on comprehensive perusal screenings of the dataset enables the subsequent creation of codes which can be grouped and categorised within the cognate hierarchical headings. By creating the codes in the initial perusal and synthesis of the literature, it is possible to revisit the text corpus with the coding architecture already in place. This method can help to comprehensively filtrate and isolate passages of text and ultimately ascribe them to their respective codes under the corresponding node hierarchy. As such, the coding of the literature proceeds in a logical order from the highest to the lowest number of recorded incidences of textual-linguistic prominence, allocated and categorised under a thematic heading. As such, this process begins with the coding of the dominant node hierarchy and proceeds in descending order.

6.4 Coding the ProQuest ASSIA Database (see Appendices K – N)

6.4.1 Interpretation-Focussed Coding: Creating the Node Hierarchies

The node hierarchies were formulated during the process of intensive perusal and screening of the literature corpus to identify the most prominent thematic discourses. By

implementing deductive analysis and correlational screening of the texts, it is possible to deduce the key themes that are represented in the literature (Fife et al., 2024). The application of interpretation-focussed coding to scholarly journal articles in Chapters 6 and 7 necessitates an alteration in the modus of deductive analysis to the literature corpus. In the context of the EurLex dataset analysed in Chapter 5, the deconstruction of the discursive narrative of policy discourses was the most appropriate framework for interpreting the linguistic phraseology and meanings within the texts. In essence, the fact that these documents comprised policy papers rather than qualitative scholarly journal articles that deal with the feelings of individual carers, means that the objective of the synthesis of protocols differed from the method of discourse analysis applied in Chapter 6. The coding process links textual features and considers the institutional influences that might impact their production and consumption (Wodak & Meyer, 2015). Moreover, interdiscursivity is highlighted here as the nodes disseminate distinct strands of discourse across individual texts and, indeed, the literature corpus.

In the ProQuest ASSIA and ProQuest Central datasets in Chapters 6 and 7 respectively, the application of CDA to academic research papers allows for a differentiation of the approach to the compilation of datasets. Through the CDA synthesis of the scholastic data corpus, it is possible to reduce the volume of information whilst retaining a central focus on the targeted details within the text (Fairclough, 1995; Wodak & Meyer, 2015). Furthermore, the scholarly journal articles in the non-policy component of the dataset in this thesis effectively lend themselves to the process of reduction and interpretation with greater readiness due to their non-policy formulaic construction (Silverman, 2013). The scholarly articles utilised in Chapters 6 and 7 express themselves clearly, with empirical and scholastic formatting typical of the normative style of academic publications. As such, it is not necessary to assess the linguistic phraseology or semiotic meaning of these texts as though

they were policy documents, but rather to directly deduce the most prominent recurrent themes in the literature as they are clearly expressed by those caregivers whose opinions are recorded in the documents (Phillips & Hardy, 2002).

After conducting an initial and exploratory investigation of the language used in the dataset, it was possible to identify the emergent themes and to isolate the thematic discourses and considerations that connect them (Braun & Clarke, 2006; Nowell et al., 2017). After developing a list of these themes, they were carefully catalogued under the superordinate thematic headings or node hierarchies, similar to those ascribed to the EurLex text corpus (Saldaña, 2016). The node hierarchies for the ProQuest ASSIA dataset were created and ascribed to catalogued lists of thematic discourses within the literature in their order of occurrence, from the highest to the lowest incidence.

Node Hierarchy 1.	*Challenges to Implementation of Digital Technologies*	**Matching Discourse(s)**	Critical Realism
Node Hierarchy 2.	*Critical Evaluation of Novel Digital Technologies*	**Matching Discourse(s)**	Appraisal / Extitutional Theory
Node Hierarchy 3.	*Protecting the Carer and the User*	**Matching Discourse(s)**	Human Rights
Node Hierarchy 4.	*Fiscal Considerations and Market Gaps*	**Matching Discourse(s)**	Political Economy / Free Market

Table (2.) Displaying node hierarchies and corresponding discourses.

6.4.2 'Challenges to Implementation of Digital Technologies' and Relationship with Critical Realism

The first node hierarchy is titled 'Challenges to Implementation of Digital Technologies' and it is matched to the discourse of 'Critical Realism'. Stutchbury (2021) explains that "The appeal of CR was that it goes beyond rich descriptions in order to seek explanations and recognizes that, in the complexity of everyday life, those explanations may draw on different social theories." (p. 113; Tikly, 2015; Para et al., 2020). This is especially true when decoding caregiver experiences and perceptions on role of digital technology and robotics in the care environment. Stutchbury also states that "CR combines a realist ontology (there is something real to find out about) with a relativistic epistemology (different people will come to know different things in different ways)." (Stutchbury, 2021, p.113). As such, the dataset reflects a nuanced and varied range of opinions from caregivers regarding the practical challenges facing the implementation of digital technologies. These views are not necessarily negative nor positive but, instead, are concerned with the practical aspects that require amelioration for an equal and human rights-based digitalised care sector for older people.

6.4.3 'Critical Evaluation of Novel Digital Technologies' and Relationship with Appraisal and Extitutional Theory

The second node hierarchy is titled 'Critical Evaluation of Novel Technologies' and is matched with the discourse of 'Appraisal'. The discourse of appraisal is distinct from that of critical realism as it focuses less on the issues of scalability and the practical challenges surrounding the implementation of the technology. Instead, it seeks to identify the general perceptions among carers towards digital devices, robots and connected services. Oteíza

(2017) says, with respect to the fundamental epistemological purpose behind appraisal in discourse analysis, that:

> The appraisal framework therefore aims to provide a comprehensive theoretical and descriptive systematisation of the linguistic resources that can be used to construe the value of social experience, and thereby to achieve a richer understanding of the patterns of interpersonal meaning beyond the manifestation of only emotionality across discourse (p. 458).

In this instance however, the appraisal framework interprets the caregiver impressions of digital technology as a medium through which social interactionism occurs on a frequent basis in a manner similar to general interpersonal exchanges. Thus, digital technology is evaluated as a phenomenon that plays a central role in the social interactionism between people and, therefore, the appraisal framework fits neatly into this paradigm.

6.4.4 'Protecting the Carer and the User' and Relationship with Human Rights

The third node hierarchy is titled 'Protecting the Carer and the User' and is matched with the discourse of human rights. This node hierarchy represents a consistent and strong consideration towards human rights and a dedication to the welfare of the patient and carer that is expressed by caregivers in the literature in the context of the digitalisation of healthcare. To this end, the caregiver community represented in the dataset is substantially concerned with the digitalisation of the care environment and the resultant ramifications (Burstein et al., 2015). They espouse the need for person-centred systems, designs and an ethical integration of digital technologies, robotics and services for older people (Roberts et al., 2015; Coco et al., 2018). Kesby (2023) explains person-centred models of care for older adults oriented upon the bases of human rights, "Quality care empowers older people to participate in decision-making about their care and to exercise meaningful choices about their

care." (p. 5). In this sense, the dataset reflects the existence of significant undercurrents of ethics-based considerations among caregivers (Young and Tinker, 2017). They express a desire for digitalisation to protect and promote the human rights of the user whilst improving quality of life for the carer by mitigating the most challenging aspects of their roles (Peek et al., 2016).

6.4.5 'Fiscal Considerations and Market Gaps', alongside Political Economy and Free Market Discourses

The fourth node hierarchy is titled 'Fiscal and Efficiency Considerations: Noteworthy Market Gaps' and is matched with political economy and free market discourses. These discourses feature consistently throughout the dataset as a lowkey undercurrent; one that is not particularly strong at any point but is nonetheless present and readily discernible. The literature reflects some level of concern from healthcare professionals and carers who identify fiscal challenges surrounding the procurement and maintenance of digital technologies as potential sources of disquietude (Askari et al., 2020). Aside from budgetary considerations in the acquisition of these technologies, the procuration of suitable staff expertise in the upkeep and administration of connected devices and services may yield additional costs and impact organisational efficiencies (Ibid.; Burstein et al., 2015). Moreover, caregiver staff also identified areas for potential improvement in technological devices or their system of implementation (Peek et al., 2016). They cite potential market gaps that hamper the efficiency, implementation, design and scalability of digital technologies, hindering their successful integration into the care environment (Burstein et al., 2015). The dataset reflects tangible willingness among caregivers to work with industry and assume key roles in the identification and potential exploitation of market gaps in digital healthcare technologies (Coco et al., 2018).

6.4.6 Example of the Coding Process in Action

Appendices ‘K-N’ provide comprehensive worked examples of the line-by-line coding process alongside a subsequent discussion of each code as implemented in the analysis of the EurLex text corpus. For instance, under the node hierarchy of ‘Challenges to Implementation of Digital Technologies’, the first code is titled ‘eHealth – Connected Health Services Needed to Augment Care Service Delivery’, and it references tracts of text that relate to this heading, such as, “Medical apps have been shown to improve the care, self-management, and self-efficacy of older adults, as well as promote better behaviour and medication adherence” (Askari et al., 2020, p. 2).

Similarly, for the node hierarchy of ‘Critical Evaluation of Novel Digital Technologies’, the thematic code titled ‘Augmentation, Not Replacement - Robots and Digital Technology Will Transform Care, but Will Not Replace the Human Caregiver’ includes the following excerpt as an example of the content that is coded under this heading:

> Education, especially, is crucial in changing attitudes and helping care personnel understand that care robots may perform routine tasks, so allowing care personnel to focus on providing improved care and nursing. Integral to this is a need to include potential users (care personnel) early on in the development process of a new technology, so as to diminish care workers’ fears and negative attitudes (Coco et al., 2018, p. 634).

In the node hierarchy of ‘Fiscal Considerations and Market Gaps’ the following sentence is coded to the thematic code called ‘Fiscal Challenges - Concerns over Rising Healthcare Costs’, “In times of increasing austerity, the sheer numbers of 1960s baby boomers make it essential that they should be given the means to remain at home during their later life” (Young & Tinker, 2017, p. 219).

In the node hierarchy of ‘Protecting the Carer and the User’, the code titled ‘Boosting Socialisation Through Digital Technology - Encouraging, Not Replacing, Social Lives for Older Adults’ incorporates the following tract of text, “Regarding the perception of usefulness most older adults consider technology to be especially helpful for being independent and autonomous and to feel integrated in society” (Murciano-Hueso et al., 2022, p. 125).

6.5 What are the Findings?

6.5.1 Alterations in Discourses Over Space and Time

Caregiver perspectives on the digitalisation of care services through the utility of connected devices and robotics as acquired through the dataset, reveal a shrewd appraisal of these new technologies by carers and healthcare professionals who bring their experiences and expertise to the forefront in their conception of these novel capabilities (Roberts et al., 2015). In addition, the dataset shows that carers and healthcare professionals have remained open-minded to the potential introduction of novel digital technologies in their work environment (Ibid.). To a notable extent, it evidences that care sector workers and informal caregivers have immunised themselves from entertaining discourses or socio-cognitive precepts of digital technologies and robotics as constituting a negative phenomenon (Askari et al., 2020). It is clear that the viewpoints reflected therein are discernibly resistant to discourses of suspicion or from stigmatic precepts attached to traditionalist and ignorant concepts of digital technology and robotics (Łukasik et al., 2020), particularly with respect to their utility around older people. This discussion is mindful of the rhetorical expression and framings within the discourse, as well as their production, circulation and subsequent interplay with the sociocultural domain (Fairclough, 2003).

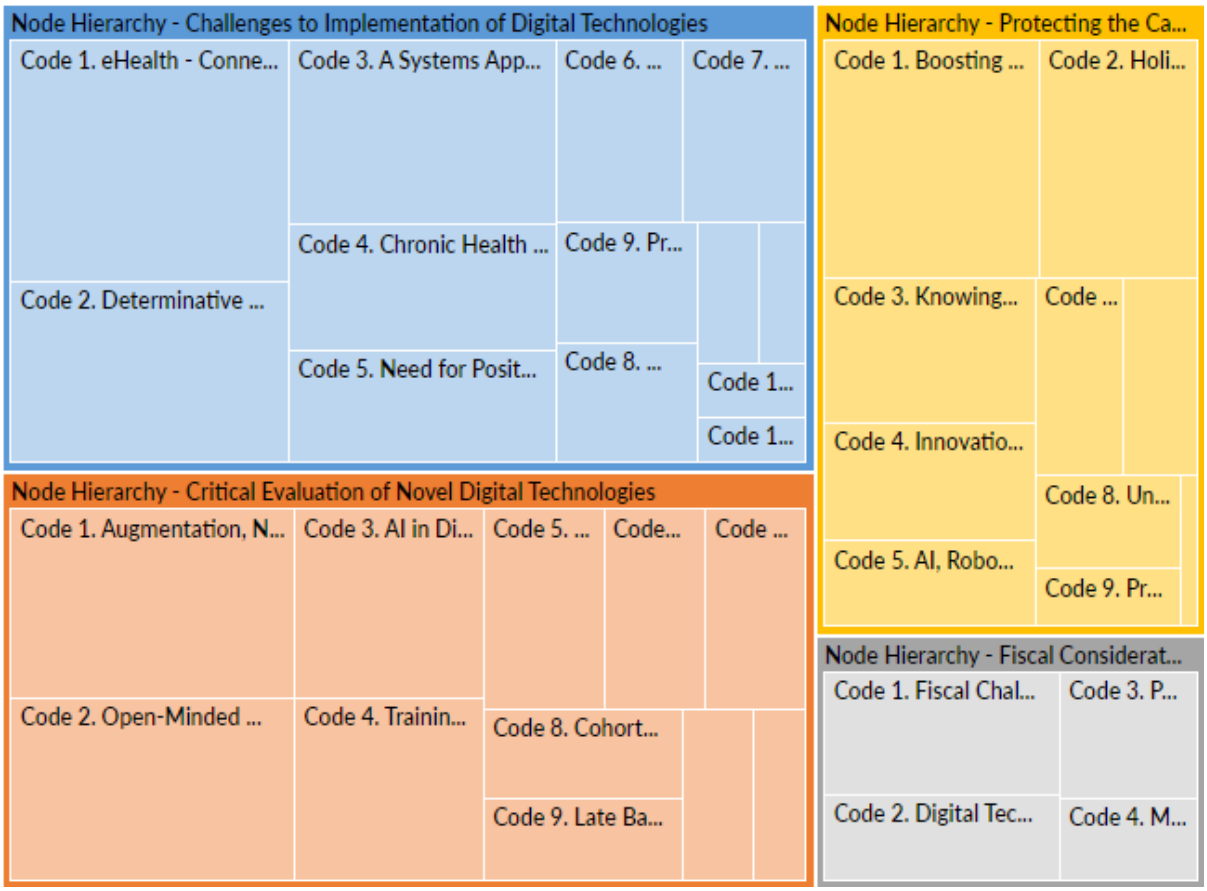

Table (3.) Hierarchical block chart of nodes based on numbers of coding references

The hierarchy of discourses that emerged from the items coded manifest themselves in four distinct categories in a descending order under the following hierarchical nodes; Critical Realism, Appraisal, Extitutional Theory, Human Rights, Political Economy and/or Free Market Discourses. These discourses experience fluctuating levels of insistence when assessed chronologically over the years 2015 to 2022 as encompassed by the literature corpus. However, the dataset elucidates the concerns as consistently expressed during this timeframe by caregivers and healthcare professionals who argue that (Burstein et al., 2015), in principle, digital technologies are a novel phenomenon that represent a proverbial step into uncharted waters for the care sector at large throughout the EU. Human rights discourses feature consistently throughout the dataset and, though they are not as prominent as those of critical realism or appraisal, they are nonetheless a steady and coherently robust theme across the literature corpus and timeframe encompassing the publication of these documents.

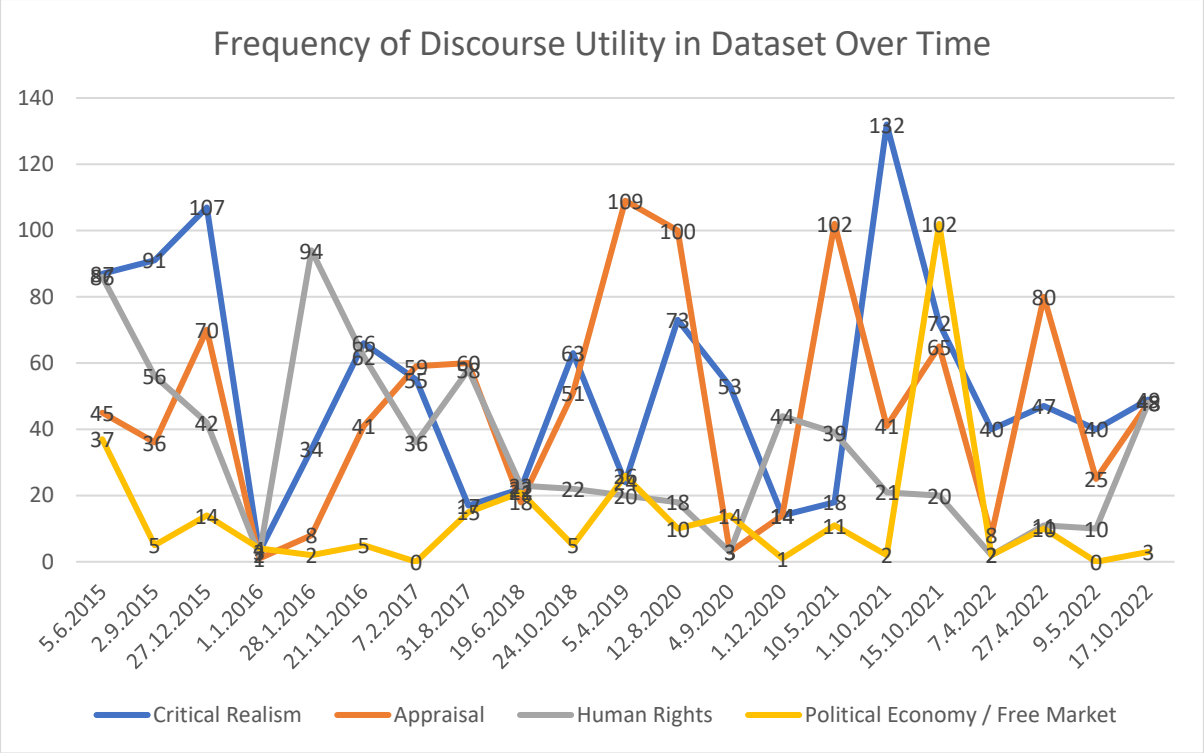

Table (4.) Line chart displaying the respective prevalence of each discourse node over time

Political economy and free market discourses express interrelated, correlational and somewhat distinctive themes pertaining to the procurement, availability, utility and reception of digital technologies and robotics within the care sector. Care sector perspectives echoing political economy thematic standpoints are chiefly centred around the issue of sustainable economics in the face of rising healthcare costs (Ibid.). Amidst concerns pertaining to the fiscal management of healthcare services is a general sense of apprehension about the costs of procuring digital technologies and robotics for local institutions and for older patient users. To this end, these considerations also extend to the ability of individual caregivers, healthcare professionals and institutions, to maintain proper levels of systemic and organisational efficiency once novel technologies are incorporated into the working environment of carers and patients (Askari et al., 2020). Adaptations to new methods of professional practice in caregiving that incorporate the utility of digital technology are central to considerations regarding the maintenance of organisational efficiency and the effective employment of

limited resources, both human and financial, to the greatest effect possible within available means (Ibid.).

Free market discourses express themselves through a tangible desire expressed by care sector workers for augmented empowerment and greater involvement in the digital health technology market and industry (Peek et al., 2016). Moreover, there is a growing recognition of the potential of digitalisation, digital health services and robotics to radically alter the dynamics of how healthcare is administered and delivered (Łukasik et al., 2020). Thus, caregivers want to play a leading role in the creation and design of these novel systems (Peek et al., 2016). Moreover, they are increasingly aware of market gaps and where innovative technologies should ideally emerge at scale, facilitating their effective procurement and implementation in the care environment (Burstein et al., 2015). Enhancing sectoral profitability whilst promoting strategic harmony within the environment in which digital health technology industry, the healthcare sector and patients interact within the context of the EU single market, features prominently among the key aspects of free market discourses. These discourses are driven by a desire to maximise economic advantage whilst retaining adjunctive subthemes of human rights as a complementary motivation.

6.5.2 Variables: Caregiver Insights

The literature corpus displays a recognition that there is a slow, but definite, natural transition underway to a new generation of older people who are more familiar with digital technology as time passes (Young & Tinker, 2017). However, this realisation in the literature also arguably reflects a significant degree of acceptance among caregivers that present generations who are currently in their later lives will continue to face the digitalisation process without the same range of benefits as their younger counterparts. Nonetheless, caregivers are hopeful that the future will be bright for the digitalised care environment, as

the prospect of later-born baby-boomers entering retirement represents a harbinger of change (Łukasik et al., 2020). This transformation may be specifically suited for a generation of older people who embrace a youthful self-image and enjoy greater subsequent utility of connected devices and services (Young & Tinker, 2017). As such, caregivers also see potential for a boost in the digital healthcare market as a result. They predict increased demand for digital products by older people who wish to benefit from systems of connected and adaptive technologies to retain their independence and manage chronic health conditions (Peek et al., 2016). Caregiver discourses encompass a relatively wide framing of ageing and digitalisation; they balance portrayals of perceived deficits with narratives that advocate a degree of autonomy and rights in digital inclusion, especially from the domain of sociocultural practice (Wodak & Meyer, 2015).

Caregivers are frequently aware that, nowadays, preretirement age persons are often adept users of health technologies in the form of smartphone applications and WDs (Young & Tinker, 2017). For the current generation of older people, caregivers decry a lack of 'age-neutral' design standards in the built environment and in digital technologies, though there is a strong desire for the latter to mitigate the former and facilitate ageing-in-place (Peek et al., 2016). As such, healthcare professionals see a gap in the market for 'unobtrusive' adaptive and age-neutral digital technologies that can destigmatise environments that are designed for healthy and active ageing (Burstein et al., 2015). Greater availability of connected health services and an increased emphasis on self-reliance for older adults through digital technologies is perceived by caregivers as an important objective to mitigate the demands on overstretched healthcare services (Askari et al., 2020).

The dataset reveals that caregivers are eager to assume a greater role in the development of online community care platforms for supporting independent living, as well as civic and social participation to facilitate ageing-in-place (Coco et al., 2018). They express

a desire for increased implementation of surveillance technologies for people with cognitive disabilities such as dementia (Su et al., 2022). There is a degree of cognisance over privacy and monitoring concerns, alongside those regarding ethics and consent, but they do not preclude the desire among caregivers to implement digital technologies (Stirling and Burgess, 2021). As such, caregivers foresee an ideal solution whereby digital technologies and robotics can be implemented with appropriate legal and ethical guidelines to protect the rights of the carer and patient (Young & Tinker, 2017).

Generally, the dataset shows that caregivers have a curious and open attitude to robots and are especially enthusiastic about the potential for them to perform repeatable tasks to enable more useful time spent between carers and patients (Coco et al., 2018). There is, however, a discernible sense of apprehension regarding the actual capabilities and limitations of digital technologies, and robotics in particular, in their current state of development (Burstein et al., 2015). Many caregivers believe that the technology is still somewhat immature, particularly with regard to robotic applications (Ibid.). As such, they do not seem to foresee a likelihood of robotic applications or digital technologies ultimately replacing the quintessential human caregiver entirely (Hajek & König, 2022). Although, there are concerns amongst healthcare workers that these technologies may, in some instances, inadvertently disempower the older person if they start to perform too many tasks. Carers also stress that training is necessary for healthcare professionals and older adults to adapt to, and harness, the potential of new digital technologies.

To this end, caregivers perceive digital technologies, robotics and AI, as a potential aid and accompaniment to their work, but not as a replacement (Łukasik et al. 2020). Rather, they believe that these capabilities, if correctly implemented, can help a human carer to build a relationship with the user and boost the efficiency of healthcare delivery (Chen & Schulz, 2016). In this way, healthcare workers do not foresee a reduction in the need for in-person

caregivers but are hopeful that digital technology can mitigate certain costs and boost quality of life and enhance the delivery of preventative care (Askari et al., 2020). Nonetheless, there is some disquietude over the lack of expertise among many healthcare professionals and informal caregivers regarding the procurement, maintenance and upkeep of digital technologies (Burstein et al, 2015). Stirling and Burgess (2021) emphasise that these concerns also extend to the potential for their misuse or over-use by patients and caregivers. Coco et al., (2018) points out that, in general, healthcare professionals express a wish for clearer guidelines and suggest that there ought to be greater facilitation of communication and interactionism between digital health technology industry, carers and users.

The dataset reflects general concerns surrounding themes of political economy and free market discourses through experiential perspectives on the digital healthcare technology market and the implementation of these devices in the care environment. Aside from deficits of technical expertise in digital technologies among caregivers, healthcare professionals cite concerns over scalability challenges and a lack of market stability within industries manufacturing these capabilities (Peek et al., 2016). Frequent absences of local authority funds and other barriers facing small and medium enterprises in their attempts to exploit market gaps, all present themselves as significant obstacles which healthcare providers cite regarding the procurement and implementation of digital technologies (Stirling & Burgess, 2021).

Caregivers stress that pre-existing familiarity with digital technology is an advantage in ensuring and smoothening their adoption in care settings (Łukasik et al. 2020). As such, since digital technologies are still a novel phenomenon that have yet, in many ways, to be implemented at scale with harmonious uniformity, there is an impetus among sections of the healthcare sector to continue with older, and perhaps more established forms of remote care, such as telecare systems. To this end, caregivers contend that “Practitioners and policymakers

should continue regarding telecare as a complex social intervention rather than a "plug and play" solution" (Berge, 2017; Woolham et al., 2017). Caregiver precepts on digital technologies supporting ehealth delivery often consider that they are still not mature enough for full-scale adoption and express that "ehealth can supplement existing models of care, but not replace them" (Robert et al., 2015).

However, there are ultimately a significant degree of supportive discourses promulgated by healthcare providers that recognise the sheer complexity of integrating a new array of systems into a pre-existing health services framework which, nonetheless, must adjust and adapt to the era of digitalisation. This arguably represents a manifestation of extitutional theory with respect to healthcare systems and their paradigms of interactionism with emergent digital technology, "Those that best accommodate existing social, economic, and political arrangements will have higher chances to survive – spreading through a process of imitation or replication – whereas those that are the least fit for their environment will eventually fade into extinction", (De Filippi & Santolini, 2023, P. 153). Caregivers are aware that concerns exist among older adults, particularly where they feel that new technologies may threaten their relationships with in-person carers, and they strongly recommend that digital care solutions should also facilitate a robust social component (Chen and Schulz, 2016).

6.5.3 Evaluation

Healthcare workers place a high value on elearning and training for carers and patients where digitalisation is likely to occur, and they stress that caregivers should also experience the benefits of digital technologies but that they must not, 'make either party lazy' (Coco et al., 2018). To facilitate the uptake of digital technologies, caregivers also emphasise that adaptive and accessible designs and user interfaces are a critically important feature,

alongside person-centred architectures and suitable matching between patient users and respective devices and services (Coley et al., 2022). Healthcare professionals are also cognisant of attitudinal changes needed to stimulate the adoption of digital technologies in the care sector and are keenly aware of issues that need to be addressed with respect to costs, ownership and liability (Donnelly et al., 2018). Further, caregivers and their respective organisations need to be open to change in order to implement digital solutions and listen to the opinions of the users (Young & Tinker, 2017). In recognition of the combined complexity of these challenges, "ehealth-based care can be used in the home and might help older adults to live independently for as long as possible (in line with the "extitution" model of care favoured today", (Milligan et al., 2011; Roberts et al., 2015). However, in establishing a nexus between textual framing and discourse practice (Fairclough, 2003), it is possible to gain an insight into the ways in which policy conventions can inhibit the consideration of alternative practices on a larger scale by institutional protocol.

Caregivers emphasise that person-centeredness (Roberts et al., 2015), acceptance, affordability, inter-sectoral cooperation and positive discourse regarding digitalisation, are all important factors for the elimination of strategic friction in systemic change. Digital immersion to reduce unfamiliarity among older people with connected technologies and promoting social interactionism with younger persons is a significant priority (Coley et al., 2022).

Healthcare professionals maintain that older people must be empowered to provide their input in the design process alongside those of carers, and that digital technologies should entail an objective of reducing loneliness (Coco et al., 2018). To this end, they recognise that combatting fear and reluctance among older adults towards utility of digital technologies must be undertaken by considering patterns of usage. Understanding the reasons that older people may utilise digital technologies when compared to younger age groups and

developing specific applications for service-users interacting with care services are among these tasks (Coley et al., 2022). McCall et al. (2021) advocates the mainstreaming of digital technology across frontline care services, social policy, housing, community engagement partnerships and inter-agency work at the ground level, to eliminate silo-mentality mindsets within multiple sectors.

6.5.4 Attitudes

Caregivers are aware of the position of trust they hold with their patients and, as such, are cognisant that a positive attitude among carers towards digital technologies can encourage the same in older adults, particularly through social interactionism augmented by technological capabilities (Burstein et al., 2015). To reinforce these positive socio-cognitive precepts of novel technologies, caregivers are adamant that robotic devices should encourage, rather than replace, social contact for older adults (Łukasik et al. 2020). However, the dataset reflects a desire among caregivers to protect their position to discharge their duties of care in accordance with their role (Ibid.). In this sense, caregivers feel, for example, that older people should "not be allowed" to change the settings on digital care technologies to avoid any inadvertent 'switching off' of certain needs and functions (Ibid.). There is a strong desire among healthcare professionals that they be empowered to assume a greater role in the design, selection and implementation of digital technologies (Young & Tinker, 2017). The rhetorical and textual framings shed light on the caregiver perspectives towards the role of older people in the adoption of digital technology, which also informs and explains sociocultural practice in this respect (Fairclough, 2003).

There is a general awareness between caregivers that traditionalist, apprehensive or even negative attitudes towards digital and robotic technologies, still exist among healthcare professionals and older adults (Chen & Schulz, 2016). As such, caregivers believe that the

introduction of these technologies requires careful management; professional ethics and protection of human dignity and autonomy to address such considerations and mitigate legal complexities (Young & Tinker, 2017). More information for care staff is required to provide prerequisite knowledge on what digital technologies are available for older adults and augmentation of care delivery (Burstein et al., 2015). Currently, there is very low utility of online consultation platforms with respect to older adults (Hajek & König, 2022), coupled with anaemic levels of inclusion for recruitment in clinical trials of new technologies. Moreover, "early information and education about available technologies may be essential in helping caregivers to plan and prepare to adopt new technologies as they need them", (Burstein et al., 2015).

In this vein, caregivers recognise that attitudes and anxieties over the utility of digital technologies alongside ease of use, service availability and sense of control, are all critical elements to ensure the successful adoption of these capabilities (Askari et al., 2020). They also argue that caregivers require sufficient education and supports to accept digital technologies and robotics, whilst more research needs to be done to determine the most optimal person-centred modalities and practices in their implementation (Burstein et al, 2015). A deeply embedded digital divide, poor education, poverty and disability, all contribute to low engagement with digital technologies among older adults (Hajek & König, 2022). Caregivers require further supports to be able to administer structured health interventions using these technologies (Burstein et al., 2015). They also insist upon greater empowerment to establish clear boundaries on how close a patient can become with their digital technology or robotic device (Łukasik et al. 2020). In this sense, caregivers are confident that they will not be replaced by robots but are concerned that older people might develop an emotional bond with the technology that is too strong and renders them vulnerable in the event of breakage or through another form of separation from the device (Ibid.).

6.5.5 Interplay of Discourses

Node 1.	Node 2.	Node 3.	Node 4.
Challenges to Implementation of Digital Technologies. **Dominant Discourses:** *Critical Realism* **Sub-Themes:** *Appraisal; Extitutional Theory* **Expresses:** *The dataset reflects a nuanced and varied range of opinions from caregivers regarding the practical challenges facing the implementation of digital technologies;* *These views are not necessarily negative nor positive, but instead are concerned with the practical aspects that require amelioration for an equal and human rights-based digitalised care sector for older people* **Shares Significant Interplay with:** *Node 2: Critical Evaluation of Novel Digital Technologies*	**Critical Evaluation of Novel Digital Technologies.** **Dominant Discourses:** *Appraisal; Extitutional Theory* **Sub-Themes:** *Critical Realism* **Expresses:** *The discourse of appraisal is distinct from that of critical realism as it focuses less on the issues of scalability and the practical challenges surrounding the implementation of the technology;* *Instead, it seeks to identify the general perceptions among carers of digital devices, robots and connected services* **Shares Significant Interplay with:** *Node 1: Challenges to Implementation of Digital Technologies.*	**Protecting the Carer and the User.** **Dominant Discourses:** *Human Rights* **Sub-Themes:** *Modernism* **Expresses:** *This node hierarchy represents consistent and strong consideration towards human rights-oriented dedication to the welfare of the patient and carer that is expressed by caregivers in the literature in the context of the digitalisation of healthcare;* *They express a desire for digitalisation to protect and promote the human rights of the user whilst improving quality of life for the carer by mitigating the most challenging aspects of their roles* **Shares Significant Interplay with:** *Commission Discourses on Policy, Social Inclusion and the Digital Agenda for Europe.*	**Fiscal Considerations and Market Gaps.** **Dominant Discourses:** *Political Economy; Free Market* **Sub-Themes:** *Critical Realism* **Expresses:** *The literature reflects some level of concern from healthcare professionals and carers who identify fiscal challenges surrounding the procurement and maintenance of digital technologies as potential sources of disquietude;* *They cite potential market gaps that hamper the efficiency, implementation, design and scalability of digital technologies, hindering their successful integration into the care environment* **Shares Significant Interplay with:** *Node 2: Social Inclusion*

Table (5.) Dominant discourses and sub-themes in each node; correlating interplay between each node

There is a conspicuous and unmistakable nexus between the themes of the node hierarchies and their matched discourses identified within the dataset. Moreover, some of these themes echo the expressions within the discourses of Commission policy as assessed in the EurLex database, pointing to significant degree of interactionism between EU documents

and the professional socio-cognitive impressions of the caregiver. The extent to which one informs the other, and how they interact, is assessed in this passage on the interplay between the discourses and themes.

The theme of ‘challenges to the implementation of digital technologies’, is matched with critical realism, and it features as the most prevalent thematic discourse in the dataset. Concerns surrounding the practical challenges associated with the scalability and implementation of digital technologies are elucidated through socio-cognitive impressions of critical realism (Sun et al., 2020). These concerns manifest themselves in a proverbial ‘list’ of caregiver concerns as extrapolated from the dataset. However, this thematic discourse also contains elements of human rights narratives, as practical considerations often overlap with questions of attitudes towards use, ease of use, and parameters of use (Nilsson et al., 2024). There is a discernible degree of marked awareness amongst caregivers that the practical challenges to the implementation of digital technologies can overlap with concerns over human rights, person-centredness and ethics. As such, the practical considerations regarding implementation of digital technologies sometimes objectively extend to encompass human rights and associated variables such as the comfortability of an older adult with a device, service or robot (Sun et al., 2020).

The theme, ‘critical evaluation of novel digital technologies’, acknowledges that they comprise a complex framework of systems which must all work in harmonised unison in order to achieve proper functionality in-line with a person-centred approach to care (Ibid.). In this sense, the caregiver perspective on digital technology emphasises a strong awareness of the complexity involved in achieving successful digitalised integration in care. This is arguably reflective of extitutional theory in the appraisal of healthcare systems. Generally, caregiver appraisal of the potentiality for digital systems in the care environment to augment

the healthcare of older people centres around concerns regarding the protection of their independence and ability to interact with others.

In this sense, social inclusion and human rights are recognisable as undisputed discursive undercurrents that overlap with general caregiver discussions on, and appraisals of, digital technologies and robots (Newman et al., 2019; European Commission, n.d.). This is quite illuminating as it reflects that the emphasis on social inclusion and human rights is likely to be informed by Commission policy, as these themes feature strongly therein and in a similar context within the EurLex text corpus. To this end, caregivers tend to arrive at points associated with human rights and social inclusion when appraising digital technologies (de Ruiter et al., 2023), echoing the sentiments of EU law and policy behind the integration of these capabilities for older people. The EU places a strong emphasis on social inclusion and independence for older adults and perceives digital technologies as representative of an integral part of communal interactionism for persons in later life in the future (European Commission, n.d.).

The theme of human rights is discernible both as an underpinning tone, and a thematic pillar in its own right, throughout the dataset. Carers display a strong measure of vocational cognisance towards the human rights and wellbeing of their patients and are determined that these considerations are transmuted through the medium of digital technology to augment the independence and dignity of older adults. There is a potent desire among caregivers for digital technology and robotics to promote the welfare of carers, but this features primarily as an adjunct consideration to concerns for patients (Łukasik et al. 2020). The Commission expounds upon these matters in the European Care Strategy and the Green Paper on Ageing (European Commission, 2021; 2022). It seeks to protect the welfare of caregivers in the EU by improving their working conditions, pay and rights, whilst ensuring that older people can benefit from improved quality of life, health self-management and independence supported

by digital healthcare technologies (European Commission, n.d.). In representing a thematic pillar of its own, the discourse of human rights also permeates the dominant themes in this chapter as a subtle, but still discernible influence in impression-forming, evaluations, recommendations and decision-making processes among caregivers.

It is clear from the dataset that caregivers support person-centred design principles and an ethical systems integration of holistic digital health technology frameworks to improve the dynamics of care for older people (de Ruiter et al., 2023). The values of caregivers are closely aligned with those espoused within the Digital Agenda of the Commission and the Pillar of Social Rights (European Commission, 2022). Carers are cognisant of the adverse impact of the digital divide and are eager to ensure that health technologies for older people are not impacted by social stratification along lines such as wealth and geographic location among others (Bertolazzi et al., 2024). Caregivers outline their concerns for the data safety and corporeal privacy of older people, as well as their ability to engage with society and undertake health self-monitoring as part of an independent existence (Chan et al., 2025). Carers believe that digital technologies should reinforce and fulfil these principles without prejudice to social strata. As such, the professional guiding principles and socio-cognitive belief systems of carers and their opinions on the digitalisation of healthcare for older people is markedly aligned with Commission policy. It is assertable that caregiver attitudes towards digitalisation of healthcare for older people is informed to a significant extent by Commission policy. Conversely, their experiential knowledge and professional expertise may provide them with denotable humanitarian perspectives that, in turn, are even in advance of Commission policy in terms of a human rights-based vision for digital technology. Moreover, they can potentially be of benefit to informing Commission efforts to develop person-centred protocols in this domain (Gyllensten et al., 2025).

The thematic heading of ‘fiscal considerations and market gaps’, unveils within the dataset some consistent, if relatively toned-down, regard from caregivers concerning the potential financial implications of digitalisation and the resultant ramifications for staff efficiency (Ibid.). Political economy and free market discourses in this realm demonstrably reflect the primary considerations of the Commission with respect to the challenges posed by ageing and digitalisation. These obstacles manifest themselves in several ways, among the most prominent being the fiscal implications of procuring and maintaining digital health technologies, robotics and service architectures. In addition, the cost of maintaining equipment, acquiring access to staff expertise and adapting to new technologies intrinsic to novel work regimens, has given rise to disquietude among caregivers regarding financial cost and potential adverse impacts upon organisational efficiency (Hajek & König, 2022).

These considerations fall under the discourse of political economy and comprise the proverbial backbone of feelings of apprehension among carers towards digital technology. Further, they echo the concerns of the Commission with regard to the financial implications of the digital transformation with respect to care for older people. It is less certain if any aspect of these financial considerations are informed by Commission policy, as carers themselves have gained an insight into the expense and impact on organisational efficiency that digital technologies can entail (Bertolazzi et al., 2022). There are likely to be top-down and bottom-up influences in this regard, as individual carers themselves express experiential knowledge on the impact of digital technologies in care environments, shaping their perceptions accordingly.

With respect to free-market discourses, caregivers are aware of gaps in the market due to fragmentation in the digital health technology sector and a lack of large-scale rollouts of connected devices, robots and services. Caregivers report their perspectives on digital health technologies from having witnessed, worked and coordinated with trials of devices and

services in the care environment, shaping their impressions of the positive and negative aspects to their employment (Merchán-Baeza et al., 2023). Smaller scale implementation was met with general dissatisfaction as higher costs, difficulties in maintenance and upkeep, a lack of sufficient training and digital expertise among others, comprise some of the key reasons for a desire among caregivers for the development of digital technologies on a larger scale (Hicks et al., 2023). Health professionals are eager to share their expertise with industry and to exploit the gaps in the digital healthcare technology market from a discernible business model perspective. These ambitions are likely to be quite pronounced in the context of private care provision. In this sense, caregivers feel that the digital health technology market is ripe for large scale growth and development, and they are eager to assume a leading role in coordination with industry and lend their professionalism and insight to steer, and benefit from, the digitalisation of healthcare for older people.

The free-market considerations of caregivers surrounding digital health technologies and subsequent eagerness for the potential exploitation of market gaps is also echoed in Commission policy. Projects such as Horizon Europe and the Digital Agenda for Europe 2030 have witnessed the trialling of digital health technologies, connected devices, services and robots, as pilot projects within care environments (European Commission, n.d.; Ibid.). In this respect however, the digital health technology market has remained largely fragmented and confined to a state of latent potential. This is partially due to Commission bureaucracy hindering the large-scale mobilisation of the resources of the single market due to the complexity of legal frameworks and insufficient systems interoperability between Member States (EurLex, 2021).

Desire for change in this respect among caregivers is also reflected in most recent Commission policy, as it finally seeks to embark upon a strategic harmonisation and development of the digital health technology market to facilitate interoperability and create

the framework for a large-scale development of the sector (European Commission, n.d.; Cole et al., 2022; Boots et al., 2014). Undoubtedly, caregivers are eager to assume a leading role in these developments and, as such, Commission policy and the ambitions of carers are substantially harmonious in this regard. In this sense, the thematic discourses pertaining both to the grassroots work of carers and the institutional policy agency of the Commission, share a reciprocal relationship in the fomentation of discursive narratives advocating protocols for change (European Union, 2012, art. 11; European Commission, 2021). This demonstrates a significant degree of expanding synergetic interactionism between the discourses of Commission policy and the professional experience and opinions of caregivers, inclusive of their unique impression-forming resources and expertise on the basis of background knowledge, observation and ultimately through personal communication with older adults (Greenhalgh et al., 2017). Through interdiscursive interplay and interaction, it is clear that distinct discursive strands are combined and enmeshed within the general order of discourse in the care sector (Wodak & Meyer, 2015).

6.6 Summary

It is evident from thorough analysis of the discourses extrapolated from the ProQuest ASSIA database that caregivers are generally open-minded about the potential for digital technology to significantly transform the care environments of older adults for the benefit of the patient and the carer. There is a resolute view among carers that digital technologies harbour significant latent capacity to bring about a positive and sweeping change in the care of older people if they are governed by good law, policy and practice (Greenhalgh et al., 2017). Moreover, care professionals display a strong interest in aspects of accessibility, affordability and universal design standards in digital health technologies, viewing these

parameters as being amongst the key determinants of their successful implementation (Peek et al., 2014).

However, the precept among carers that digital technologies retain significant potential to transform the healthcare environment and lives of patients and caregivers is also belied by a variety of sobering discourses that lucidly appraise the multifaceted nature of the challenges associated with digitalisation (de Ruiter et al., 2023). The dataset uncovers emphatic feedback from carers in multiple instances where concerns are expressed over the barriers associated with the practical implementation of digital technologies. Fiscal considerations surrounding the procurement, maintenance and implementation of digital technologies resonate with caregivers who must increasingly contend with limited budgetary resources and a growing need for technical expertise in the care workforce (Tretteteig et al., 2023). These concerns are amplified by the fragmented nature of the digital health technology market where caregivers decry a lack of 'plug-and-play' solutions, interoperability, and affordable devices that are implementable at a significant scale (Nilsson et al., 2024). Caregivers express pronounced ambition for improved structures to enable them to collaborate with industry in the development of accessible digital health technologies and share their professional experience and feedback on user preferences from the perspective of the patient and carer (Xiong et al., 2022).

Carers are cognisant of the determinative factors for successful patient acceptance, uptake and utility of digital technologies among older adults. Ease of use, affordability, positive caregiver attitude towards digital technologies, and continuity of the patient-carer relationship irrespective of digitalisation processes, are amongst the key prerequisites that determine the successful adoption of connected devices and services by older adults (Hicks et al., 2023). Caregivers emphasise that digital technologies should protect the rights of carers and patients whilst alleviating certain work-related pressures for healthcare professionals to

enable them to spend more time performing valuable patient-facing care duties (de Ruiter et al., 2023).

Caregivers are aware that the implementation of digital health technologies for older patients represents a complex systems challenge with numerous multifaceted aspects. As such, they advocate a more holistic approach in the policy and governance of the care sector and digital health technology markets to promote inter-agency cooperation and knowledge-sharing (Gyllensten et al., 2025). In this respect, they echo the policy discourses of the Commission in advocating a movement towards greater digitalisation, inclusion and interoperability in the care environment whilst preserving and enhancing the role of the corporeal carer to empower them to discharge their duties to greater overall effect (European Commission, 2022). In this vein, the discourses of extitutional theory, appraisal, political economy, free market, and critical realism, share some overlapping themes. Overall, they do not amount to a negative perception of digital health technologies among carers but instead offer a lucidly grounded thematic discourse on the scale of the challenges that are intrinsic to the mission of ensuring successful implementation of digitalisation and for tangible ground-level benefits to be felt at a significant scale. As such, caregiver discourses of human rights are somewhat independent from the other narratives, and it is apparent from the dataset that carers, as a rule, espouse strong aspirations towards person-centred digital technologies that protect the patient user and bolster their quality of life (Nilsson et al., 2024).

Care sector discourses echo the general direction of Commission policy narratives that are moving, albeit slowly, to close gaps and ameliorate deficiencies that currently belie the current dynamics of digital health technology for older people in the care environment (European Commission, 2022). The digital divide, lack of affordability, scarcity of sufficient technical expertise among caregivers, a fragmented health technology market, significant procurement costs and poor implementation, low accessibility standards and sparse

familiarity of use, deficits in standardisation and interoperability as well as fear of reduced human contact time with a carer; these are among the primary areas of caregiver concern regarding the digitalisation of healthcare for older people, and they are echoed in Commission policy (Ibid.; Hicks et al., 2023). Conversely, it is arguable that Commission policy initiatives are proceeding languidly as they are struggling to react effectively to caregiver perspectives that are shown to be relatively consistent and uniform throughout the timeframe of the dataset (Tretteteig et al., 2023). As such, the Commission is gradually playing proverbial 'catch-up' to events as they occur on the ground.

In summary, there is a general sense that Commission policy is taking too long to address these challenges, even in-spite of a slight but apparent quickening of pace considering the publicity created by the disproportionately severe effects of the Covid-19 pandemic on older people (Newman, 2019; Van Jaarsveld, 2020). The prominent aspect of disharmony that is discernible within the dataset between carers and Commission policy, is not necessarily related to the fundamental caregiver observations and appraisals of the state of digitalisation, but instead is centred around the slow pace at which change is taking place. As such, there is evident frustration among caregivers over the moderate momentum of progress, and they apparently make a two-fold distinction between the latent potential for digital technology and robotics to bring about positive change, and the contrasting reality of the present situation which is, currently, arguably not conducive to such an outcome.

With respect to Fairclough's model, in transiting the domains of textual description (Fairclough, 2003), discursive practices, interpretations and sociocultural explanations, this chapter provides an insight into the ways in which care sector discourses reflect, interact with, and reproduce, societal precepts and policy portrayals of older adults and their relationship with digital technologies and digitalisation processes. Caregivers are desirous of a standardised and large-scale market for digital technologies that can protect the human

rights of the patient and user but are unsure of when such an eventuality will come about (Nilsson et al., 2024). However, caregiver discourses are substantially cognisant of human rights, and they are consistently informed by principles of person-centred care (de Ruiter et al., 2023). Carers want a holistic policy suited for a complex systems framework where they can provide their input to steer the direction of digitalisation for the good of the patient and carer, and to affect and drive positive market changes to improve the implementation of digital technologies in-practice. In essence, caregiver discourses and Commission policy discernibly inform one another, with a two-lane flow of discursive narrative and informational transmission being evidentially apparent. The crux of caregiver frustrations seems to lie in the aspect of a gradual pace of discursive exchange from the ground-level upwards, leading to moderate reactivity in Commission policy development which, currently, takes an assertedly inordinate time to achieve tangible affects in the care environment.

Chapter 7: Analysing the Discourses of the Datasets Retrieved from the ProQuest Central Database

7.1 Introduction

This chapter explores the experiences and discourses of older people on the use of digital technologies, and it attempts to discern the wishes, preferences and apprehensions of persons in later life towards these novel devices and services. It analyses the literature corpus derived from the ProQuest Central database which specifically addresses the relationship between older people and digital technology. As such, the discourses of older adults are extrapolated and synthesised through CDA to identify the primary driving themes and narratives that underpin the views and experiences of people in later life and their impressions towards digital technologies.

The chapter begins with an initial contextual overview of the challenges presented by demographic ageing and simultaneously expeditious digitalisation in the EU. This discussion provides a grounding context for the particularly disadvantageous social position occupied by older people in a digitalising society, where disempowerment occurs through coercive models of digitalisation as previously mentioned by Zhang (2023). As such, the initial passage conveys the assertedly passive pace of action on the part of the EU to bring about an equal, inclusive and non-discriminatory model of digitalisation in recent years. Meanwhile, coercive digitalisation has persisted, with a relative continuity of private sector hostility to universal accessibility irrespective of decades-long trends towards demographic ageing in the EU (Seifert et al., 2021).

The discourses are extrapolated from the dataset using Fairclough's model of CDA (Fairclough, 2010), occasionally referencing the socio-cognitive approach of Van Dijk, to deconstruct and comprehend the experiences, motivations and viewpoints of older people

towards digital technology (Van Dijk, 2015). This approach is intended to facilitate the synthesis and categorisation of discourses from older adults into node hierarchies, as done in Chapters 5 and 6, to develop a clear discursive insight and proverbial picture of the narrative thematic strands that people in later life express and transmit through their interactionism with digital technologies and carers. In terms of textual analysis, this involves the consideration of potential lexical choices such as ‘autonomy’ or ‘empowered’ for example, and how they frame older adults in relation to digital technologies. With respect to discourse practice, this analysis considers how these viewpoints are portrayed and circulated in scholarly literature, advocacy and institutional reportage. In terms of sociocultural practice, the findings are discussed in the context of Commission discourses on ageing, digitalisation, and right-based inclusion, revealing how grassroots narratives interact with structural discourses (Fairclough, 1995; Chouliaraki & Fairclough, 1999).

Furthermore, the chapter discusses the alterations in the discourses of older adults towards digital technology over time and explores the attitudinal variables and interplay between the thematic narratives that influence the standpoints of people in later life with respect to the use of connected devices and services in various contexts. By ascertaining the critical insights of older adults and evaluating their attitudes towards digital technology use, as well as the societal contexts of device and service utility, this chapter attempts to explore the thematic discursive narratives that influence the preferences and concerns of people in later life towards digitalisation and the social variables that affect their ability to access, and benefit from, connected technologies. The interplay of these discourses is discussed, and their potential policy implications are explored, particularly with respect to their ability to inform the creation of more equitable protocols and frameworks for age-inclusive digitalisation and accessible person-centred technologies in the future. As such, the wishes and preferences of older people are likely to be of immense value to the Commission in the creation of new

policy regimes to accommodate and harmonise, in a human rights and person-centred approach, the expeditious pace of digitalisation and demographic ageing within the EU (Sixsmith et al., 2022).

7.2 Contextualisation

Demographic ageing in the EU means that the number of people who are of working age is declining, and this trend will only accelerate in the coming years and decades (Eurostat, 2020). The trend of population ageing in modern developed society shares a complex social nexus with technological advancement, and the digitalisation of the fabric of modern communities and economies, reshaping the proverbial landscape of work, economic activity and the means of collective social interactionism between people (Beard et al., 2016). Improved healthcare and increased longevity have coincided with a steep decline in fertility rates in developed societies, which contrasts starkly with high birthrate trends in developing countries as is frequently seen in the global south (Bloom et al., 2010).

Paradoxically, despite a pronounced improvement in life expectancy among EU Member States in recent decades alongside a correspondent reduction in national fertility rates, the traditional normative social approach to ageing has remained largely stagnant in an era of profound technological change (Harper, 2014). As previously stated in this study, digitalisation has occurred at an unprecedented pace. Accordingly, for an individual to remain abreast and apace with the advancement of digitalisation, familiarity with the interfaces and utility of digital technologies is a common prerequisite for the exercise of personal agency in the contemporary world (Hänninen, 2025; Pérez-Verdugo et al., 2023). Older people, with low rates of historical digital uptake due to the advent of these technologies at a later stage in their lives, are often disregarded in the design of connected devices and services as they are frequently discounted as probable users (Peine & Neven, 2019). Further exacerbating the

digital divide, long-established paternalistic and wardship approaches to ageing remain largely unchanged in the modern age despite the latent potential of connected technologies to revolutionise the historical archetype of old age (Neves et al., 2021). Rigid techno-social inflexibility towards the reform of classical approaches to ageing alongside ageist patterns in the trajectory of digitalisation in European societies have altered the communal landscape for older people, with many facing systemic alienation from familiar patterns of life to one that is unlike anything witnessed in previous generations (Seifert, 2020). In terms of sociocultural practice, these technological and demographic changes arguably reflect the societal and structural conditions that inform the discursive construction and framing of ageing within digitalising societies in the EU. Fairclough's framework helps to empirically ground these policy and societal developments while establishing a link between the discursive exclusion of older adults and the practices of paternalistic traditions, economic interests and digital transformations (Fairclough, 2003; Wodak & Meyer, 2016).

Despite being part of a rapidly growing demographic, older adults are often increasingly lonely in the modern digital age (Barbosa Neves et al., 2021; Fakoya et al., 2020). The lack of adequate social structures and support systems that facilitate relative ease of involvement for older people in the design and manufacturing of digital technologies has meant that the voices of older adults have largely gone unheard in the era of digitalisation (Chu et al., 2022). Instead, the digital revolution appears to have been driven by corporate economic interests and capitalistic market forces which tend to show little regard to those who have attained a venerable age in life. Although EU strategic interests are arguably structured around the conceptual binding genesis of European Unity as expressed through the proverbial 'glue' of the single market, they have also sought to perpetuate the economic health of the union and enhance social justice and equality (European Commission, 2020). However, as previously stated, older people have thus far been unable to achieve an

equivalent level of political and social agency for self-representation in institutional policy in the contemporary EU in the same style as the 'nothing about us without us' movement of civic advocacy achieved by younger persons with disabilities (Priestley et al., 2010). To this end, it is imperative that older people can share individual viewpoints and disseminate personal discourses to expound upon their experiences and preferences on their role in a digitalising society in the EU.

7.2.1 Demographic Ageing and Digitalisation in the EU

For many years, the Commission has arguably exhibited a tepid interest in reforming the ageist aspects of digitalisation that have rendered themselves stark through the deepening digital divide (Lythreatis et al., 2022). Moreover, older people in the EU continue to occupy and reside within a particular social focal point of neglect and disenfranchisement that centres upon intersectional ageist and ableist lines (Mikton et al., 2021). Increasingly, this dual paradigm of discrimination can be evinced as a triumvirate tier model of discrimination that is compounded by a rapidly expanding digital dimension; exacerbating pre-existing social wardship approaches to ageing alongside ableist 'othering' of older people with disabilities through inequitable and disparate social and healthcare policies (Holman & Walker, 2021). Undoubtedly, the flourishing of the disability rights movement in the EU in the 21st century has yielded some, if limited, benefits 'by-extension' for older people such as a gradual expansion of accessibility features in the built environment in homes, towns and cities (Priestley, 2016). However, such advantages are discernibly incidental rather than purposeful with regard to older people. Insufficient addressment of ageist social practices in current policy frameworks in the EU, alongside an increasingly imbalanced digitalisation of EU society which risks accentuating intergenerational disconnectedness, have arguably given rise to the necessity for dedicated age-friendly protocols and strategic initiatives to mitigate the

discrimination frequently experienced by older people. This shines a light on Fairclough's dimension of discourse practice with respect to approaches to policy development, which may reproduce ageist portrayals of older people and digital technology while potentially minimising the incorporation of inclusive discourses. As in Fairclough's framework, the perpetuation of such institutional practices may explain how certain lexical choices and framings can continue to circulate in policies, serving to legitimise potential inequalities through institutional protocol (Fairclough, 2010; Reisigl & Wodak, 2009).

The Covid-19 Pandemic inflicted disproportionate and disturbing losses among older adults (Armitage & Nellums, 2020). Moreover, the entrenched wardship approach to ageing resulting in communities of older adults who are often in generally poor health residing in communal contexts in close proximity to others, encouraged the rapid spread of the virus throughout care homes and hospitals (Comas-Herrera et al., 2020). Ostensibly, the devastating consequences of the Covid 19 Pandemic for older people can (Van Jaarsveld, 2020), in retrospect, be perceived as a historic juncture and social watershed moment that has drawn the attention of the Commission to their plight. To this end, the Commission has made some initiatory, but significant, progress towards the formulation of strategic initiatives in novel policies to increase the involvement of older people in a digitalising society (European Commission, 2021). Further, there is a burgeoning willingness within the Commission to empower older people to express their wishes and preferences in a digitalising society and utilise technology to enable them to continue to live at home, monitor their health and wellbeing, and retain their independence (Sixsmith et al., 2022).

The pandemic discernibly expedited burgeoning cognisance within the Commission of the mounting social costs associated with an expansive demographic of older people, living in poor health, who frequently experience digital and socio-economic displacement from mainstream society (European Commission, 2022). To this end, the Commission

currently presents a nascent intention to steer the trajectories of digitalisation and population ageing towards a cohesive strategic objective with tangible benefits for older people through digital technology. In pursuance of this objective, there is evidence of subdued but discernible movement towards the creation of digital systems and social structures that could conceivably provide a communal 'voice' for older people. Conversely, the Commission has yet to acknowledge that older people represent an 'unheard voice' in society and the lack of a Commissioner for Older People also reinforces this assertion. However, there is a distinguishable shift in the linguistic framing of old age in Commission policy which, auspiciously, may augur a new era of social ageing for older people towards a future for symbiotic and person-centred relationships with digital technologies (Nimrod, 2020). In terms of discourse, Fairclough's Three-Dimensional Framework is represented in all three tiers through the analysis of textual framings of older adults and digital technology (Fairclough, 2015), as well as the discursive practices that help to circulate and perpetuate inclusive or ageist narratives in policy, and the broader sociocultural context of digitalisation, demographic change, economic interests and welfare structures that mould and influence these narratives.

7.2.2 The Position of Older People in the Digitalisation of Society

Older people living in the EU represent a demographic that is increasingly diverse, complex and now even intergenerational (Wanka, 2018). Further, even though contemporary generations that are currently in old age experienced decades of adult life in the pre-digital era, their relationship with connected technologies has become increasingly varied (Friemel, 2014). As old age itself has now evolved into a period of life with multiple stages that are reflective of variegated generational experiences and expectations from life in a digital society, older people themselves are increasingly aware of this paradigm (Neves & Amaro,

2012; Vittadini et al, 2013). For instance, the opinions and perspectives of baby-boomers towards digital technologies can be substantially different to those who are above the age of 85 (Freeman et al., 2020; Alhussein et al., 2023). Increased longevity and pronounced generational idiosyncrasies and characteristics in old age adds further complexity to the individual extent of digital technology adoption by the individual older adult in the context of the contemporary EU.

As a demographic that is particularly vulnerable to disempowerment, partially due to an historical lack of a cohesive or unifying social voice, older people have customarily and routinely experienced old age as a period of their lives where they continue to live as unheard and ignored members of society (Chu et al., 2022). So far, amidst the digitalisation of EU societies, the traditional experiences of older adults outlined above remain largely unchanged, with most being excluded from the potential benefits of an increasingly connected society (Tsai et al., 2015). Older adults find that they have extremely limited powers of self-advocacy in the digital world (Blažič & Blažič, 2020). This is arguably reflective of Fairclough's conceptualisation of textual representation, where the dearth of a collective voice by older adults in digital discourses can, in itself, silence an entire demographic and perpetuate social inequality (Fairclough, 2003; Van Dijk, 1996). An increasing number of studies exploring the opinions and experiences of older persons regarding utility of digital technologies and perceived benefits associated with connected devices, often reveal a desire for more opportunities to participate and provide feedback on their design and implementation (Peek et al., 2016).

Typically, older people generally express a strong desire to continue residing at home and to adhere to familiar patterns of life which they feel can adequately meet their needs and expectations (Sixsmith & Sixsmith, 2008). Although it may be rather unsurprising that people in later life generally communicate this perspective that might seem to be a reasonable and

expected of much of the adult population, older persons appear to be most at risk of unwanted interruptions to their ability to live according to their preferences (Kużelewska et al., 2025). Many find that the process of digitalisation is disruptive and disempowering to their relatively straightforward personal expectations and wishes, leading to an effective repudiation of their predilections and capacity to live an independent life (Lu et al., 2022).

To this end, older people frequently experience social isolation and feelings of estrangement from digitalised society which can contribute to fear of digital technology, often exacerbating feelings of loneliness and being 'out-of-touch' (Seifert et al., 2020; Barbosa Neves et al., 2021). Thus, the accumulation and synthesis of the discourses of older people on their interactions and experiences with digital technologies in the contemporary EU represents a critical necessity for the development of person-centred policies for active ageing and inclusive digitalisation (López et al., 2019). As such, this chapter attempts to explore, isolate and synthesise the experiences and perspectives of older adults regarding their interactions with a digitalising world, to learn from them as to what this transformation should entail, and how it might ideally benefit people in later life (Fang et al., 2022). At this point, the analysis provides an insight into the domain of sociocultural practice where ageing and digitalisation are experienced not only at a personal level, but are increasingly entrenched in institutional policy considerations in terms of welfare structures, economics and civic engagement among others, influencing how older people are framed in modern society (Fairclough, 1995; Wodak & Meyer, 2016).

7.3 Dataset and Method of Analysis

7.3.1 Reducing the Dataset: Operationalisation

The dataset extrapolated from ProQuest Central was subject to intensive screening readings through thorough perusal and was reduced, interpreted and operationalised

accordingly by way of CDA and deductive analysis in order to identify the primary themes and subthemes in the data (Wodak & Meyer, 2015). This process was identical to that which was applied to the ProQuest ASSIA database in Chapter 6. The ProQuest Central dataset comprises a literature corpus of 53 scholarly journal article publications that were published between the years 2012 and 2022. These documents constitute a valuable corpus of data comprising framings, portrayals and perspectives at the textual analysis level of Fairclough's first tier, rendering them appropriate for systematic coding (Fairclough, 2010). As such, the timespan encompassed by the dataset means it is significantly reflective of social trends and attitudinal shifts that have occurred during that timeframe with respect to discourses by older people on population ageing and digitalisation (Zhang, 2023). The scholarly research articles lend a valuable insight into the nuanced and multifaceted concerns and perspectives that exist among older people, across the spectrum of old age, towards digitalisation. This affords further observation of the relationship between extant social approaches to old age and digital technology and the resultant need for new policies that take into consideration the concerns, preferences and recommendations of older adults.

The journal articles utilised in this database were carefully selected for inclusion in the thesis based on the degree of capture they provided with respect to the opinions of older people towards digital technologies. These scholarly publications transmit the discourses of persons in later life as study participants who express their candid opinions, apprehensions, experiences and observations of digitalisation, as well as digital technologies and their use. When analysed through Fairclough's second tier of discourse practice, it is possible to gain an insight into the selection, discussion and circulation of the perspectives of older adults, which provides a contrast to policy perspectives on the same on people in later life and digital technology (Fairclough, 2001; van Leeuwen, 2008). As such, the literature corpus accumulated for synthesis in this chapter comprises a natural and complementary adjunct

sample to the data extrapolated from the ProQuest ASSIA database to investigate the discourses of caregivers.

The dataset explored in this chapter constitutes a compilation of studies that actively engage with older people. Many of these scholarly articles are attentive to the challenges pertaining to the engagement of older people in empirical research, and they frequently express that inclusive initiatives are difficult to implement at scale due to contemporary social, health, economic, educational, and geographical dimensions, amongst others (Seifert et al., 2020). They also provide an assortment of opinions from older people on the challenges and perspectives pertaining to digital technologies, both inside and outside of institutional and wardship environments (Van Deursen & Helper, 2015).

To this end, many researchers express that academic research involving older people entails significant difficulties due to many factors, including the respective willingness of individuals to participate in studies, as well as the according correlation between the social capital of participants in terms wealth, educational backgrounds, digital proficiency and geographical locations of those who take part (Gallistl et al., 2020; Berkowsky et al., 2018; Kokubun, 2022), and those who do not or cannot. As such, many of these publications stress that, at the moment, there is no ‘one size fits all’ approach to research involving older people and their interactions with digital technologies due to the variables outlined above which are grounded in social capital (Tsai et al., 2017). In this sense, these studies are cognisant that the practical scalability of their findings, particularly when attempting to reflect, in a general sense, the wider population of older adults in the EU, are likely to be compromised due to the practical limitations which often centre around the social capital of the participants as juxtaposed to that of the broader demographics of people in later life (Hunsaker & Hargittai, 2018). The forces that mould social inequalities in education, health, and socio-economic status among others, arguably comprise the same factors that inhibit the ability of older

people to access, benefit from, and provide active input in, digitalisation and digital technology design and development, thus outlining the challenge of representativeness in the sociocultural practice dimension (Fairclough, 2003; Wodak, 2015).

Date Chronology	ProQuest Central Document Type
18.06.2012	Form: Journal Article – Original Paper (Greenhalgh et al., 2012)
24.08.2012	Form: Journal Article – Original Paper (Henshaw et al., 2012)
16.04.2015	Form: Journal Article – Original Paper (Currie et al., 2015)
07.05.2015	Form: Journal Article – Original Paper (Magdalena et al., 2015)
18.05.2015	Form: Journal Article – Original Paper (Jones et al., 2015)
01.07.2015	Form: Journal Article – Original Paper (González-Oñate et al., 2015)
13.06.2016	Form: Journal Article – Original Paper (Zaidman & Tinker, 2016)
08.06.2017	Form: Journal Article – Original Paper (Santana-Mancilla & Anido-Rifón, 2017)
19.06.2017	Form: Journal Article – Original Paper (Hamm et al., 2017)
12.03.2018	Form: Journal Article – Original Paper (Beneito-Montagut et al., 2018)
16.05.2018	Form: Journal Article – Original Paper (Hepburn, 2018)
18.08.2018	Form: Journal Article – Original Paper (König et al., 2018)
21.09.2018	Form: Journal Article – Original Paper (Cavallo et al., 2018)
14.10.2018	Form: Journal Article – Original Paper (Boj et al., 2018)
18.10.2018	Form: Journal Article – Original Paper (Ejdys & Halicka, 2018)
18.10.2018	Form: Journal Article – Original Paper (Choudrie et al., 2018)
12.11.2018	Form: Journal Article – Original Paper (Łukasik et al., 2018)

14.11.2018	Form: Journal Article – Original Paper (Wilkinson & Cornish, 2018)
22.11.2018	Form: Journal Article – Original Paper (Cruickshank & MacIntyre, 2018)
20.09.2019	Form: Journal Article – Original Paper (Newman et al., 2019)
20.09.2019	Form: Journal Article – Original Paper (Marston & Hoof, 2019)
20.04.2020	Form: Journal Article – Original Paper (Halicka & Surel, 2020)
19.05.2020	Form: Journal Article – Original Paper (Stockwell et al., 2020)
03.06.2020	Form: Journal Article – Original Paper (Merkel & Hess, 2020)
28.07.2020	Form: Journal Article – Original Paper (Lam et al., 2020)
11.08.2020	Form: Journal Article – Original Paper (Abdi et al., 2020)
18.09.2020	Form: Journal Article – Original Paper (Quintana et al., 2020)
29.10.2020	Form: Journal Article – Original Paper (Essery et al., 2020)
24.11.2020	Form: Journal Article – Original Paper (Molina-Mula et al., 2020)
13.02.2021	Form: Journal Article – Original Paper (Abdi et al., 2021)
01.03.2021	Form: Journal Article – Original Paper (Abrantes et al., 2021)
04.06.2021	Form: Journal Article – Original Paper (Shah et al., 2021)
10.06.2021	Form: Journal Article – Original Paper (Bonaksen et al., 2021)
05.07.2021	Form: Journal Article – Original Paper (Kebede et al., 2021)
11.08.2021	Form: Journal Article – Original Paper (Tiersen et al., 2021)
05.10.2021	Form: Journal Article – Original Paper (Nthubu, 2021)
26.10.2021	Form: Journal Article – Original Paper (Raja et al., 2021)
15.11.2021	Form: Journal Article – Original Paper (Balasubramanian et al., 2021)
24.11.2021	Form: Journal Article – Original Paper (Kunonga et al., 2021)

30.12.2021	Form: Journal Article – Original Paper (Latikka et al., 2021)
03.03.2022	Form: Journal Article – Original Paper (Zak et al., 2022)
26.03.2022	Form: Journal Article – Original Paper (Van Hoof et al., 2022)
05.05.2022	Form: Journal Article – Original Paper (Camp et al., 2022)
09.06.2022	Form: Journal Article – Original Paper (Warwas et al., 2022)
23.06.2022	Form: Journal Article – Original Paper (Wallinheimo & Evans, 2019)
26.07.2022	Form: Journal Article – Original Paper (Poppe et al., 2022)
17.08.2022	Form: Journal Article – Original Paper (Bally et al., 2022)
19.08.2022	Form: Journal Article – Original Paper (Möller, 2022)
18.10.2022	Form: Journal Article – Original Paper (Zanchetta et al., 2022)
04.11.2022	Form: Journal Article – Original Paper (Jose et al., 2022)
18.11.2022	Form: Journal Article – Original Paper (Bek et al., 2022)
23.11.2022	Form: Journal Article – Original Paper (Vidiasratri & Bath, 2022)
31.12.2022	Form: Journal Article – Original Paper (Preda et al., 2022)

Table (1.) List of ProQuest ASSIA documents in descending chronological order

7.3.2 Data Familiarisation and Substantive Significance of the Dataset: Digital Technology in the Lives of Older Adults

The dataset is comprised of original papers from scholarly journal article publications that date between 2012 and 2022. This data sample captures a diverse range of perspectives on digital technologies from older people who perceive these novel devices and services with a nuanced range of opinions, preferences and apprehensions. The reasoning behind the isolation and capture of this data sample, reflecting the socio-cognitive precepts and discourses that are generated at the local and ground level among older adults, is that it assertedly represents an appropriate destination as a ‘jumping off point’ for a commentary on

the deficiencies of current systems of digitalisation and the corresponding policies which impact people in later life (Tsai et al., 2015). In this sense, the perspectives expressed through discourses in the data sample can conceivably aid the process of providing a feedback loop for policy creation mechanisms by engaging the end-user as a key stakeholder when gathering general responses on the efficacy of current systems administering digitalisation and models of ageing (Sixsmith et al., 2022).

The literature corpus derived from the ProQuest Central database comprises a compilation of scholarly journal article publications that deal directly with the perspectives and experiences of older people on digital technologies, services and robotics. The publications provide an invaluable scholastic corpus of discourses from the perspective of older people themselves on the trial and utility of digital technologies (Peek et al., 2014). Through deductive analysis and substantive appraisal of the literature, there is an arguable potential for a bona fide policy feedback loop which can transfer the discourse data of older people upwards to the heights of institutional policy creation apparatuses to generate informed protocols and systems of governance (Van Deursen & Helsper, 2015). This, undoubtedly, is a key prerequisite to the creation of a system of self-representation and advocacy among older people that can mirror the ‘nothing about us without us’ movement as sanctioned and invoked by people with disabilities (Charlton, 1998).

7.3.3 Analysis of Dataset and Creation of Codes

The synthesis of the dataset is divided into two parts in accordance with the creation of two node hierarchies. As such, the coding of the dataset takes place under each of the node hierarchies according to the relevance of each sub-theme or code beneath the corresponding hierarchical heading (Braun & Clarke, 2006). The literature coded in this chapter clearly expresses the themes, attitudinal expressions and experiences of older people through their

social interactions with digital technologies and caregivers. Through the deductive synthesis of the literature and the textual-linguistic prominence of each respective discourse, an analogous thematic code was created to reflect individual themes (Nowell et al., 2017). As before, the deductive coding process is guided by Fairclough's Three-Dimensional Framework, including his categories for discursive, textual and rhetorical features, and it provides for the inductive emergence of unanticipated themes, helping to ensure that certain novel or context-specific narratives expressed by older adults are included in this analysis (Fairclough, 1995; 2003; Braun & Clarke, 2006). In a process identical to that applied in the previous chapter, the text corpus was synthesised and filtrated for discourses which were subsequently interpreted and listed in accordance with frequency of occurrence in the literature. The codes in each node hierarchy are catalogued in a top-down fashion to reflect the occurrence of each respective theme in order of frequency in the text, from highest to lowest incidence. Further to this, a corresponding graph reflective of the sum total of codes in each node hierarchy is presented as an adjunct to this process later on in this chapter to reflect the respective incidence of each strand of discourse over the timeframe covered by the dataset (Vaismoradi et al., 2016). This step is reflective of Fairclough's textual dimension in which lexical, rhetorical and thematic features are considered and systematised in the coding process, enabling them to be linked to discourse practice and sociocultural contexts later on in the chapter (Fairclough, 2003; Braun & Clarke, 2006).

7.4 Coding the ProQuest Central Database (see Appendices O – P)

7.4.1 Interpretation-Focussed Coding: Creating the Node Hierarchies

Similarly to the methods applied in the coding of the ProQuest ASSIA sample in Chapter 6, the ProQuest Central database is operationalised and categorised into node hierarchies and their constituent subcodes. This is achieved through the implementation of in-

depth screening readings by way of perusal and deductive synthesis of the literature to isolate the primary discourses therein and link them to their themes and subthemes according to Fairclough's CDA (Saldaña, 2016). The timespan of the text corpus is also taken into consideration when creating these codes with the intention of discerning variations in discourses over time.

The methodological rationale behind the creation of the node hierarchies and subsequent codes is to capture the discourses of older adults on digital technologies and to detect their subthemes. To this end, older adults represent the proverbial 'ground zero' or social focal point for policies governing demographic ageing and age-friendly accessible digital technologies (Sixsmith et al., 2022). In this sense, people in later life are, in essence, the transversal and final destination point where policy and practice converge at the absolute ground level. To this end, older adults arguably comprise an axiomatic social sponge that absorbs the effects of policy for the better, or for worse. As such, the nodes and codes are extrapolated from the discourses discerned within the literature corpus with cognisance of the aforementioned factors and the unique social locus of older people whose views are substantially percussive for the purpose of this chapter. At the level of discourse practice, the coding process helps to shed light on the production and circulation of knowledge about the experiences of older adults regarding digitalisation and digital technology use (Fairclough, 1992; van Leeuwen, 2008).

Node Hierarchy 1.	*Preferences and Concerns of Older Adults Towards Digital Technologies*	**Matching Discourse(s)**	Reflection
Node Hierarchy 2.	*Social Variables Influencing Digital Technology Access and Perceptions*	**Matching Discourse(s)**	Digital Divide

Table (2.) Table displaying node hierarchies and corresponding discourses.

7.4.2 'Preferences and Concerns of Older Adults Towards Digital Technologies' and Relationship with Reflection

In this node hierarchy, older people divulge a general tendency towards processes of 'reflective thought' with respect to potential applications for digital technologies that might align with their personal wishes and preferences for how connected devices and systems are implemented. To this end, they unveil the thematic discourse of 'Reflection' and 'Reflective Thinking'. Anderson (2017; 2018) says that Dewey (1933), alongside Banegas and Villacañas de Castro (2016), provide a concise breakdown on reflectivity in cognitive thought processes:

> Such definitions can be synthesized as follows: reflection is conscious, experientially informed thought, at times involving aspects of evaluation, criticality, and problem-solving, and leading to insight, increased awareness, and/or new understanding. As

such, reflection can be contrasted with ‘impulsive’ or ‘routine’ decision-making that reinforces and embeds current perceptions or practices (p. 23).

Older people express preferences and concerns towards digital technologies in a lucid, deeply thoughtful and reflective sense, primarily from a standpoint centred around their personal existence, independence and autonomy, with an adjunct emphasis on the value of physical and mental wellbeing (Cavallo et al., 2018). Further, the dataset disseminates the malleability of socio-cognitive impression formulation on the part of older adults as they acquire experience and familiarity with digital goods and services, revealing how the process of digitalisation has altered their lives in a general sense irrespective of their familiarity with the utility of connected devices and systems (Abdi et al., 2022). People in later life expound discourses that reflect a palpable desire for their views to be taken into account on the direction, design, utility and implementation of digital technologies (Nimrod, 2020). At the textual level, these reflective portrayals are indicative of rhetorical and lexical markers of independence and autonomy which signal how older adults are positioning themselves in a discursive sense as agents, rather than passive recipients, of digital technology (Fairclough, 2003). The discourse practice domain shows how these reflections are provided with a conduit by way of scholarly research through which older adults can express their perspectives and preferences and indirectly circulate them to a wider array of audiences.

7.4.3 ‘Social Variables Influencing Digital Technology Access and Perceptions’ and Relationship with the Digital Divide

The second node hierarchy reflects that older adults experience the paradigm of digitalisation through pivotal social variables and determinants associated with the digital divide (Van Deursen & Helsper, 2015). The experience of digitalisation for older people is often idiosyncratic and subject to a multiplicity of determinative factors predicated upon

aspects of social capital that assume a deciding role in cases of successful uptake of digital technology and, conversely, in the isolation and disenfranchisement of the individual (Kokubun, 2022). In this sense, Srinuan and Bohlin (2011) explain that "The diffusion of ICTs drives access to information and knowledge; the uneven distribution of ICTs within or between societies may result in their having a very uneven impact on economic development and on wealth" (p. 662).

Thus, the ease at which older people either adapt to digital technologies, or are disenfranchised by them, are indeed decided in a significant way by the social capital of the individual. Janus (2024) provides a succinct definition of social capital, "In general, social capital can be defined as a set of resources that result from the relationships and interactions between people in society. Social capital includes factors such as social norms, values, trust and social networks" (p. 2). It is clear from the above definition, that many older people suffer from diminished social capital due to a traditional model of old age alongside the associated fraying of links with society and of interpersonal relationships, often with a corresponding waning of individual agency as a result of disengagement from employment and other aspects of collective communal involvement. These phenomena that are inherently associated with long-established models of ageing arguably serve to exacerbate the magnitude of the digital divide and compound the associated challenges for older adults (Seifert et al., 2020). When analysed through Fairclough's sociocultural tier, these narratives provide an insight into the ways in which structural inequalities in social capital, education, networks and resources among others, mould the opportunities and abilities of older adults to engage with digitalisation, thereby entrenching the digital divide within wider societal practices of exclusion (Fairclough, 1995; Van Dijk, 2020).

The influence of social capital upon the effects of the digital divide experienced by older people is undoubtedly prodigious as younger adults and children are increasingly

immersed in an online existence, running laterally to their physical and distal reality, with the lines between the two becoming progressively blurred and indistinct (Van Dijk, 2020). Assertedly, older people remain on the very fringe of a modality of digital social capital that, thus far, discernibly perpetuates and proliferates itself through the medium of a technology-driven and youth-oriented economic market for generations of technically savvy younger users and working professionals (Hunsaker & Hargittai, 2018). Moreover, as revealed by the dataset, older adults are perceptive and aware of their position in this regard. They express accordant discourses on connected technologies by elaborating upon the apprehensions, challenges and disenfranchisement they routinely face in the context of the digital divide (Tsai et al., 2017).

7.4.4 Digital Technology and Older Adults – Identifying the Driving Discourses (see Appendices O – P)

Through empirical screening and deductive analysis of the text corpus in line with Fairclough's CDA, it is apparent that the discourses that emerge from communities of older people are generally divided into two themes; the 'Digital Divide' where persons in later life are frequently disenfranchised by the effects of digitalisation; and 'Appraisal', in which expressions of reflection upon the positive, negative and unknown aspects of connected technologies are conveyed in a thoughtful manner by adults in their golden years (Seifert et al., 2020). When read through Fairclough's textual analysis tier, the consistent and recurrent framings of the 'Digital Divide' and 'Appraisal' discourses cast a light on how rhetorical and lexical choices portray older adults as digitally excluded, or critically reflective (Fairclough, 1995; Reisigl & Wodak, 2009). At the discourse practice level, these codes reveal how research literature negotiates or mediates between the lived experiences of people in later life and the institutional uptake of such discourses in Commission policy. Indeed, in the

sociocultural domain, this dual focus situates the discourses of older adults in broader discussions on ageing demographics, ageism and digital inclusion in the EU (Wodak & Meyer, 2015).

By utilising two distinct node hierarchies under the headings of ‘Digital Divide’ and ‘Appraisal’, it is possible to identify and categorise the prominent sub-themes in the discourses extrapolated from the literature corpus by placing them within the context of the corresponding dominant discursive heading. To this end, the entire literature corpus was empirically screened, and the critical discourses were isolated and listed in accordance with their frequency of occurrence within the text. The discourses and corresponding themes identified within the data-sample displayed a significant degree of variability with respect to positive or negative impressions of digitalisation, and they also revealed an accordant level of malleability depending on a multitude of determinative factors (Nimrod, 2020).

Whilst caregivers have been able to provide invaluable feedback on their experiences and impressions on the relationship between older adults and digital technologies, capturing the discourses of persons in their golden years themselves enables researchers to assess the degree of discursive harmony and divergence between people in later life and their carers in the context of digitalisation (Van Deursen & Helsper, 2015). To this end, the dataset indicates that the older people who take part in trials of digital technologies and subsequently provide their feedback to the research community are often those that are better positioned to do so, and this is recognised by caregivers and researchers alike (Abdi et al., 2020). This congruence between older adults and caregivers, as reflected in the literature, assertedly bolsters the reliability and tangibility of convergent discourses between the datasets in this study.

7.4.5 Example of the Coding Process in Action

Appendices ‘O-P’ provide comprehensive worked examples of the line-by-line coding process alongside a subsequent discussion of each code as implemented in the analysis of the ProQuest Central text corpus. However, in order to boost the visibility and transparency of the data analysis, this section provides some worked examples of the coding process to show how this dataset was coded. For instance, under the node hierarchy of ‘Reflection’, the first code is titled ‘Technology for Eudaimonic Wellbeing’, and it references tracts of text that relate to this heading, such as:

> Besides, the views of the carers’ corroborated with those of the patients as they could see the positive impact of the device on the social and mental well-being of the users, especially in people who were ageing or had mental health issues (Balasubramanian et al., 2021, p. 6).

Similarly, for the node hierarchy of the ‘Digital Divide’, the thematic code titled ‘Technology Use for Communication’ includes the following excerpt as an example of the content that is coded under this heading, “For example, a review on the effectiveness of technologies on social isolation amongst older people reported positive results, mainly with telecare, video games, information communication technologies (ICT) and robotics” (Abdi et al., 2021, p. 2).

7.5 What are the Findings?

7.5.1 Alterations in Discourses Over Space and Time

The dataset yields compelling insights into variations in the discourses promulgated by older people over space and time regarding their perspectives on, and interactions with, digital technologies. The literature corpus uncovers a lucidly shrewd appraisal of digital

technologies by older adults in a manner that is not dissimilar to the caregiver perspectives analysed in the previous chapter (Peek et al., 2014). Older people, for their part, have adopted a significantly open-minded approach towards the advent of digital technologies to an extent that many may find to be surprising when considering popular ageist narratives in circulation on this topic (Nimrod, 2018). Instead, older adults voice their wishes and preferences to continue living in an independent manner, at home, and well into old age, but are eager for digital technologies to empower them to this end (Sixsmith & Sixsmith, 2008). As such, people in later life express their inner reflections on their wishes and preferences for how digital technologies should be designed, what their function should be, and how they can be utilised for their optimal benefit (López-Seguí et al., 2019). They also express, in a candid and frank manner, their fears and concerns over potential outcomes of digital technology utility that older people would likely find to be undesirable and contrary to their preferences and interests (Seifert et al., 2020). As such, the findings are interpreted across Fairclough's Three-Dimensional Framework comprising textual features, discourse practices and production, and their interaction with wider sociocultural debates on ageing, older adults and digital technology (Fairclough, 2003; Wodak & Meyer, 2016).

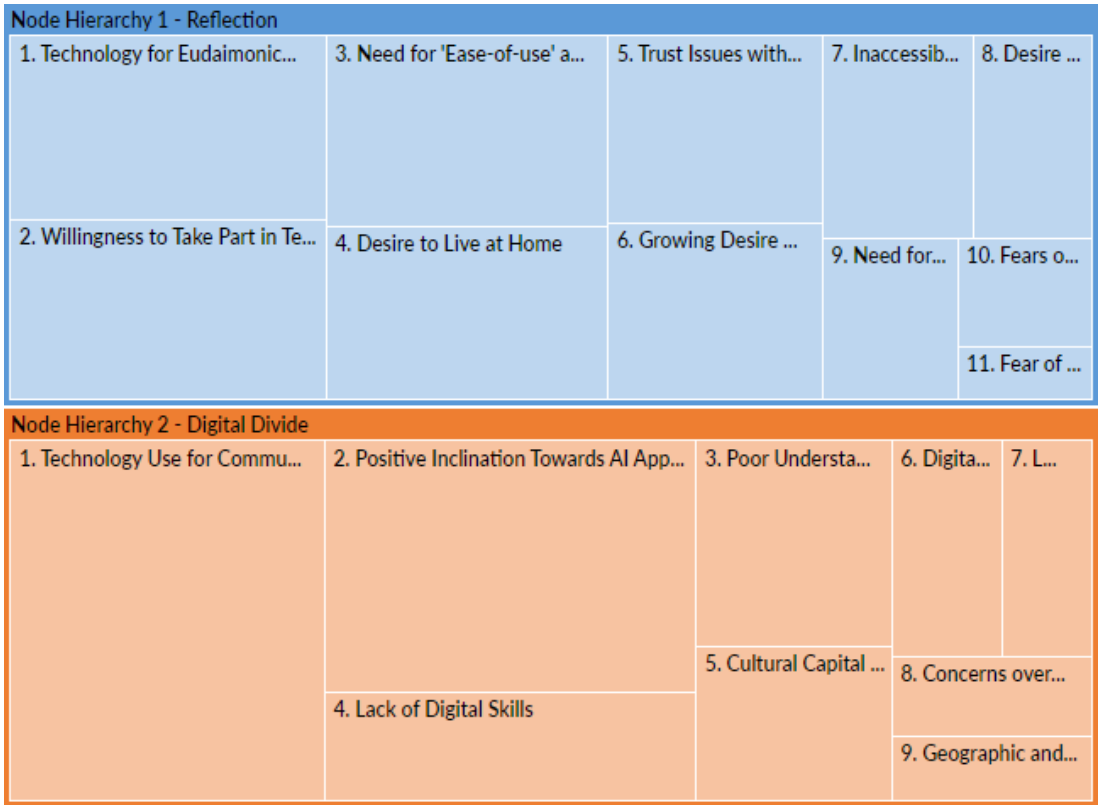

Table (3.) Hierarchic block chart of hierarchical nodes based on numbers of coding references

The node hierarchies of 'Preferences and Concerns of Older Adults Towards Digital Technologies', is linked with the discourse of 'reflection', while 'Social Variables Influencing Digital Technology Access and Perceptions', is matched with the discourse of the 'digital divide'. This comprises an apportionment of the discourses extrapolated from the dataset into two finely balanced halves (Gallistl et al., 2020). The evenly distributed bifold strength of the two node hierarchies is especially revealing. Older people elucidate upon their concerns surrounding their ability to successfully acquire, access and utilise digital technologies, which often centres around multifactorial dimensions pertaining to social capital (Hunsaker & Hargittai, 2018). To this end, social variables and considerations influencing access to digital technology by older people are almost equally aligned with the preferences and apprehensions of adults in later life surrounding the purpose, design and intended use of connected devices (Tsai et al., 2017). As such, the even division and apportioning of discourses on digital technology indicates that older people afford significant

thought, and clear-eyed consideration, to the challenges and limitations of connected devices and services, as well as their preferences towards potential design specifications, interfaces and purposes. The dual paradigm of the node hierarchies with concordant levels of respective prominence within the dataset suggests a proverbial marriage of evenly balanced discourses on considerations by older adults towards digital technologies (Nordeström et al., 2023).

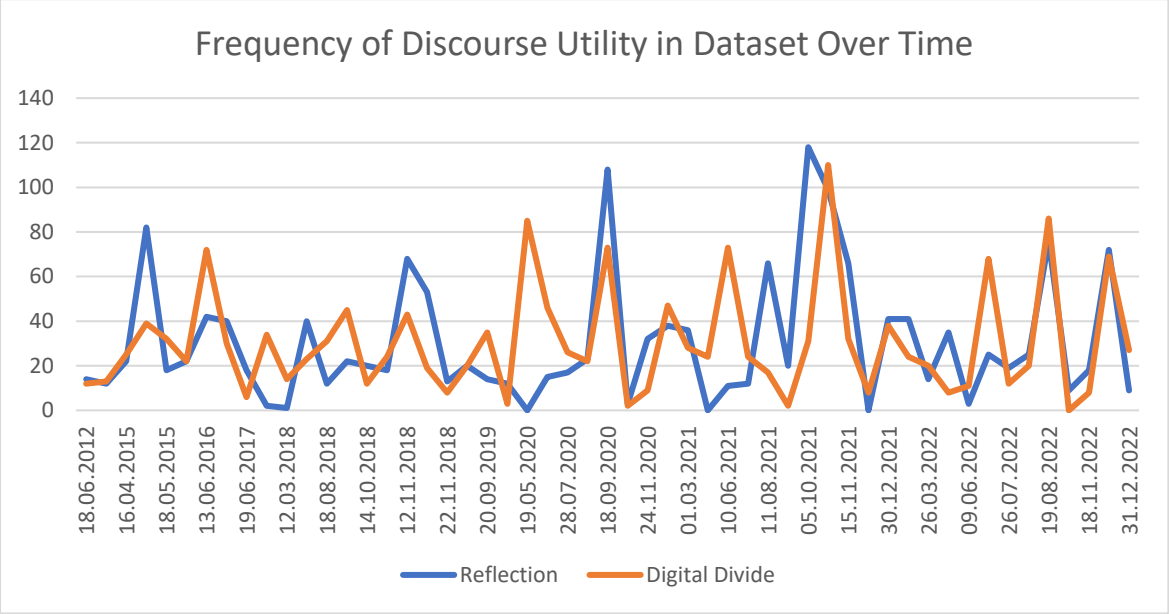

Table (4.) Line chart displaying the respective prevalence of each discourse node over time

When one views the trajectories of the node hierarchies over the timeframe covered within the datasample, it is possible to discern a more nuanced impression of how the two dominant discourses are expressed in a chronological tempo over several years. The outcome here is slightly more heterogeneous than a simplistic even split through a dichotomic balance between the discourses of ‘reflection’ and the ‘digital divide’. Instead, it is clear that the number of scholastic studies that actively sought feedback from older adults on digital technologies, and the impact of digitalisation on their lives, experiences a significant increase in the latter portion of the assessed timeframe, with a little under a fifth of the text corpus having a publication date prior to 2018. This reflects the rapid emergence of ageing and digitalisation as a topical area of academic research due to intensifying social, economic and even geopolitical trends in this sphere within the EU. When considered from the perspective

of discourse practice, these trends are linked to discursive narratives that evolve and reconstitute themselves across evolving policy landscapes (Fairclough, 1992; Linell, 1998).

7.5.2 Variables: Critical Insights of Older People

The dataset provides a compelling insight into the aggregated multitude of variables that influence the socio-cognitive precepts of older adults towards digital technologies. Some of these determinant factors for older people are idiosyncratic in nature and, thus, they may only influence those who are subject to certain conditions such as physical disability or poverty, amongst others (Gilleard & Higgs, 2014). Other variables are experienced with practical uniformity by people in later life; the desire to remain living at home while retaining corporeal autonomy and independence features prominently as a universally favoured condition and modus of existentialism in a digital world (Sixsmith & Sixsmith, 2008). Webber (2018) explains that "Existentialism is therefore defined as the ethical theory that we ought to treat the freedom at the core of human existence as intrinsically valuable and the foundation of all other values" (p. 2). In spite of this however, many older people experience significant challenges with respect to technology utility as they often lack confidence in their digital skills and subsequently struggle to understand the potential impact of the device or service on their quality of life (Abdi et al., 2020). Older adults are increasingly willing to take part in technology-based interventions and acknowledge the importance of digitalisation in modern society and daily life (Ibid.). When viewed from the domain of sociocultural practice, these variables show how structural inequalities such as poverty, disability and stigma, can shape levels of uptake and use of digital technologies among older people (Fairclough, 2003; Peine & Neven, 2019).

As older people prefer to continue living at home, they are frequently reluctant to alter their primary dwellings in ways that could result in stigmatisation (Nthubu, 2021). These

feelings are often linked to a preference for assistive technologies that entail discrete and non-traditional designs to avoid creating socio-cognitive impressions of stereotypical old age within themselves or others. Older people are often keen to avoid stigmatic environs (Ibid.), as well as stereotypical items that are frequently associated with old age. As such, many are threatened by digital technologies, perceiving them as an unfamiliar form of device or service that often lacks elements of reassurance or clarity with respect to purpose and utility. However, once adequate familiarity in basic device utility has been established between an older person and digital technology, the primary motivation for utilising the equipment or service is often for the relatively simple purpose of communication (König et al., 2018).

Through specific utility of digital technology for communication, the number of older people adopting connected device and services is growing. This has contributed to increasing uptake in digital technologies among people in later life, particularly in recent years, as many seek to maintain their interpersonal relationships on which they place a high degree of importance (Peine & Neven, 2020). Older people express a preference for in-person communication methods where they are possible but are increasingly open to the adoption of novel technologies if it is necessary to preserve or maintain their connections with others (Ibid.). At the same time, many express concerns over the potential for digital technology to incorporate inherent facets that might pose a security risk to the end-user. These risks include the ability of certain technologies to monitor the user and potentially compromise their personal data. In general, older people are substantially concerned about maintaining their personal privacy in the face of digitalisation (Van Deursen & Helsper, 2015). Many also report having a low pension income which can exacerbate trust issues towards digital technologies due to the costs associated with acquiring a device and service. Additionally, older people are apprehensive with respect to potential breaches of privacy, with some being more accepting of novel technologies and services that incorporate capacities for sensitive

data collection and monitoring, often due to a lack of technical knowledge about the device and platform and, indeed, the associated risks (Seifert et al., 2020). Older adults who are in the younger cohort of people in later life often reject monitoring technologies with greater incidence than those in very old age (Ibid.).

Many older people want digital technologies to incorporate an intuitive, simple and straightforward interface to facilitate ease-of-use for the end-user (Tsai et al., 2017). Dimensions of social capital such as fiscal status, geographic location of residence, respective level of education and lifelong career paths, amongst other factors, all play a significantly determinative role in digital technology utility and uptake (Hunsaker & Hargittai, 2018). Further, the impact of these social archetypes that traditionally stratify all demographics irrespective of age group are no less profound among people in later life (Gallistl et al., 2020). To this end, older people with robust financial means, a high level of education, who are less geographically isolated, and who have former career background where exposure to digital technology occurred, are generally more amenable to the utility and uptake of connected devices, services and robotics (Berkowsky et al., 2018). Moreover, utility of digital technology generally increases amongst this category of older people once they experience how connected devices, services and robotics can assist them to maintain personal relationships, mitigate loneliness, and enhance independent living (Chen & Schulz, 2016). In addition, a subsection of older people who are caregivers are significantly more likely to utilise digital technologies and perceive them in a positive light than patients who are also in later life (Boots et al., 2015).

In general, older people are increasingly cognisant of a pressing requirement for access to educational resources in the utility of digital technologies to achieve basic proficiency (Tsai et al., 2017). Furthermore, many are becoming more predisposed to digital device and service utility for the purposes of benefitting from health self-monitoring

platforms (Chen & Schulz, 2016). Health technologies are experiencing increased levels of utilisation by older people who are eager to enhance their corporeal independence, reduce reliance on caregivers for the monitoring of medical conditions, and even take part in trials and studies involving digital devices, services and robotics (Peek et al., 2016). However, there remains a significant deficit of participatory design approaches in digital products for older people (Wilkinson & Cornish, 2018).

With respect to robotic technologies, older users often perceive these technologies as a threat to their esteem and autonomy due to the ability of such devices to perform mundane or routine tasks (Lukasik et al., 2018). People in later life hold mixed views over the practical usefulness of robotic technologies and frequently diverge from caregiver perspectives on what is best for the older person, to a viewpoint of people in their golden years making decisions based on their wishes and preferences (Ibid.). To this end, the discourses of the literature corpus reveal a strong preference among older people for digital technologies to perform roles of a practical aid and assistant, but not to function as a replacement for all social contact or undertake every task that they, or a caregiver, can manage for themselves. As an example, older people would prefer digital technology to function as a reminder or aide memoire for appointments or medication dosages but may not necessarily perceive a cooking function in a robot from the same standpoint as a caregiver might (Ibid; Broadbent et al., 2018).

7.5.3 Evaluation

From a data evaluation standpoint, the dataset yields compelling findings from scholastic studies that speak in empirical terms to the perspectives of caregivers and EU policy documents from the EurLex text corpus, albeit from the position of older people. Kebede et al. (2021) categorises engagement by older people with digital technologies in the

following triumvirate order of ‘non-use’, ‘initial adoption’ and ‘sustained engagement’. This pattern is echoed in the dataset and, accordingly, the literature corpus yields insightful perspectives on aspects of causalities, obstacles and successes, that affect each stage of this triumvirate order (Ibid.). This synthesis and evaluation establishes a link between textual and rhetorical framings and discourse practices by revealing how the academic research corpus on older adults portrays non-use, adoption and sustained engagement, while potentially marginalising others (Fairclough, 2003; Saldaña, 2016).

With respect to the non-use of digital technologies, it is frequently the case that older people experience substantial challenges due to physical or cognitive disabilities (Abdi et al., 2020). Thus, the literature reveals an urgent need for adequate person-to-technology matching procedures to be implemented in order to achieve a human-centred model of integration for digital health devices and services for the idiosyncratic requirements of people in later life (Lukasik et al., 2018). Other practical barriers to the access and utility of digital technology include a lack of user-centric devices that are appropriate for older people to use in domestic contexts, despite increasingly positive precepts towards the principle concept of a smart-home. Older adults are anxious about the economic implications of digital technology acquisition and utility. Van Hoof et al. (2022) explains that the lack of age-friendly design and instructions in digital technologies leaves them dangerously dependent on others, such as children or other individuals, for the exercise of their personal affairs and independence. Older adults often feel immense disquietude over this, and it frequently undermines the ability of people in later life to protect their own personal identity (Ibid.). The literature consistently reveals that personal identity is something that they steadfastly wish to protect. Moreover, older people often feel lonely, and they frequently fear that technology will exacerbate their isolation (Barbosa Neves et al., 2021). This arguably contributes to a

problematic lack of comprehension among older adults towards the latent potential value of digital technology, and the internet, for their quality of life (Cavallo et al., 2018).

Certain factors that can contribute to the adoption of digital technologies among older people include perceived capability and utility of connected devices and services to pursue interpersonal communications, hobbies and interests (Abdi et al., 2022). Further, there are positive signs from voice-reading AI applications that can facilitate ease-of-use of digital technology. Older people are also increasingly willing to utilise gamified technologies to aid recovery, rehabilitation, exercise and cognitive problem solving (Zak et al., 2019). Overall, the literature uncovers a gender dimension to the utility of digital technologies among people in later life, with women being slightly more open to the use of connected devices and services than men (Gallistl et al., 2020). Furthermore, although women commonly utilise mobile phones, men use computers with greater frequency, and they are also more predisposed to the use of humanoid robotics than females (Lukasik et al., 2018).

Older people express a general preference for in-person communication and social interactionism with their caregivers and will frequently opt for human contact over a digital option if given the choice (Coley et al., 2022). Closely linked to this preference among older adults is a palpable fear that technology might separate them from others such as caregivers and loved ones (Bonaksen et al., 2021). As such, older people may waver with respect to the adoption of digital technologies out of fear of losing their closely held relationships with others through apprehensions about a replacement of in-person contact (Roberts et al., 2015). Other challenges to successful and steady adoption of digital technologies include a general lack of interest and motivation among older people regarding their utility. Exceptions to these obstacles to adoption include an interest among older people in digital technology where the benefit is obvious to them, such as for the prevention of falls (Wilkinson & Cornish, 2018). VR applications for the prevention of frailty syndrome and falling have enjoyed more

significant engagement from older people as opposed to other forms of technology as they often experience this particular medium to be highly engaging (Zak et al., 2019). In addition, the literature reveals a gradual increase in willingness among persons in later life to utilise gamified technology to aid recovery, rehabilitation, exercise and cognitive problem solving (Ibid.).

Konig et al. (2018) notes that internet usage among older people is significantly driven by elements of social capital such as education, income, geographic location and health. Internet use for communication has, discernibly, led to improved mental health among older people (Abdi et al., 2022). However, internet utility for other functions did not necessarily contribute to better mental health outcomes among older adults. The dataset expresses that psychological barriers to internet use among older people must be identified and considered when approaching technology matching and utility (Magdalena et al., 2015). One telling factor that contributes to uptake of digital technologies is the utility of these capabilities for the fulfilment of Eudaimonic needs (Balasubramanian et al., 2021; Vaportzis et al., 2017). Huta & Waterman (2013) explain that "a eudaimonic orientation includes seeking authenticity, meaning, excellence, and personal growth" (p. 1426).

The utility and uptake of robots is also deeply nuanced and complex, particularly as the capabilities of these devices continues to experience rapid growth. Older people hold mixed views over their usefulness in their current form but are generally becoming more open to the concept of their adoption and utility when it is clear that their personal independence and autonomy is not threatened by the device (Lukasik et al., 2018). The literature reveals that older people with lower psychological resources might be more inclined to accept robotic devices such as the Paro seal, a therapy animal-like robot that is designed to provide a degree of company and comfort for the user (Latikka et al., 2021). Conversely, older people with a high degree of cognitive functionality are less likely to adopt such

devices which they may even construe as patronising and undignified (Lukasik et al., 2018). In general, older people express a variegated discourse on the suitability of robotics for their personal utility, indicating a need for appropriate person-to-technology matching processes, and further development and refinement of these devices (Coley et al., 2022). Moreover, people in later life are increasingly eager to be involved in the design processes of digital health technologies, services and robotics, and to provide critical input and feedback on their development and implementation (Preda et al., 2022; Tiersen et al., 2021).

Merkel and Hess (2020) explain that lifelong learning might be a contributing factor in encouraging slight increases in the uptake of digital technology among older people. However, poverty in old age continues to be a pervasive issue, with many experiencing anxieties surrounding the potential financial costs associated with digital and telecare services (Molina-Mula et al., 2020). Moller et al. (2020) also echoes this sentiment, explaining that older adults who are ex users of the internet and digital technologies frequently cite financial costs as a primary reason for cessation of use and as a key barrier to access. Further to this, many older people are of the opinion that digital technology use erodes memory skills (Wilkinson & Cornish, 2018). However, successful and enthusiastic utility of digital technology has been increasingly reported for enjoyable activities, though there may be significantly idiosyncratic dimensions in this respect which might not be accurately reflected in the general demographics of older people.

The dataset indicates that there is an inadequate degree of technological optimisation for older people. Nthubu (2021) explains that younger people design the technology that older adults use, with low levels of user involvement in the process. Regarding robotics, people in later life express a strong preference for aesthetics that have a slightly humanoid or animalistic design, but in a manner that does not look too lifelike, so that they feel safe and certain about the exact nature of the device (Lukasik et al., 2018; dos Santos, 2020). Older

people generally feel that the device should never exercise too much control over them, nor should it make the user feel guilty or inadequate. A conversational function or aspect to the robot or technology is generally viewed as desirable, as is the actual device itself for the purpose of reducing feelings of loneliness (Coley et al., 2022).

Poppe et al. (2022) and Quintana et al. (2020) note that work is underway to explore the use of AI devices by dementia patients and that, as a result, needs vary across the spectrum of users and the stages of the disease. As such, the involvement of patients in each stage of the testing process is significantly important, as is learning from their feedback. Raja et al. (2021) explains that older people deem ease-of-use and instruction to be determinative factors in the uptake and utility of novel devices. However, Shah et al. (2019; 2021) states that digital technology does not definitively reduce loneliness in older people, but that device familiarity may have something to do with this finding (Barbosa Neves et al., 2021). Conversely, Bonaksen et al. (2021) reinforces the importance of technological familiarity by emphasising that competence in device utility may lead to improved psychological outcomes, particularly with respect to video applications. Vidiasratri and Bath (2022) and Wallinheimo and Evans (2022) state that internet use has a complex effect on loneliness as it can mitigate feelings of isolation, but only through correct utility behaviours that do not contribute to aloneness or a lessening of human contact.

The dataset reveals a lucid appraisal of digital technologies by older people who elucidate discourses on positive and negative aspects of device utility and digitalisation. It uncovers the depth and extent to which older people perceive digital technology and reveals how their opinions can be altered through education and personal experience, for better or for worse (Wilkinson & Cornish, 2018). The literature corpus also expounds an abundance of scholastic recommendations for greater scalability of data sample participation that can reflect the viewpoints of a broader pool of older adults that is likely to represent, with greater

accuracy, the general population of people in later life (Coley et al., 2022). The discourses promulgated in this chapter are nuanced and insightful, echoing a cleareyed and shrewd appraisal of older people towards digital technology. Tellingly, they also speak to significant aspects of the direction of Commission policy discourses on ageing and digitalisation (European Commission, 2022).

The driving discourses that motivate the opinions of older people with respect to digital technologies are linked to the themes of the digital divide and critical reflection; the former towards which the Commission is assuming a more proactive approach for future mitigation through the agency of policy creation (Frezzo, 2011; Mladenov, 2016). Measures such as the 'Design for ALL' in ICT and the European Standard for ICT Accessibility EN 301 549, AI4EU, alongside legislative changes through the Accessibility Act and the WAD, are aiming to redirect the trajectory of digitalisation to promote inclusivity for older people and persons with disabilities (European Telecommunications Standards Institute, n.d.; European Commission 2019). Among the more challenging aspects of inclusive ageing policies are the low levels of direct input and involvement from older people. As such, novel models of old age socio-economic productivity and active participation in society feature in Commission policy objectives with respect to demographic ageing in the EU (Graafland & Verbruggen, 2022). To this end, increased retirement ceilings, alongside enhanced digital and ICT competence among older people, will alter traditional models of ageing.

7.5.4 Attitudes and Policy

The text corpus reveals that, as time moves on, older people are gradually becoming more open to adopting new technologies. This, in turn, could lead to older demographics becoming an attractive market force for technological companies to tap into (Komp-Leukkunen, 2023). This speaks directly to the active ageing and digital agenda policies of the

Commission, where institutional protocol is attempting to mitigate the age-oriented consumer gap in the utility of connected devices and services (European Commission, 2010). Preda et al. (2022) emphasises the need for participatory processes in ICT development for older adults with an ethos predicated on solutions and innovative approaches to design. Attitudes towards discrete designs and accessibility features in digital technologies to facilitate ease of use in an AAL environment are generally positive among older people (Santana-Mancilla & Anido-Rifón, 2017). Moreover, the development of AAL solutions has now assumed a prominent position in Commission policy and is positively echoed in attitudinal precepts among people in later life and, indeed, by caregivers (European Commission, 2021; Tiersen et al., 2021). From the perspective of sociocultural practice, the convergences between the attitudes of older people and EU digital policy reveal how these discourses collectively create the conceptual landscape of active ageing and digital technology (Fairclough, 1995; Chouliaraki & Fairclough, 1999).

A notable example of a positive reception towards AAL technologies is summarised by Santana-Mancilla and Anido-Rifón (2017) who emphasise that specialised accessible TV platforms have been quite successful in ensuring uptake and satisfaction among older people, with user-centred preferences and designs being implemented. Reminders for medicines and similar things were included in the device as part of the user-centred design approach of the TV. AAL platforms such as this arguably wield significant potential for the enhancement of independence and quality of life for older people (Santana-Mancilla & Anido-Rifón, 2017), with the Commission advocating the development, improvement and implementation of such systems that will comprise an integrated component of the IoT. In this vein, Tiersen et al. (2021) notes that patient and caregiver involvement is critically important for creating an appropriate user-centred design approach with respect to smart-home sensing and monitoring in households. The Commission is becoming more amenable to the involvement of older

people in these efforts. Moreover, it is increasingly receptive to the need for participatory design processes in ICT development and integration (Preda et al., 2022).

The timeframe covered within this study reveals a moderate, but accelerating, chronological growth in the number of research initiatives in the database that directly involve older people. Within the recommendations from research papers in the literature corpus, the scholarly community advocates for further studies involving greater numbers of older people from all social backgrounds in order to acquire a larger scale and more comprehensive overview of the socio-cognitive precepts of persons in later life towards digitalisation (Wilkinson & Cornish, 2018). The picture unearthed by academic researchers is that technology use in older age is a nuanced and multifaceted phenomenon predicated upon a multiplexity of phenomena; with people in their golden years being representative of all parts of society, rich and poor, having worked in primary, secondary and tertiary sectors, with some in robust physical and mental condition and others in poor health, among many additional and important determinants of social stratification and subsequent digital engagement (Seifert et al., 2020; Coley et al., 2022).

To this end, Commission policies have arguably been challenged by the nuanced social complexities and diversities among older people, as there is no ‘one size fits all’ approach for ageing and digitalisation (Foster & Walker, 2015). Instead, a strategic policy umbrella that aligns with the principles of the Article 3 TEU on the social market economy and the EPSR appears to be taking shape, particularly with regard to lifelong learning and social inclusion (European Commission, 2020; 2021; European Union; 2012), with a growing emphasis on supporting older people who are geographically isolated and whose economic situation leaves them exposed to vulnerability in a digitalising society (Foster & Walker, 2015). Crucially however, older people may be able to acquire greater agency for self-representation through changes in policy and, subsequently, with more inclusive digitalisation

(Priestley et al., 2010). This is particularly important as disability advocacy groups have developed significant powers of socio-political agency with an according and flourishing capability to provide input in institutional policy in the EU. However, older people have historically faced an uphill struggle to achieve the same powers of self-advocacy (Phillipson, 2013).

In a sense, the dataset yields comprehensive scholastic recognition that, with lengthening human lifespans and a significant growth in the number of older people alive in the contemporary EU, traditional models of ageing are thus incompatible with an inclusive digital future that supports person-centred health and digitalisation (Foster & Walker, 2015). This corresponds to the direction of Commission policy which is, assertedly, becoming more receptive to the preferences and wishes of older people (European Commission, 2021). As a result, the Commission is arguably taking aboard the discourses expounded by the research community on the contemporary ageist structures of digitalisation (Foster & Walker, 2015). The Commission is discernibly moving towards more cohesive active ageing and AAL environments for older people (European Commission, 2020). It is gradually implementing incremental policy-driven efforts to change the way society, and indeed manufacturers, perceive the role and purpose of interactionism between older people and digital technology in later life (Peine & Neven, 2020).

Indeed, this also echoes the discourses of caregivers, who themselves experience limited powers of agency to project a clear and unified ‘voice’ on their perceptions of older people and their interactions with a digitalising society (Woolham et al., 2017). Caregiver discourses overlap in an important way with those of older adults by recommending greater, more enhanced and direct engagement mechanisms with people in later life as they are frequently eager to express their views, preferences and feedback (Gallistl et al., 2020). Though this social transformation is very much under development, and despite the often-

glacial pace of tangible institutional action, there is, undoubtedly, a discernible convergence of stakeholder discourses between older people, caregivers and the Commission, on the future of person-centred digitalisation and accessible inclusive digital technologies in the EU (European Commission, 2021).

7.5.5 Interplay of Discourses

Node 1. **Preferences and Concerns of Older Adults Towards Digital Technologies.** **Dominant Discourses:** Reflection **Sub-Themes:** *Eudaimonia; Existentialism* **Expresses:** *The dataset reflects a nuanced and varied range of opinions from caregivers regarding the practical challenges facing the implementation of digital technologies;* *These views are not necessarily negative nor positive, but instead are concerned with the practical aspects that require amelioration for an equal and human rights-based digitalised care sector for older people*	**Node 2.** **Social Variables Influencing Digital Technology Access and Perceptions.** **Dominant Discourses:** Digital Divide **Sub-Themes:** *Social Capital* **Expresses:** *The discourse of appraisal is distinct from that of critical realism as it focuses less on the issues of scalability and the practical challenges surrounding the implementation of the technology;* *Instead, it seeks to identify the general perceptions among carers of digital devices, robots and connected services*

Table (5.) Dominant discourses and sub-themes in each node

There is a degree of thematic interplay in the key discourses comprising the node hierarchies of the ‘Digital Divide’ and ‘Reflection’. This interplay of interdiscursivity invokes Fairclough’s conceptualisation of articulation (Fairclough, 2003; Wodak & Meyer, 2016; Fabricio & Moita Lopez, 2020), in which distinct discourses such as those of the digital divide and reflection interact with each other to create a hybrid discursive sequence surrounding older adults and digital technology. Inflection points exist between the primary node hierarchies as the preferences and apprehensions of older adults towards digital technologies are also determinatively influenced by related social variables that can directly

affect their utility and perception among people in later life (Van Deursen & Helsper, 2015; Tsai et al., 2017; Gallistl et al., 2020). Since the node hierarchies are, in relative terms, almost evenly balanced by one another throughout the data sample with respect to the frequency and incidence of the discourses relating to the digital divide and social capital, it is arguable that these dual thematic strands directly influence one another, with each representing either side of an assertedly symmetrical and proportional consideration (Hunsaker & Hargittai, 2018). In other words, the duality of the node hierarchies outlined above can be construed as two hemispheres of a single proverbial sphere of balanced considerations, with each discourse comprising both a counterweight and correlational component to the other with significant corresponding interaction taking place between the dominant binary themes (Nimrod, 2020).

In the node hierarchy of reflection, it is apparent that older people express a clear-eyed discourse premised on reflective thinking, focussed upon the values of person-centredness in digitalisation (Sixsmith et al., 2022). In this context, they place a significant emphasis on quality of life, independence, accessible design and corporeal autonomy in the development and implementation of digital technologies (Peine & Neven, 2020). The discourse also reveals an adjunct desire for the reinforcement of the mental and eudaimonic wellbeing of the user as a desirous key function for future connected devices, services and robotics. To this end, Ryan et al. (2008) expresses that:

> The foci of eudaimonic research are to specify what living well entails and to identify the expected consequences of such living. These consequences may include hedonic satisfactions, but typically eudaimonic theorists have been especially interested in other outcomes indicative of a good life, such as vitality, intimacy, health, and sense of meaning, among others (p. 139).

Older adults discernibly transpose the emphasis on eudaimonia reinforcement in digital technology as a key requirement for how it should benefit the life, independence and physical and mental health of the end user.

In the theme of the digital divide, older people express their disquietude with aspects of their circumstances, often pertaining to health, wealth, geographic location and education, among other important and related components of social capital (Hunsaker & Hargittai, 2018). Further, prior experience with connected technologies along with individual respective levels of digital skills, assume an important and determinative role in the utility and uptake of novel devices and services among older adults (Woolcock & Narayan, 2000). People in later life generally express a significant degree of apprehension based on the above-mentioned phenomena which transmute themselves into social strata that can be positively or negatively associated with successful uptake and utility of digital technology. Bhandari and Yasunobu (2009) explain social capital theory in the following terms:

> The whole notion of social capital is centred on social relationships and its major elements include social networks, civic engagement, norms of reciprocity, and generalised trust. Broadly speaking, it is defined as a collective asset in the form of shared norms, values, beliefs, trust, networks, social relations, and institutions that facilitate cooperation and collective action for mutual benefits (p. 492).

In juxtaposition to the above, the node hierarchy of reflection primarily elucidates upon the hopes and ideals of people in later life regarding their vision and preferences for the role of digital technologies in their lives (Peine & Neven, 2020). Older adults undoubtedly face a demographic deficit of social capital amidst the digital divide, irrespective of individual exceptions to the rule. In general, younger cohorts of older people who live in urban areas with prior experience of digital technologies arguably enjoy more enhanced social capital than do their counterparts residing in isolated rural areas, without a history of

connected device or service utility, and who are in very old age (Gallistl et al., 2020; Kydd et al., 2018). Woolcock and Narayan (2000) express that:

> Conversely, the absence of social ties can have an equally important impact. Office workers, for example, fear being left "*out of the loop*" on important decisions; ambitious professionals recognise that getting ahead in a new venture typically requires an active commitment to "networking"." (p. 232)

It is possible to transpose this example to the current situation facing older adults in a digitalising EU where the feeling of being 'left out of the loop' in terms of technology and service design, accessibility, utility and implementation, is palpable.

By deconstructing and analysing the prominent discourses expressed by older people who face daily challenges posed by the digital divide, it is possible to synthesize their feedback in tangential terms to break the cycle of systemic stagnancy that perpetuates ageist models of digitalisation (Seifert et al., 2021). Moreover, by understanding the discourses of people in later life in this domain, it becomes feasible to formulate empirical recommendations for strategic policy amendments based on the wishes and preferences of older adults (Peine & Neven, 2020). To this end, this process empowers older adults to transmit their discourses to the realm of institutional policy agency to inform the creation of novel person-centred protocols that are receptive and, in measure led by, the viewpoints and precepts of their primary stakeholders. Lythreatis et al. (2022) explains that:

> Understanding the digital divide concept and its different perspectives and seeing different forms of how not everyone benefits from the technology equally will help in identifying clear technology needs that could lead to the development of more coherent frameworks and policies to address those needs and to intensified efforts to diminish and bridge digital gaps (p. 1).

The discourse of ‘reflection' is not dissimilar to that of ‘appraisal’, as analysed in the previous chapter, which pertained to the perspectives of caregiver precepts on the paradigm between digital technologies and an ageing population (Woolham et al., 2017). However, the theme of reflection distinguishes itself from appraisal in an important aspect; one whereby older people express an independent position on digital technologies and place a significant value on independence, as well as physical and mental wellbeing (Peine & Neven, 2020). Discourses of appraisal from caregiver perspectives may be considered through a lens of professional practice and a vocational emphasis on person-centred care (Gallistl et al., 2020), whereas narratives of reflection from older people tend to gravitate towards maximising personal happiness or eudaimonia, relationships with others, and living a meaningful life in old age to achieve, in essence, self-actualisation and inner fulfilment (Aho, 2014; Ryan et al., 2008).

In this vein, the discourse of reflection espoused in the dataset by older people towards digital technologies incorporates an arguably interpretable form of ‘Existentialism’. Aho (2014) elaborates upon this concept, stating that:

> Existentialism is also continuing to make inroads in contemporary social and political theory by focusing on ‘the human’ not as a universal genus or category but as a concrete ‘existing individual’ that is always subject to the social and political forces unique to one’s own situation. This attention paid to one’s lived-situation has allowed philosophers to give an experiential account of those who have been marginalised or oppressed by the dominant cultural discourse (p. 3).

In the literature corpus, older people display a deep understanding of digitalisation and, accordingly, espouse a cohesively uniform desire to live at home and retain their independence whilst, in general, accepting and advocating for forms of digital technologies, services and robotics that may empower them to this end (Peine & Neven, 2020).

This perception of digital technologies and services is conveyed by older adults in a context whereby such capabilities ought to enable people in later life to live as they choose and to pursue happiness as well as a fulfilling and meaningful existence (Ryan et al., 2008). In this respect, older people, despite being largely deprived of social agency for unified self-representation in policy and governance (Priestley et al., 2010), convey a largely uniform and coherent vision for digital technology and the role it should play in their lives. This is of particular importance for informing the creation of person-centred policies that are receptive to, and which incorporate, the wishes and preferences of older people as vulnerable key stakeholders in strategic protocols and initiatives to create an age-friendly model of equitable, accessible and non-discriminatory digitalisation for people in later life (Peine & Neven, 2020).

7.6 Summary

It is evident from the discourses extrapolated from the ProQuest Central database that older adults are generally open-minded towards the potential for digitalisation to improve their lives if it is correctly implemented (Seifert et al., 2020). However, their views on digital technology use, especially from personal experience, are far more nuanced, with many sharing both positive and negative opinions of connected devices and services in their current form (Tsai et al., 2015). The discourses reflect that there are significant variables that influence the perception, use and uptake of digital technologies among older people. Indeed, sustained trends towards longevity extension in the EU have rendered an increasingly variegated character to later life, marking a departure from the traditionally monolithic social concept of old age as a predominantly single category that is devoid of nuance (Wanka, 2018; Higgs & Phillipson, 2014). As such, later life is becoming increasingly punctuated by

intergenerational characteristics that ostensibly represent young, mid, and late old age (Vulpe & Craciun, 2020).

Digital technology use varies considerably when comparing users across the spectra of young to late old age. The young old are typically more adept at using digital technologies, while their older counterparts frequently experience greater difficulty when attempting to use connected devices and services and, oftentimes, many suffer disempowerment and isolation due to coercive digitalisation processes (Zhang, 2023). At the textual analysis level, framings of exclusion and disenfranchisement shed light on how lexical styles, such as 'disempowerment', 'productivity', and 'independence' (Abdi et al., 2022; Balasubramanian et al., 2021), can portray older adults as being positioned on the very fringes of digitalisation in modern times (Fairclough, 2003). However, older people, irrespective of social capital or age, express a practically uniform desire to continue residing in their own home and to exercise personal control and autonomy over their own affairs (Sixsmith & Sixsmith, 2008; Chen & Schulz, 2016). In this vein, many are eager for digital technologies to empower them to this end, but in a manner that is secure from monitoring, interference or control from outside forces (Peek et al., 2016). The prospect of living at home and retaining personal autonomy for an extended or indefinite period in old age arguably encourages many older people to be more predisposed towards the embracement of digital technologies and their accordant utility (Nordeström et al., 2023).

There are a significant variety of variable determinants that influence the perspectives of older adults towards digital technologies (Tsai et al., 2017; Neumann, 2024). In general, a lack of age-friendly design, poor internet connectivity, a dearth of digital skills, high costs of connected devices and services, insufficient training, low interest and motivation towards use, and a litany of additional and cognate factors, often work in tandem to hamper uptake and utility of new technologies by older people in the EU (Van Deursen & Helsper, 2015).

Moreover, attitudes towards use are highly variable, and positive or negative experiences with digital technologies can be highly determinative in the socio-cognitive precept formulation among older adults towards the use of devices and services (Hunsaker & Hargittai, 2018). At the level of discourse practice, the experiences of older adults gain traction through their transmission in academic research which, crucially, serves as a discursive conduit that records and legitimises their evaluations and lived experiences of digitalisation (Fairclough, 1992; van Leeuwen, 2008). As such, the bifold primary discursive themes that emerged from the CDA of the literature corpus represent the preferences and concerns of older people towards digital technologies, and the adjunct social variables influencing their access and perception by individuals in later life (Peine & Neven, 2020).

The bifold dominant discourses identified in the literature express themselves through the themes of ‘reflection’ and the ‘digital divide’. The respective sub-themes associated with discourses of reflection are eudaimonia and existentialism and, accordantly, the theme that is linked with the discursive narratives of the digital divide is social capital (Peine & Neven, 2020; Aho, 2014). In essence, older people reflect upon the ideal circumstances and modus for the integration, use and purpose of digital technologies through the lens of eudaimonia and existentialism whereby these capabilities are perceived as tools with significant potential for improving the care and quality of life of persons in their golden years through a human rights-oriented approach to their transversal implementation (Ryan et al., 2008). The discourses of the digital divide and social capital view digitalisation, along with connected devices and services, from the standpoint of their current formats. These discourses reveal that, at present, digital technologies lack adequate age-friendly user interfaces and accessibility features, and they are punctuated by youth-oriented constructs, high costs, and a lack of participatory design consultation processes involving older people, exacerbating their use, uptake and general perception by persons in later life (Gallistl et al., 2020). This is

reflective of the sociocultural dimension of CDA where older adults find their social agency constrained by prohibitive costs, inaccessible designs, and a lack of adequate participatory processes, further entrenching their digital exclusion in the wider societal context of ageism, economic necessity and market-oriented digitalisation (Fairclough, 2010; Wodak & Meyer, 2015).

Indeed, older people are desirous of digital devices and services that can facilitate their eudaimonic wellbeing and support them to live at home, control their personal affairs, and maintain communication links with their family and friends (Ryan et al., 2008). To an extent, this amounts to a desire for digital technology to maximise their experiences of personal aspirational self-actualisation in old age (Peine & Neven, 2020). As such, the even split between this discourse and that of the digital divide, assertedly constitutes a carefully thought-out summary of what might conceivably be ideally possible for the future, as juxtaposed to the present reality of the coercive processes of digitalisation and the currently limited array of age-friendly connected devices and services in their present and often inaccessible formats (Gallistl et al., 2020). To this end, Commission policy efforts may benefit from increased stakeholder engagement mechanisms with older people to incorporate their feedback on the most discriminatory aspects of the digital divide, and to empower them to take an active role in the creation of new and equitable frameworks for age-inclusive digitalisation (Preda et al., 2022; Priestley et al., 2010). By implementing an ethos of 'nothing about us without us' in this domain with respect to older adults (Charlton, 1998), and by fostering the creation of engagement mechanisms to ensure participation in policy creation and consultation in the design and utility of digital technology, amongst other cognate areas, the Commission can imbue future protocol frameworks for an age-inclusive society by embodying the discourses expressed by people in later life in the establishment of new rules for an equal approach to digitalisation and universally accessible connected devices and

services (European Commission, 2021). This chapter shows, in Fairclough's terms (Fairclough, 1995; 2003), how textual portrayals of older adults and their experiences with digital technology and digitalisation are linked to discourse production and transmission in academic research, and it reveals that these framings are also entrenched in broader sociocultural transformations in the modern EU. Through this process, the analysis also conveys the interconnecting nexuses between Fairclough's three tiers when applied to the textual portrayals of older adults and digital technology, the discourse practices of academic research and institutional policy, and the wider sociocultural tensions surrounding inclusive development, demographic ageing and digitalised technological change in the EU (Fairclough, 1995).

Chapter 8: Conclusion – Key Findings, Implications and Future Directions

8.1 Introduction

8.1.1 Brief Recap of Research Aims and Objectives

In revisiting the aims and objectives of this thesis, it is evident that there is a compelling need for novel academic research that is intended to investigate and challenge ageist and non-inclusive discourses that increasingly pervade the socio-technological information space of modern life with respect to the place of older people in a digitalising EU (Øvretveit, 2017). To this end, there is a discernible gap in scholarly output in this field, rendering this thesis a topical and timely conception at a watershed moment in EU and global history. Digitalisation is proceeding at an unabated and ever-increasing pace, whilst ageing demographic trends have also become a multidecadal phenomenon among EU Member States, leading to a steady growth in the number of older adults residing in a digitalising society (United Nations, 2019). The trajectories of digitalisation and population ageing are predicted to continue and intensify in the short, medium and long-term future (Peine et al., 2024). Therefore, in light of these unprecedented developments, the identification of non-inclusive and ageist discourses with cross-sectoral representational potential, comprises an imperative objective in this study in order to protect individual freedoms and independence for older people in a modern digital society (Seifert et al., 2020). Considering the rapidly evolving and increasingly symbiotic relationship between digital technologies and people in contemporary society, this thesis explores EU policy and social discourses that affect the integration of connected devices and services in an ageing society and in the lives of older adults. Accordingly, the thesis touches upon ethical and social policy considerations pertaining to the integration of digital technologies in the context of ageing EU demographics.

In this sense, fragmented ageing and digitalisation policies, alongside an absence of stakeholder consensus on digital accessibility for people in later life, constitute a significant and long-term strategic challenge to social equality, justice, public health and sustainable economics in the EU (Sixsmith et al., 2022). Without affirmative action on the part of the Commission, independent living for older people in a digital society will continue to be curtailed and inhibited by increasingly variegated digital barriers (Tsai et al., 2015). This, in turn, will directly and adversely impact the public and economic health of the EU and may erode the credibility and legal effect of human rights law and policy in the union. As such, these challenges merit exploration and addressment from the academic research community to ensure that older people can access, use and benefit from, digital technologies on an equal basis with younger age groups (Nimrod, 2020). This represents a significant step towards the elimination of ageist narratives towards older adults in the digital era and ensuring a person-centred and rights-based approach to the design, roll-out and implementation of connected devices and services in society (Preda et al., 2022). This approach was implemented through Fairclough's Three-Dimensional Framework of CDA which analysed textual framings of older adults and digitalisation in EU policies, the discursive practices that transcend institutional and research domains, and the sociocultural practices underpinning rights-based discourses, as well as ageist narratives and those of the social market economy (Fairclough, 2015). The addressment of these barriers is necessary in order to implement a human rights-oriented approach to ageing and digitalisation so that older people can live independently and benefit from digital devices and services in the EU (Bosch-Farré et al., 2020).

8.1.2 Overview of Key Research Questions Addressed

This thesis explores the human rights challenges emerging from the expeditious growth of digital technologies and services, including their ubiquity in many aspects of modern society,

leading to their common presence in everyday life in the contemporary world (European Commission, 2020). The central and driving research question explores through CDA how Commission policy discourses influencing digitalisation and ageing either accord with and inform, or diverge from, the perspectives and viewpoints of older adults and caregivers towards digital technologies, including their design, roll-out and implementation in the lives of people in later life. Moreover, this thesis investigates the dynamics that exist between institutional bureaucracy and key stakeholders in formulating and malleating discourses and socio-cognitive impressions towards digital technologies in the lives of older people (Van Dijk, 2009). To this end, in view of the complex human rights challenges emerging from the rapid development and proliferation of digital technologies and their subsequent symbiosis and ubiquity in everyday society (Petryshyn & Hyliaka, 2021), this project revolves around the core research question which underpins the investigatory objectives of this thesis:

(A.) To discern the extent to which the discourses of European Commission policy influencing contemporary models of digitalisation and ageing in the EU inform, accord with, or diverge from, the opinions of older adults and caregivers on the role and utility of digital technology in the lives of people in later life; exploring thematic discursive interplay, overlap and distinction between narratives of institutional bureaucracy and that of key stakeholders.

In terms of CDA, this entailed the scrutiny and synthesis of how older adults and caregivers perceived the relationship between people in later life and digital technologies by examining their textual framing, how their voices are mediated through discourse practices in policy and research publications, and discerning the extent to which these representations align with, or diverge from one another (Fairclough, 2010).

This thesis intends to identify the primary thematic discourses and perspectives from Commission policies that influence ageing, disability and digitalisation, and to critically

analyse the discursive narratives that these protocols contain (Fairclough, 2010). To this end, it investigates the effect of policy on the attitudinal and perceptual standpoints of caregivers and older adults with respect to their views on the role of digital technologies in the lives of people in later life living within the EU. The research aims to identify and highlight ageist and discriminatory discourses, if indeed they exist in the data sample, that threaten the development of a rights-based and equitable approach to demographic ageing in an increasingly digitally connected society (Mubarak & Suomi, 2022). The ethos underpinning the rationale of this research is to facilitate the promotion of impartial, ethical and person-centred integration of digital technologies through human rights-oriented textual and linguistic illustrations of older people and their relationship with connected devices and services (Mikołajczyk, 2022; Øvretveit., 2017). Moreover, this thesis recognises that identification and awareness-raising with respect to discriminatory or non-inclusive language in policy, academia, and general social discourse, is arguably indispensable for the future amelioration of strategic sectoral discursive disconnectedness and discord across the civic, public, private and civil domains (Neves et al., 2021).

8.1.3 Structure of the Conclusion Chapter

This chapter provides a comprehensive overview of the discourses in EU policy frameworks relating to ageing and digitalisation, as well as the narratives and perspectives of older adults and caregivers towards digital technologies in the lives of people in later life (Sixsmith et al., 2022). As a summary of the CDA applied to the literature corpus and through the narratives identified and extrapolated therein, this chapter isolates the areas of harmony and discord in the development of sectoral approaches to digital technologies in the lives of older adults (Fairclough, 2010).

To this end, the summary of key findings discusses the dominant themes, including their potential consequences, that were identified and extrapolated from the literature corpus of Commission documents alongside those of caregivers and older adults respectively. Prevalent themes and discursive narratives are summarised in this section with an attempt to provide a condensed overview of the position of older adults in the context of the Commission digitalisation agenda (European Commission, 2021). Caregiver perspectives on the digitalisation process and the role of digital technologies in the lives of older people are subsequently discussed. This comprises a synopsis of the potential challenges and benefits associated with digital technologies and their latent ability to enhance healthcare and quality of life for older people (Peek et al., 2014). Additional factors and observations are discussed, such as practical barriers and solutions to technology rollouts, implementation or design. The discourses of older adults towards digital technologies are also summarised with a general description of barriers or facilitators to the access, use, design or implementation of connected devices and services (Tsai et al., 2015). The discourses of the Commission, caregivers and older people, are synthesised to identify areas of accordance or divergence between these three sectors, comprising institutional bureaucracy and key stakeholders, framed within Fairclough's Three-Dimensional framework of text, discourse practice, and sociocultural practice (Fairclough, 2015).

The methodological choices applied in this thesis are subsequently reflected upon, including the theoretical grounding of this project in Faircough's approach to CDA and the application of this method for the purposes of the study (Wodak & Meyer, 2015). The strengths and limitations of this approach are also discussed. Moreover, the findings from the CDA process, as well as a comparison of the discourses derived from the literature corpus, contributes to the development of key recommendations for future policymaking on the part of the Commission to enhance a person-centred and rights-based approach to ageing and

digitalisation (Preda et al., 2022). Additionally, the limitations of the study, as well as the potential scope for future research, are explored. This is undertaken with an acknowledgement of the constraining aspects of the purview of the research question and the methodology applied in this thesis (Nowell et al., 2017). Areas for future investigation, alongside the potential for further discourse analysis studies in digitalisation and ageing, are also discussed.

This thesis offers some concluding reflections on the ethical and social ramifications of digitalisation in the EU whilst considering the challenges and opportunities that are intrinsic to a digital society with ageing demographics (Nimrod, 2020). It considers the long-term trajectory of ageing and digitalisation policy in the EU and the potential risks and benefits associated with the current approach as considered in this project. To conclude this thesis, the study provides a final critical reflection on current policies and narratives associated with digitalisation and ageing. It summarises the implications that they entail for future policymaking and research efforts, and for tangible engagement with digital technologies by older people.

8.1.4 Summary of Key Findings

The policy landscape in the EU with respect to ageing and digitalisation is slowly evolving, with the Commission having made some significant steps towards a strategic and cohesive approach to a comprehensive framework for old age and the digital transformation (European Commission, 2020). Although there is progress towards inclusivity, productivity, engagement and participation by older people in a digital society, the grounding discursive narratives appear to be firmly anchored in discourses espousing concerns over sustainable economics and the future financial health of the EU in the face of rising healthcare costs, declining workforces and inadequate pension maturations systems (Mosco, 2009). As such, it

may be reasonable to conclude that shifts in ageing and digitalisation policy are being driven as a result of the structural pressures of a continent growing older, compounded by fragmentation of strategic protocols and traditional inflexibility in digitalisation patterns, public bureaucracy and healthcare systems (European Commission, 2024; Bruegel, 2025; Fundamental Rights Agency, 2023). Indeed, the Commission has assertedly been reactive rather than proactive when faced with trends of demographic ageing and digitalisation that have steadily intensified over decades, and especially in recent years (Loos, 2012). The respective balancing of productivism, human rights and political economy discourses arguably reflect the level of strategic priority that the Commission has assigned to each discursive strand as imbued within official policy, with the overarching intention assertedly being the protection of the social market economy (Caldwell et al., 2003). Here, the CDA reveals the economic and productivist interests and framings that make their impact felt in Commission documents, shedding light on the bureaucratic discourse practices of policymaking (Fairclough, 1995; Wodak & Meyer, 2015), and how they are indicative of firmly rooted sociocultural approaches to market sustainability, possibly even ahead of person-centred inclusivity.

Commission policies have generally lagged behind the narratives and lived experiences older adults and caregivers whose discourses remained largely consistent throughout the timeframe encompassed in the dataset. As such, Commission policy has been slow to adapt to meet current ground-level realities, particularly those exposed by the Covid-19 pandemic (Armitage & Nellums, 2020). Oftentimes, it is the slow pace of reform on the part of the Commission that represents the most significant point of discursive discord between caregivers and EU policy, as they frequently accord on points of human rights, person-centred care and views on digitalisation. To this end, caregivers expound upon the importance of increased rights-based and person-centred approaches to care, and they

perceive digital technologies as central to this process (Sixsmith et al., 2022). They also express a desire for cohesive and non-fragmented policy frameworks that empower them to participate in the development of protocols and rules for digital care delivery based on their professional expertise and experience (Peek et al., 2014). They are cognisant of specific ground-level challenges to the effective design, implementation and utility of digital technologies and services and are also aware of gaps in policy and economic markets with respect to the manufacture of universally accessible devices (Preda et al., 2022). Thus, they are eager for new rules to empower them to shape the policy agenda to incorporate their knowledge of both strategic and ground-level difficulties. This is indicative of a discursive disconnect between text and practice as (Fairclough, 2015), while caregiver textual discourses may emphasise agency and rights, the discursive practices of policy have yet to incorporate these perspectives into meaningful participatory frameworks in institutional protocol.

There is a significant degree of discursive interplay between the stakeholders represented in the thesis. In this respect, a two-lane flow of discourse is evident between caregiver precepts and Commission policy, however, the speed of discursive transmission can be slow (Van Dijk, 2009). Aside from minor idiosyncratic nuances particular to each stakeholder, caregivers and older people generally achieve a broad discursive consensus on their vision for digital technologies and their potential application in healthcare settings. They also express a similar desire for digital technologies to protect and facilitate the privacy, independence and interpersonal contact of older users (Seifert et al., 2020).

As such, there are auspicious signals that EU policies addressing ageing and digitalisation are moving in the direction of inclusivity, stakeholder engagement and general strategic cohesiveness towards a multisectoral approach to old age and digital technologies (European Commission, 2021). However, a significant note of caution must be sounded over

the current ambiguity regarding the extent to which older people and caregivers will be empowered to engage with digital technology design, implementation and decision-making processes regarding their governance in the future (Foster & Walker, 2015). Greater clarity and expression of intent from the Commission is evidently needed here. To this end, it is clear that the Commission must foster and develop comprehensive consultation mechanisms to empower caregivers and older adults to play a leading role in the development of digital technologies and services, and in the formulation of accordant policies under which they are administered and implemented (Priestley et al., 2010). Viewed from a CDA standpoint, unless the voices of older adults and caregivers are incorporated into institutional practices of policy creation, and not merely at the textual level (Fairclough, 1995), the sociocultural potential of inclusive digitalisation may remain out of reach. This would help to achieve greater harmony between Commission policy and the experiences, voices and preferences of older adults and caregivers on the role and place of digital technologies in the lives of people in later life.

8.2 The Discourses of the European Commission on Ageing and Digitalisation – A Summary of the Key Themes Identified in Policy Documents

8.2.1 'Ageing as a Challenge' and Relationship with Free Market and Political Economy Discourses

The narrative of **'Ageing as a Challenge'** intersects with free market and political economy discourses. Backhouse (2023) explains that free market theory entails low levels of government intervention in economic activity, instead promoting capitalist values and expressing general recalcitrance towards welfare or social expenditure that does not contribute to the generation of further income. In this sense, free market and political economy perspectives have historically tended to perceive older people as a demographic and financial burden upon society due to their departure from general employment (Mosco,

2009). Ageing as a challenge, being the primary theme in the dataset, arguably accords with market discourses and by referring to older people as a burden upon healthcare, pension and social welfare systems. Moreover, the incidence of terms such as 'old-age dependency ratio' also infers that demographic ageing manifests in economic and labour challenges (Graafland & Verbruggen, 2022).

Mosco (2009) emphasises that political economy discourse places an emphasis on the concerns over the distribution of economic resources. It also expresses disquietude regarding sustainable economics in terms of pension systems maturation, increased healthcare costs and high levels of digital illiteracy among older adults (Ibid.). This discourse extends to the financial costs of increased expenditure on healthcare and the growing demand for care workers, including the need for inward migration to accommodate labour market pressures (Doepke et al, 2008). The free market and political economy discourses can entail negative connotations and perceptions towards old age, particularly with regard to longevity extension and increased incidences of disability requiring long-term care. As such, potentially negative perceptions emerging from these discourses towards old age may translate into institutional forms of discrimination through policy towards older people, particularly in a digitalising society, where demographic ageing, instead of being viewed as an untapped socio-economic resource and opportunity, is often perceived as a problem (Graafland & Verbruggen, 2022). Through a CDA lens, this portrayal shows how textual framings through lexical choices (Fairclough, 1995; Wodak & Meyer, 2015), such as 'dependency', can depict ageing as a burden or drain on society (Cohn-Schwartz & Ayalon, 2020), providing an insight into the ways in which discourse practices in Commission policy-making may reproduce negative or market-oriented presentments, potentially revealing entrenched sociocultural commitments to the expansion of economic priorities ahead of rights-based inclusion.

8.2.2 'Social Inclusion' and Relationship with Human Rights and Modernism

The second prevalent theme in the literature corpus is the thematic node of 'Social Inclusion', which the UN defines as, "the process of improving the terms of participation in society, particularly for people who are disadvantaged, through enhancing opportunities, access to resources, voice and respect for rights" (United Nations, 2016). This is matched with sections of narrative within Commission policies on ageing, disability and digital inclusion that advocate for the beneficent utility of connected technologies to facilitate greater social equality and access to healthcare for older adults (Foster & Walker, 2015; Frezzo, 2011; Lange et al., 2025). This node is also influenced by themes of person-centredness in the digitalisation process and advocates for the utility of connected technologies to promote active ageing, improved quality of life and reduced caregiver reliance for older people and persons with disabilities (European Commission, 2021). Frezzo (2014) explains that, "In short, human rights norms constrain and facilitate the undertakings of both state and nonstate actors; offer inspiration to scholars, policymakers, and activists; and provide a grammar and vocabulary for the articulation of demands and the settlement of disputes" (Ibid., p. 373).

The social inclusion node is matched with the discourses of human rights and modernism, as they comprise a combination of narratives that advocate for the person-centred development of digital technologies to promote tangible near-term social inclusion and corporeal independence of the older person, echoing a strongly humanitarian approach to digitalisation and ageing (Peine & Neven, 2020; Frezzo, 2014). Reiss (1985) demonstrates the evolution of modernism in discourse over time, whereby established discursive themes are continually displaced by ones that, while novel, have evolved from those which it replaced. Such transformations might appear as outright schisms between prevailing contemporary discourses and traditionalist narratives, however, upon empirical

deconstruction, it is possible to discern the conception of novel themes from the established precepts of their former conservative progenitors (Ibid.).

Modernist discourses feature strongly in the text corpus, being frequently interwoven with humanitarian narratives; they address the latent potential of digital technology to substantially facilitate quality of life improvements for older people and to promote access to connected health services and enhance personal mobility (Peine & Neven, 2020). The modernist aspect of the digitalisation process in an ageing society is reflected in discussions of longer-term strategic visions that are substantially aspirational in their phraseology, envisioning increased future utility of digital technologies by older people on an independent basis with a greatly reduced reliance on caregiver support (European Commission, 2021; Foster & Walker, 2015). In this respect, CDA reveals the construction of social inclusion through aspirational and human rights-oriented language, and how discourse practices link EU policy with vocabularies of inclusion and equality (Fairclough, 2010), and the ways in which sociocultural interactionism is reflective of modernist ambitions to redefine old age as active, digitally integrated and independent.

8.2.3 'Digital Agenda for Europe' and Relationship with Market Interventionism and Agents of Change

The third prominent theme in the literature comprises the policy stratagem of viewing 'ageing as a resource'. This theme is matched with the discourse of 'productivism', though it shares aspects of overlap with narratives of human rights and political economy (Mladenov, 2015; Graafland & Verbruggen, 2022). There is a burgeoning desire in the Commission to harness the latent socio-economic potential of older people as an expanding social demographic and inclusively malleate the increasing age-range dynamics of the workforce through the extension of employment beyond traditional ages of retirement and to promote digital literacy (European Commission, 2021). It is hoped that this would entail resultant

economic and personal benefits for people in later life through increased participation in society and the workforce, enabling them to achieve agency amidst the symbiotic conceptual loop of ‘independence through productivity’ (Giddens, 1994).

In this sense, increased retirement ceilings are seen as a necessary measure in view of the rapidly expanding capacities and applications of digital technologies, to mitigate the potentially negative long-term social and economic trends of ageing demographics in traditionally rigid societal structures that have not yet adapted to meet this change (Foster & Walker, 2015). Moreover, the productivist view of ageing and digitalisation also advocates a general increase in opportunities for older adults in a digital society through greater access to social and public life to undertake activities such as volunteering and to actively participate in a digitalising society in a contributory manner involving civic and economic activities (Mladenov, 2015). The productivist model of ageing also intends to promote a renewal of public narratives and perceptions of old age by empowering older people to enhance their contributory value to society in numerous ways (Giddens, 1994). Read through CDA, the discourse of the Digital Agenda textually situates older adults as latent potential contributors, as ‘resources’ rather than ‘burdens, and attempts to institutionalise these roles in policy discourse practices through lifelong learning and digital skills initiatives, while embedding them in sociocultural conduct of productivism where agency and value are linked to economic participation (Mladenov, 2015; Fairclough, 2003).

8.2.4 ‘Ageing as a Resource’ and Relationship with Productivism and Agents of Change

The fourth theme in the literature corpus is the ‘Digital Agenda for Europe’ which espouses aspects of ‘agents of change’ and ‘dirigisme’ through the modification of rules and regulations in pursuit of the social market economy (Graafland & Verbruggen, 2022; Seidle & Schmitz, 2023). Caldwell (2003) explains agents of change as an “internal and external

individual (…) responsible for initiating, sponsoring, directing, managing or implementing a specific change initiative, project or complete change program" (p.139). In the context of the EU, the agents of change arguably comprise the bureaucratic oversight mechanisms of the Commission whose instrumentality is directed through stakeholder engagement, impact assessments and affected parties, to facilitate the transmission of discursive data and interactionism between domains of groundswell and institutional agency respectively. The agents of change discourse is prevalent in the theme of the Digital Agenda for Europe as it advocates the advancement of digital skills across all age groups through lifelong learning programmes (Caldwell, 2003; European Commission, 2020). This theme supports the expansion of the internet of things, accessible cities and public spaces, and the creation of 'smart' networks that facilitate digitalisation in urban and rural areas. It supports the concept of ageing in place (Woolrych et al., 2022), particularly through the geographical proliferation of the digital economy and IoT to cover all users irrespective of age group and advocates for the comprehensive utility of connected technologies by older adults (Arieli et al., 2023).

Discourses of dirigisme reflected in the dataset diverge from traditional fiscal connotations pertaining to strategies of market interventionism. Instead, they indicate the willingness of the Commission to leverage the power of both hard and soft law to prompt the creation of a stronger Digital Single Market (Seidl & Schmidz, 2023; European Commission, 2021). This discourse reflects a critically important thematic pillar of social policy that can, if successfully implemented, help to 'bridge' the gap between traditional and increasingly outdated models of ageing such as wardship practices in healthcare for older people and youth-oriented digitalisation policies, with those of a modernist and human rights-oriented strategic vision by the Commission, to fully include persons in later life in all beneficial aspects of the digital revolution (Frezzo, 2011; Foster & Walker, 2015). In CDA terms, this theme illustrates how the Commission leverages textual framings of 'agents of change' and

'inclusion', and operationalises them through discourse practices such as stakeholder consultations and soft-law initiatives, and situates them within sociocultural practices of dirigisme in a form of guided market intervention that reshapes the social market economy around digital inclusion (Seidl & Schmitz, 2023; Fairclough, 1992).

8.2.5 'Digital Divide' and Relationship with Critical Realism

The fifth prominent narrative in the text is the theme of the challenges and realities associated with the 'Digital Divide'. This theme is deductively matched with the discourse of 'Critical Realism', as the sub-themes in this narrative highlight a general awareness of the challenging realities that present themselves as obstacles of strategic friction towards the implementation of human rights and modernist elements of Commission policies to promote active ageing and digitalisation (Peine & Neven, 2020; Gunn, 1989; Krebs, 2025). The discourse of critical realism is readily apparent in the subthemes that constitute the thematic heading of the digital divide, as they generally entail lucid and straight-talking appraisals of the current realities facing older people in the context of digitalisation.

The subthemes acknowledge a significant lack of digital literacy among older adults (Hunsaker & Hargittai, 2018). The dataset also recognises the obstacles facing efforts to promote universal design in digital technologies and facilitate the production and availability of cost-effective and accessible devices and services for older adults and persons with disabilities (Gallistl et al., 2020). Moreover, themes in the discourse of critical realism reflect a cognisance in Commission policies of the challenges associated with harnessing digital technologies and services to offset the pressing necessity of larger and more costly healthcare systems and caregiver workforces (European Commission, 2021). Further, these themes convey an awareness that digitalisation policies have been substantially oriented towards the upskilling of the labour force, primarily involving younger people of working age. It reveals a

recognition within the Commission that ingrained and negative stereotypes of ageing and youth-centric digital industry, alongside the privacy and monitoring concerns of older people, present significant structural challenges to the implementation of humanitarian and modernistic reforms (Mladenov, 2015). Seen through Fairclough's framework of CDA, the discourse of the digital divide is punctuated by certain lexical framings such as 'illiteracy', 'barriers', and 'dependency' (EuroStat, n.d., European Commission, 2020d, European Commission, 2012b), which arguably portray people in later life as marginalised or excluded users. In the domain of discourse practice, such portrayals are evidently circulated and reproduced through Commission policy in multiple genres and fields, including consultation mechanisms, potentially entrenching a deficit-oriented framing of older people in institutional protocol. At the sociocultural level (Fairclough, 2015), the strand of critical realism sheds light on structural priorities such as economy and youth-oriented digital industry, frequently imbued with ageist stereotypes, inhibiting progressive change in this area. Thus, this CDA reveals how the narrative of the digital divide is representative of starkly challenging realities, and it must be countered through rights-based and participatory policymaking to avoid a reinforcement of current inequities (Fairclough, 1995; Peine & Neven, 2020).

8.2.6 The Dominant Narratives and Assumptions in EU Policy and Alterations Over Time (See Line Charts in Chapters 5, 6 and 7)

The dominant narratives and assumptions in EU policy with respect to ageing and digitalisation are complex and variegated. There is a significant tendency in Commission policy to perceive ageing as a challenge through the lens of political economy and free market discourses (Mosco, 2009). Within these discursive strands, the sub-themes of productivism and critical realism are discernible, as concerns are expressed in Commission policy over the sustainability of the economy and current fiscal models in society surrounding employment, pension rules and retirement (Graafland & Verbruggen, 2022; Mladenov,

2015). As such, these precepts manifest a sober appraisal of the challenges posed by ageing and digitalisation from an economic standpoint. Over the timeframe encompassed by the dataset, these discourses evolve towards an increasingly solution-oriented and productivist-leaning view of ageing and digitalisation, whereby older adults are being reconceived as potential contributors to society in socio-economic terms and are starting to be considered as a latent resource instead of a social and fiscal burden (Foster & Walker, 2015).

The theme of social inclusion with respect to older people is increasingly evident in Commission policy over time. The driving discourses behind the themes of human rights and modernism are, assertedly, accompanied by the sub-theme of the agents of change (Frezzo, 2011; Caldwell, 2003). These discourses are arguably idealistic and aspirational, imbuing Commission policy with ambitious and quasi-utopian objectives through the principles of human rights law and policy. To this end, they inculcate ageing and digitalisation policies with tangible human rights-oriented goals and seek a replacement of traditional discourses with new and inclusive narratives. They share a significant interplay with the aspirations of the digital agenda for Europe and the conception of ageing as a resource (European Commission, 2021).

The digital agenda for Europe increasingly considers older adults in the movement towards the creation of an inclusive model of digitalisation in the EU. The discourses that drive this initiative are discernibly punctuated by market interventionism and agents of change, accompanied by detectable interplay with the sub-themes of dirigisme (Seidle & Schmitz, 2023), and human rights. This narrative expresses a desire for inclusive digitalisation policies to ameliorate the effects of the digital divide and create accessible connected devices and services for older adults. Further, there is an increasing willingness within the Commission to utilise legal and fiscal agency to create an inclusive and person-centred digital technology market with flourishing PPI initiatives (Gallistl et al., 2020).

Accordingly, this narrative also shares significant interplay with the conception of ageing as a resource.

The narrative of ageing as a resource is a nascent but moderately developing precept that is increasingly discernible within Commission policy. It embodies discourses of productivism and agents of change, with accordant sub-themes of modernism, human rights and social inclusion. Moreover, it emphasises the necessity of digital socio-economic readjustments to new demographic realities and expresses concerns over the sustainability of the EU economy and market competitiveness in the absence of such changes (Foster & Walker, 2015; European Commission, 2021). It perceives older adults as a latent and untapped resource to extrapolate through digital inclusivity, productivism and increased retirement ceilings, and it also shares significant interplay with the discourse of social inclusion.

The digital divide is a narrative that is gaining currency in Commission digitalisation and ageing policy. By embracing discourses of critical realism and sub-themes of social inclusion and agents of change, it lucidly appraises the scale of the reforms needed to reverse digital inequalities (Peine & Neven, 2020; Priestley et al., 2010). It also projects an increasing reliance on growing numbers of caregivers under current models of ageing and digitalisation, despite the latent potential of digital technology and services to ameliorate these trends (Gallistl et al., 2020). It acknowledges the existence of ageist stereotypes and narratives that tend to underpin a youth-oriented digital economy, and it shares significant interplay with the theme of social inclusion (Foster & Walker, 2015).

8.2.7 The Positioning of Older Adults in EU Digitalisation Discourse

Older adults occupy a unique social locus in EU digitalisation discourse. However, in the aftermath of the Covid-19 pandemic (Van Jaarsveld, 2020), there is a discernible shift in

the discourses and tone of Commission policy towards the rights, role and place of older people in a digitalising society (European Commission; 2021). There is a growing emphasis within the ageing and digitalisation policy of the Commission towards an inclusive model of digital integration that can empower older adults to live independently through AAL solutions and participate in society and maintain their contacts with the world through equal access to, and use of, connected devices and services. However, there are some uncertainties that remain, such as the extent to which older adults can benefit from equitable enjoyment of quality-of-life enhancements associated with digital technology in a productivist society where some people are actively engaged in employment or with the voluntary sector, whilst others are not (Mladenov, 2016).

It is foreseeable that this may lead to a two-tiered structure of old age in a digital society; one that is significantly underpinned by productivism, where the less engaged may still experience discrimination, particularly when the success of a future welfare model is likely to be increasingly dependent upon employment, volunteering and continued socio-economic engagement by older people (Foster & Walker, 2015). Achieving the balance between inclusive human rights, productivism and digital inclusion in society for older people may be challenging, as the necessity of continuous labour-force engagement to sustain the welfare structures of the social market economy might, if mismanaged, eventually manifest itself as a form of economic austerity in old age that is accompanied by increasing socio-economic compulsions to participate in work and the voluntary sector in place of retirement. Mladenov (2016) provides a warning of this danger, “in a productivist society, whose who are considered unable to work get culturally devalued (stigmatised)” (p. 32). Ultimately, European civil society must continue to monitor the direction of Commission policy formulation alongside the relevant discourses and levels of stakeholder representation and engagement in the creation of new protocols to promote narratives of inclusivity and

human rights. This is necessary in order to counter an overemphasis on themes of productivism or political economy that might exacerbate the digital divide or threaten equitable access to, and enjoyment of, digital technology by all persons irrespective of age or ability in the future. Overall, CDA shows that the portrayal of older people in Commission discourse is neither uniform nor monolithic, textual depictions (Fairclough, 2015), institutional discursive practices and broader sociocultural activities all intersect with one another in aspects that create opportunities for inclusion and rights-based narratives to circulate, while also doing the same for productivist themes.

8.3 The Discourses of Caregivers on Digitalisation

8.3.1 Caregivers' Perspectives on Digital Tools, Policies, and Support Structures

Healthcare workers place a high value on elearning and training for carers and patients where digitalisation is likely to occur, and they stress that caregivers should also experience the benefits of digital technologies but that they must not, 'make either party lazy' (Coco et al., 2018). To facilitate the uptake of digital technologies, caregivers also emphasise that adaptive and accessible designs and user interfaces are a critically important feature, alongside person-centred architectures and suitable matching between patient users and respective devices and services (Coley et al., 2022). Healthcare professionals are also cognisant of the attitudinal changes needed to stimulate the adoption of digital technologies in the care sector and are keenly aware of issues that require addressment with respect to costs, ownership and liability (Donnelly et al., 2018). Further, caregivers and their respective organisations need to be open to change in order to implement digital solutions and listen to the opinions of the users (Young and Tinker, 2017). In recognition of the combined complexity of these challenges, "ehealth-based care can be used in the home and might help

older adults to live independently for as long as possible (in line with the "extitution" model of care favoured today", (Milligan, Roberts & Mort, 2011, p. 2; Roberts et al., 2015).

In this vein, caregivers emphasise that person-centeredness (Roberts et al., 2015), acceptance, affordability, inter-sectoral cooperation and positive discourse regarding digitalisation, are all important factors for the elimination of strategic friction in systemic change. Digital immersion to reduce unfamiliarity among older people towards connected technologies while promoting social interactionism with younger persons constitutes a significant priority (Coley et al., 2022).

Healthcare professionals maintain that older people must be empowered to provide their input in the design process alongside those of carers, and that digital technologies should entail an objective of reducing loneliness (Coco et al., 2018; Barbosa Neves et al., 2021). To this end, they recognise that combatting fear and reluctance among older adults towards utility of digital technologies must be undertaken by considering patterns of usage. Understanding the reasons that older people may utilise digital technologies when compared to younger age groups and developing specific applications for users interacting with care services are among these tasks (Coley et al., 2022). McCall et al. (2021) advocates the mainstreaming of digital technology across frontline care services, social policy, housing, community engagement partnerships and inter-agency work at the ground level, to eliminate silo-mentality mindsets within multiple sectors.

8.3.2 Challenges and Opportunities in Integrating Digitalisation in Care

Caregivers are aware of the position of trust they hold with their patients and, as such, are cognisant that a positive attitude by carers towards digital technologies can encourage the same outlook in older adults, particularly through social interactionism augmented by technological capabilities (Burstein et al., 2015). To reinforce these positive socio-cognitive

precepts of novel technologies, caregivers are adamant that robotic devices should encourage, rather than replace, social contact for older adults (Łukasik et al. 2020). However, the dataset reflects a desire among caregivers to protect their ability to discharge their duties of care in accordance with their position (Ibid.). In this sense, caregivers feel, for example, that older people should "not be allowed" to change the settings on digital care technologies to avoid any inadvertent 'switching off' of certain needs and functions (Ibid.). There is a strong desire among healthcare professionals that they be empowered to assume a greater role in the design, selection and implementation of digital technologies (Young & Tinker, 2017).

Moreover, there is a general awareness among caregivers that traditionalist, apprehensive or even negative attitudes towards digital and robotic technologies, still exist among healthcare professionals and older adults (Chen & Schulz, 2016). As such, caregivers believe that the introduction of these technologies requires careful management, professional ethics and protection of human dignity and autonomy to address such considerations and mitigate legal complexities (Young & Tinker, 2017). More information for care staff is required to provide prerequisite knowledge on what digital technologies are available for older adults and augmentation of care delivery (Burstein et al., 2015). Currently, there is very low utility of online consultation platforms with respect to older adults (Hajek & König, 2022), coupled with anaemic levels of inclusion for recruitment in clinical trials of new technologies. Additionally, caregivers believe that "early information and education about available technologies may be essential in helping caregivers to plan and prepare to adopt new technologies as they need them", (Burstein et al., 2015).

In this vein, caregivers recognise that attitudes and anxieties over the utility of digital technologies alongside ease of use, service availability and sense of control, are all critical elements to ensure the successful adoption of these capabilities (Askari et al., 2020). They argue that caregivers require sufficient education and supports to accept digital technologies

and robotics, emphasising that more research needs to be done to determine the most optimal person-centred modalities and practices in their implementation (Burstein et al, 2015). A deeply embedded digital divide, poor education, poverty and disability, all contribute to low engagement with connected devices and services among older adults (Hajek and König, 2022). Caregivers require further supports to be able to administer structured health interventions using these technologies (Burstein et al., 2015). They also insist upon greater empowerment to establish clear boundaries on how close a patient can become with their digital technology or robotic device (Łukasik et al. 2020). In this sense, caregivers are confident that they will not be replaced by robots but are concerned that older people might develop an emotional bond with the technology that is too strong and renders them vulnerable in the event of breakage or through another form of separation from the device (Ibid.).

8.3.3 Points of Accordance and Tension with EU Commission Discourse

Caregivers are aware that the implementation of digital health technologies for older patients represents a complex systems challenge with numerous multifaceted aspects. As such, they advocate a more holistic approach in the policy and governance of the care sector and digital health technology markets to promote inter-agency cooperation and knowledge-sharing (McCall et al., 2021). In this respect, they echo the policy discourses of the Commission in advocating a movement towards greater digitalisation, inclusion and interoperability in the care environment whilst preserving and enhancing the role of the corporeal carer to empower them to discharge their duties to greater overall effect (European Commission, 2021). In this vein, the discourses of extitutional theory, appraisal, political economy, free market, and critical realism, share some overlapping themes. Overall, they do not amount to a negative perception of digital health technologies among carers. Instead, they offer a lucidly grounded thematic discourse on the scale of the challenges that are intrinsic to

the objective of ensuring successful implementation of digitalisation for tangible ground-level benefits to be felt at a significant level (Roberts et al., 2015). As such, caregiver discourses of human rights are somewhat independent from the other narratives, and it is apparent from the dataset that carers, as a rule, espouse strong aspirations towards person-centred digital technologies that protect the patient user and bolster their quality of life (Donnelly et al., 2018).

Care sector discourses echo the general direction of Commission policy narratives that are moving, albeit slowly, to close gaps and ameliorate deficiencies that currently belie the contemporary dynamics of digital health technology for older people in the care environment. Among the primary areas of caregiver concern regarding the digitalisation of healthcare for older people, as echoed in Commission policy, include the challenges posed by the digital divide, high unit pricing, scarcity of sufficient technical expertise among caregivers, a fragmented health technology market, significant procurement costs and poor implementation of new technologies in the care environment, low accessibility standards and suboptimal familiarity of use, deficits in standardisation and interoperability as well as significant and widespread fear of reduced human contact time between carer and patient (Coco et al., 2018; Coley et al., 2022).

From the perspective of Fairclough's approach to CDA, the discourses of caregivers reveal distinct textual depictions that frame digitalisation as both an opportunity and a risk through terms such as 'fear', 'trust', and 'replacement' (Magdalena et al., 2015; Peine & Neven, 2020; Chen & Schulz, 2016). In the domain of discourse practice (Fairclough, 2015), these portrayals can circulate through clinical and healthcare settings and protocols, as well as policy consultation mechanisms, influencing the ways in which grassroots impressions and interactions can meld with institutional contexts of discursive transmission. In terms of sociocultural practice, the discourses of caregivers reveal a juxtaposition between modernist

and humanitarian aspirations for person-centred care delivery, and the demands of productivism and political economy, revealing the tensions within the narratives and perspectives of carers in this respect. As such, CDA gives added clarity to the ways in which the voices of caregivers play a critical role as a mediating force between Commission policy and the lived experiences of older people (Fairclough, 1995; Wodak & Meyer, 2015).

8.4 The Discourses of Older Adults on Digitalisation

8.4.1 How Older Adults Perceive and Engage with Digitalisation

The dataset provides a compelling insight into the aggregated multitude of variables that influence the socio-cognitive precepts of older adults towards digital technologies. Some of these determinant factors for older people are idiosyncratic in nature and, thus, they may only influence those who are subject to certain conditions such as a physical disability or poverty, amongst others. Other variables are experienced with practical uniformity by people in later life; the desire to remain living at home while retaining corporeal autonomy and independence features prominently as an almost universally favoured condition and modus of existentialism for older adults in a digital world (Nordeström et al., 2023; Peek et al., 2016). Webber (2018) explains that "Existentialism is therefore defined as the ethical theory that we ought to treat the freedom at the core of human existence as intrinsically valuable and the foundation of all other values" (p. 2). In spite of this however, many older people experience significant challenges with respect to technology utility as they often lack confidence in their digital skills and subsequently struggle to understand the potential impact of the device or service on their quality of life (Hunsaker & Hargittai, 2018). Older adults are increasingly willing to take part in technology-based interventions and they frequently acknowledge the importance of digitalisation in modern society and daily life (Tsai et al., 2017).

As older people prefer to continue living at home, they are frequently reluctant to alter their primary dwelling-place in any way that could result in stigmatisation. These feelings are often linked to a preference for assistive technologies that entail discrete and non-traditional designs to avoid creating socio-cognitive impressions of stereotypical old age within themselves or others (Greenhalgh et al., 2013). Older people are regularly keen to avoid stigmatic environs, as well as items that are frequently and stereotypically associated with old age. Many are also threatened by digital technologies, perceiving them as an unfamiliar form of device or service that often lacks elements of reassurance or clarity with respect to purpose and utility. However, once adequate familiarity in basic device utility has been established between an older person and digital technology, the primary motivation for utilising the equipment or service is often for the relatively simple purpose of communication (Tsai et al., 2017).

By utilising digital technology for communication, the number of older people adopting connected devices and services is growing. This has contributed to increasing uptake of digital technologies among people in later life, particularly in recent years, as many seek to maintain their interpersonal relationships on which they place a high degree of importance (Tsai et al., 2017). Older people express a preference for in-person communication methods where they are possible but are increasingly open to the adoption of novel technologies if it is necessary to preserve or maintain their connections with others (Coley et al., 2022). At the same time, many express concerns over the potential for digital technology to incorporate inherent facets that might pose a security risk to the end-user. These risks include the ability of certain technologies to monitor the user and potentially compromise their personal data (Donnelly et al., 2018). In general, older people are substantially concerned about maintaining their personal privacy in the face of digitalisation (Coco et al., 2018). Many also report having a low pension income, which can exacerbate

trust issues towards digital technologies due to the costs associated with acquiring a device and service. Additionally, although older people are apprehensive with respect to the potential for breaches of privacy, some can be more accepting of novel technologies and services due to a lack of technical knowledge about the device and platform and also because of a generally low awareness of the risks to their personal data. As such, older adults who are in the younger cohort of people in later life often reject monitoring technologies with greater incidence than those in later old age (Hunsaker & Hargittai, 2018).

Many older people want digital technologies to incorporate an intuitive, simple and straightforward interface to facilitate ease-of-use for the end-user. Dimensions of social capital such as fiscal status, geographic location of residence, respective level of education and lifelong career paths, all play a significantly determinative role in digital technology utility and uptake (Ibid.). Further, the impact of these social archetypes that traditionally stratify all demographics irrespective of age group are no less profound among people in later life. To this end, older people with robust financial means, a high level of education, who are less geographically isolated and have a former career background where exposure to digital technology occurred, are generally more amenable to the utility and uptake of connected devices, services and robotics (Gallistl et al., 2020). Moreover, utility of digital technology generally increases amongst this category of older people once they experience how connected devices, services and robotics can assist them to maintain personal relationships, mitigate loneliness, and enhance independent living (Coley et al., 2022). In addition, a subsection of older people who are caregivers are significantly more likely to utilise digital technologies and perceive them in a positive light than patients who are also in later life (Boots et al., 2015).

In general, older people are increasingly cognisant of a pressing requirement for access to educational resources in the utility of digital technologies to achieve basic

proficiency in their use (Tsai et al., 2017). Furthermore, many are becoming more predisposed to digital device and service utility for the purposes of benefitting from health self-monitoring platforms. Health technologies are experiencing increased levels of utilisation by older people who are eager to enhance their corporeal independence, reduce reliance on caregivers for the monitoring of medical conditions, and even take part in trials and studies involving digital devices, services and robotics (Chen & Schulz, 2016). However, there remains a significant deficit of participatory design approaches for older people in digital products (Wilkinson & Cornish, 2018).

With respect to robotic technologies, older users often perceive these technologies as a threat to their esteem and autonomy due to the ability of such devices to perform mundane or routine tasks (Lukasik et al., 2018). People in later life hold mixed views over the practical usefulness of robotics technologies and they can occasionally diverge on this point from caregiver perspectives which can be grounded in prescribing for older adults the relationship or terms of their device utility; in potential juxtaposition to the viewpoints of persons in their golden years who want to make decisions based on their own wishes and preferences in their approach to these apparatuses (Ibid.). To this end, the discourses of the literature corpus reveal a strong preference among older people for digital technologies to perform the roles of a practical aid and assistant, but not to function as a replacement for all social contact or undertake every task that they, or a caregiver, can manage for themselves. As an example, older people would prefer digital technology to function as a reminder or *aide memoire* for appointments or medication dosages but may not necessarily perceive a cooking function in a robot from the same standpoint as a caregiver might (Ibid.).

8.4.2 Areas of Alignment, and Divergence from, EU Commission Discourse

The text corpus reveals that, as time moves on, older people are gradually becoming more open to adopting new technologies. This, in turn, could lead to older demographics becoming an attractive market force for technological companies to tap into. This speaks directly to the active ageing and digital agenda policies of the Commission, where institutional protocol is attempting to mitigate the age-oriented consumer gap in the utility of connected devices and services (European Commission, 2021). Preda et al. (2022) emphasises the need for participatory processes in ICT development for older adults with an ethos predicated on solutions and innovative approaches to design. Attitudes towards discrete designs and accessibility features in digital technologies to facilitate ease of use in an AAL environment are generally positive among older people. Moreover, the development of AAL solutions has now assumed a prominent position in Commission policy and is positively echoed in attitudinal precepts among people in later life and, indeed, by caregivers (Peine & Neven, 2020).

A notable example of the positive reception towards AAL technologies is summarised by Santana-Mancilla and Anido-Rifón (2017) who emphasise that TV platforms have been quite successful in ensuring uptake and satisfaction among older people, with user-centred preferences and designs being implemented. Reminders for medicines and similar things were included in the device as part of the user-centred design approach of the TV. AAL platforms such as this arguably wield significant potential for the enhancement of independence and quality of life for older people, with the Commission advocating the development, improvement and implementation of such systems that will comprise an integrated component of the IoT (European Commission, 2021). In this vein, Tiersen et al. (2021) notes that patient and caregiver involvement is critically important for creating an appropriate user-centred design approach with respect to smart-home sensing and monitoring

in households. The Commission is becoming more amenable to the involvement of older people in these efforts. Moreover, it is progressively receptive to the need for participatory design processes in ICT development and integration (Preda et al., 2022).

The timeframe covered within this study reveals a moderate, but accelerating, chronological growth in the number of research initiatives in the database that directly involve older people. Within the recommendations from research papers in the literature corpus, the scholarly community advocates for further studies involving greater numbers of older people from all social backgrounds in order to acquire a larger scale and more comprehensive overview of the socio-cognitive precepts of persons in later life towards digitalisation (Hunsaker & Hargittai, 2018; Tsai et al., 2017). The picture unearthed by academic researchers is that technology use in older age is a nuanced and multifaceted phenomenon predicated upon a multiplexity of phenomena; with people in their golden years being representative of all parts of society, rich and poor, having worked in primary, secondary and tertiary sectors, with some in robust physical and mental condition and others in poor health, among many other important determinants of social stratification and subsequent digital engagement (Gallistl et al., 2020; Coley et al., 2022).

To this end, Commission decision-making has arguably been hamstrung by nuanced social complexities and diversities among older people, as there is no ‘one size fits all’ approach for ageing and digitalisation. Instead, a strategic policy umbrella that aligns with the principles of Article 3 TEU on the enhancement of the social market economy and the EPSR appears to be taking shape, particularly with regard to lifelong learning and inclusion, with a growing emphasis on supporting older people who are geographically isolated and whose economic situation renders them vulnerable in the digitalisation of society (European Commission, 2022). This is reinforced in Article 25 of the CFR which guarantees that older persons shall have the right to lead a life of dignity and independence and to participate in

social and cultural life (European Union, 2000, Art. 25). Crucially however, older people may be able to acquire greater agency for self-representation through changes in policy and, subsequently, with more inclusive digitalisation. This is particularly important as disability advocacy groups have developed significant powers of socio-political agency with an according and flourishing capability to provide input in institutional policy, however, older people have faced an uphill struggle to achieve the same powers of self-advocacy (Priestley et al., 2010).

The dataset arguably yields a comprehensive scholastic recognition that, with lengthening human lifespans and a significant growth in the number of old people alive in the contemporary EU, traditional models of ageing are thus incompatible with an inclusive digital future that supports person-centred health through equitable digitalisation (Foster & Walker, 2015). This corresponds to the direction of Commission policy which is, assertedly, becoming more receptive to the wishes and preferences of older people. As a result, the Commission is arguably taking aboard the discourses expounded by the research community on contemporary ageist structures of digitalisation. The Commission is discernibly moving to support a cohesive active ageing policy and facilitate the creation of AAL environments for older people (Peine & Neven, 2020). It is gradually implementing incremental policy-driven efforts to change the way society, and indeed manufacturers, perceive the role and purpose of interactionism between older people and digital technology in later life.

Indeed, this also echoes the discourses of caregivers, who themselves experience limited powers of agency to project a clear and unified ‘voice’ on their perceptions of older people and their interactions with a digitalising society (Young & Tinker, 2017). Caregiver discourses overlap in an important way with those of older adults by recommending greater, more enhanced and direct engagement mechanisms for people in later life with industry and public policy, as they are frequently eager to express their views, preferences and general

feedback (Coley et al., 2022). Though this social transformation is very much under development, and despite the often-glacial pace of tangible institutional action towards legal and policy reforms, there is undoubtedly, a discernible convergence of stakeholder discourses between older people, caregivers and the Commission, on the future of person-centred digitalisation and accessible inclusive digital technologies in the EU (European Commission, 2021).

8.4.3 Lived Experience, and the Impact of Digital Inclusion and Exclusion

Currie et al. (2015) cites widespread geographical isolation of older people as a prominent barrier to digital accessibility for persons in later life. There remain many internet 'blackspots' throughout the EU where coverage is poor or non-existent. This is despite the ongoing trends of the rapid digitalisation of society and social systems (Ibid.). It has become a practically indispensable requirement to have ready access to digital devices, services and internet connectivity in order to live a modern life. Online connectivity is required for access to personal finances, payment of bills, communications with others and for most forms of modern entertainment. Older people who are geographically isolated can be entirely excluded from modern life and, thus, they do not benefit from the potentially positive aspects of digitalisation as enjoyed by others who live in urban centres with better connectivity and more frequent access to digital services (Ibid.; Berkowsky et al., 2019; Hargittai et al., 2019).

Magdalena et al. (2015) explains that older people are sometimes reluctant to utilise connected technologies due to the fear of social stigmatisation and the appearance of digital incompetence resulting from lack of familiarity with a device. In addition, apprehension of stigmatisation also extends to a reluctance among some older people to wear or physically utilise certain health technologies, as they express anxieties surrounding the potential for a stereotypical and ageist social appearance as users of such devices (Ibid.). To this end, many

older people feel that certain types of digital technologies could lead others to formulate stigmatic impressions of the user as an individual who is old or frail, and therefore in need of paternalistic or 'othering' treatment (Ibid.). Fears of stigma are often correlational with older adults who have low levels of familiarity with digital devices and services (Vines et al., 2015; Neves & Amaro, 2012).

From the perspective of Fairclough's CDA, the discourses of older adults express textual depictions that alternate between aspects of empowerment, through terms such as 'independence,' 'autonomy,' 'communication', and those of vulnerability, 'stigma,' and 'fear,' (Balasubramanian et al., 2021; Abdi et al., 2020; Magdalena et al., 2015; Chen and Schulz, 2016). In the domain of discourse practice, these portrayals are transmitted through scholarly research and participatory studies, capturing lived experiences while highlighting deficient degrees of inclusive design and representational policymaking. These discourses reveal, at the sociocultural level (Fairclough, 2010), the structural interplay between ageism, market-driven digitalisation and rights-based advocacy, reflecting the forces that can empower and inhibit normal life for older people in a digital society. Thus, CDA gives clarity to the ways in which the discourses of older adults reflect both lived experience at a personal level, and collectively as counter-narratives to dominant institutional discursive output, showing how certain social contexts can render digital inclusion or exclusion a reality (Fairclough, 1995; 2003; Wodak & Meyer, 2015).

8.5 Interplay of Discourses: Areas of Accordance and Divergence

8.5.1 To What Extent Does EU Commission Discourse Shape or Influence that of Older Adults and Caregivers?

The discourses of the Commission arguably influence caregiver perspectives towards digital technology use by older people. Caregivers echo the appraisal and aspirations of

Commission policy towards digital technologies, conveying a lucid analysis of the challenges associated with the practical implementation of connected devices and services in healthcare settings for older people, while emphasising the need for a human rights-based approach to a digitalised care sector (Donnelly et al., 2018). They are also aware of ongoing PPI initiatives, and many have experienced EU sponsored trials of digital technologies among older people in care settings. Carers are cognisant of the challenges surrounding the scalability of such technologies, and they are aware of the role that social capital plays when trialling digital devices and services in a specific care environment (McCall et al., 2021).

They express that there are potential market gaps for accessible digital technologies and services for older people and their recommendations in this regard resonate with Commission policy. Moreover, they also accord with the Commission on many avenues in terms of the purpose and model of integration for digital technologies for older people, with a major consideration being the intention for connected devices and services to support the delivery of effective care and to facilitate and assist the carer in the performance of their role (European Commission, 2021). It is apparent that Commission policy is, in accordance with the professional expertise and experiential learning established by caregivers in the performance of their roles, also informing and generally according with the precepts of carers in their vision and aspirations for the role and method of implementation of digital technologies in the lives of older adults (Young & Tinker, 2017).

Older people express the discourses of eudaimonia and existentialism in their view of digital technology, particularly with regard to the potential for connected devices and services to enable people in later life to live at home in an AAL environment with improved quality of life and increased independence through direct control of their personal and private affairs (Ryan et al., 2008; Webber, 2018). The Commission is substantially supportive of the development of inclusive digital AAL environments of this type and is increasingly

determined to ameliorate the practical challenges facing the implementation of connected technologies, though some uncertainties remain (European Commission, 2021). Older adults express enthusiasm for robust protection and empowerment of their independence through inclusive and accessible digital technologies, but the dataset does not reveal strong inclinations among people in later life to engage with a productivist society through economic and employment-oriented means.

Instead, older people wish to engage with society and to participate in public, civic and private life, but are eager for adequate pensions to support their retirement rather than having to face continued work in the silver economy into their old age in order to subsist (Mladenov, 2016). Moreover, there is an awareness on the part of the Commission towards the social, economic and geographical challenges associated with the use and uptake of digital technologies among older adults. People in later life who suffer from disadvantaged socio-economic and educational backgrounds, leading to a deficit of social capital (Zaid & Liamputtong, 2025), often remain substantially apprehensive towards digital technologies and their potential advantages that they can offer if made readily accessible, affordable and comprehensible. To this end, the Commission is increasingly supportive of lifelong learning and digital skills training initiatives to partially address this challenge (Tsai et al., 2017).

8.5.2 Areas Where EU Discourse Aligns with Lived Experiences

Older adults also accord substantially with the discourses expressed in Commission policy, particularly with regard to AAL solutions and the potential of digital technologies to empower people in later life to reside at home and retain personal autonomy and control over their own lives and affairs (Peine & Neven, 2020; European Commission, 2021; Lindberg et al., 2013; Lindeman et al., 2020). Other areas of accordance also include the significant willingness of older people to actively participate in the trialling and feedback process of

digital technologies and to provide their own suggestions as key stakeholders in this regard (Coley et al., 2022). The views they express are primarily directed towards the amelioration of practical challenges associated with the implementation of digital technologies in the lives of older people. As such, the wishes and preferences of older adults with regards to digital technologies, and the role and purpose of connected devices and services in their lives, often accords with Commission policy towards ageing and digitalisation (Peine & Neven, 2020; European Commission, 2021). As a general rule, older people want to live in their own homes and to benefit from the use of accessible, low-cost, easy to use and discrete digital technologies, to empower them to continue residing in familiar surroundings and maintain relationships with family and friends, and engage proactively in public and private life (Coley et al., 2022). This arguably constitutes a significant and increasing alignment of the wishes and preferences of older adults with important dimensions of the policy vision of the Commission towards ageing and digitalisation.

8.5.3 Points of Tension, Exclusion, or Misalignment in the Discourses

It is arguable that Commission policy initiatives are proceeding at a slow pace, as they frequently struggle to react effectively to caregiver perspectives that are shown to be relatively consistent and uniform throughout the timeframe of the dataset. The Commission is gradually playing a proverbial ‘catch-up’ to events as they occur on the ground (McCall et al., 2021).

In summary, there is a general sense that Commission policy is taking too long to address important barriers, even in-spite of a slight, but apparent quickening of pace considering the publicity created by the disproportionately severe effects of the Covid-19 pandemic on older people (Donnelly et al., 2018; European Commission, 2021). A degree of disharmony is discernible within the dataset between carers and Commission policy, not

necessarily in relation to the fundamental caregiver observations and appraisals of the state of digitalisation, but instead over the pace at which change is taking place (McCall et al., 2021). As such, there is evident frustration among caregivers over the moderate momentum of progress, and they apparently make a two-fold distinction between the latent potential for digital technologies, services and robotics to bring about positive change, and the contrasting reality of the present situation which is, currently, arguably not conducive to such an outcome in the near-term (Donnelly et al., 2018; European Commission, 2021).

Caregivers are desirous of a standardised and large-scale market for digital technologies that can protect the human rights of the patient and user but are unsure of when such an eventuality will come about. However, caregiver discourses are substantially cognisant towards human rights, and they are consistently informed by principles of person-centred care (Donnelly et al., 2018). Carers want a holistic policy suited for a complex systems framework where they can provide their input to steer the direction of digitalisation for the good of the patient and carer, and to affect and drive positive market changes to improve the implementation of digital technologies in-practice (McCall et al., 2021). In essence, caregiver discourses and Commission policy discernibly inform one another, with a two-lane flow of discursive narratives and informational transmission being evidentially apparent (European Commission, 2021). The crux of caregiver frustrations seems to lie in the aspect of a gradual pace of discursive exchange from the ground-level upwards, leading to moderate reactivity in Commission policy development which, currently, takes an assertedly inordinate time to achieve tangible affects in the care environment. Older adults and caregivers generally accord in their views towards digital technologies, with minor areas of potential divergence with regard to the level of control a patient should ideally wield over certain health monitoring devices and services in the care setting (Łukasik et al. 2020). However, carers and older adults wish to preserve the dynamics of in-person care to reinforce

valuable human contact time between the patient and caregiver, whilst enabling people in later life to enjoy improved quality of life (Coley et al., 2022; Peine & Neven, 2020), health-self monitoring, general privacy, independence and discretion, through the use of digital technologies.

Viewed through Fairclough's CDA (Fairclough, 2015), the discursive interplay across Commission policy, caregivers and older adults reveals aspects of convergence and divergence. At the level of textual analysis, recurrent depictions using framings such as 'autonomy,' 'care,' and 'inclusion' are consistent across stakeholder groups, indicating wider cross-sectoral ambitions for rights-based and person-centred digitalisation (Jones et al., 2015; Abdi et al., 2020). However, in the domain of discourse practice (Fairclough, 1995), certain differences emerge such as in the filtration of Commission texts through institutional strategic agendas and bureaucratic processes, whereas the discursive narratives of caregivers and older adults are expressed through experiential personal accounts and professional experience. At the sociocultural level (Fairclough, 2003), constant frictions between productivism, the rate of reform, and inequities in social capital (Zaid & Liamputtong, 2025), all reveal the systemic constraints that glaciate the transformation of inclusive discourses into real and tangible outcomes. Thus, CDA shows that, although discursive alignment is slowly increasing, the imbalance in power and participatory dynamics between lived experience and institutional policy agency continually moulds and, at times, potentially delays the realisation of inclusive digitalisation for older adults (Fairclough, 1995; 2003; Wodak & Meyer, 2015).

8.6 Theoretical and Methodological Contributions

8.6.1 How Fairclough's Approach to Discourse Analysis Enriched the Study

Fairclough's model of CDA constitutes the optimal empirical approach to the discourse analysis employed in this study as it provides a robust framework for the

disassembly and exploration of discursive narratives and social practices (Fairclough, 2009). As Fairclough (2011) perceives discourse as a formulation that is generated to wield or maintain influence over the power structures within society, he emphasises that the relationship between discursive narratives, institutions of social agency and people, is dialectic in its constitution. The Three-Dimensional Framework provides a logical architecture for the application of CDA on a literature corpus through the discursive analysis techniques of description, interpretation and explanation (Fairclough, 2010). In this study, the descriptions matched the depictions at the textual level through framings such as 'dependency', 'inclusion', and 'autonomy' (Magdalena et al., 2015; Abdi et al., 2020; EuroStat, n.d.), and the interpretation analysed the production and circulation of these portrayals across stakeholder and institutional discourses, while their explanation grounds them in wider socio-cultural pillars of digitalisation, ageing and EU political economy interests. (Fairclough, 1995; 2003). As such, this thesis employed this method to identify the social problem and trace the elements of communal reactionism in the discourses produced by the Commission, caregivers and older people, respectively (Fairclough, 1995).

Moreover, Van Dijk's socio-cognitive approach to discourse analysis shares similarities to that of Fairclough, which is useful for interpreting social interactionism and impression formulation through the exchange of discursive narratives in society. This study cited Van Dijk occasionally to reference socio-cognitive impressions and to link them to the themes and presuppositions discernible within the text (Wokad & Meyer, 2009; Van Dijk, 1997; Gyollai, 2022). The selection of Fairclough's approach to CDA was carefully weighed and considered and was ultimately predicated upon the suitability of the framework towards the objectives of the thesis in terms of the exploration of the production, proliferation and consumption of discursive information across multiple sectors of society (Hassen, 2015; Phillips et al., 2004; Kouti, 2022). As such, Fairclough's framework provides an optimal

architecture for the analysis of institutional discourse, including the transmission of discursive narratives and agency through policy (Fairclough, 1995).

Fairclough's model of CDA constitutes a scholastic frame of reference for the disassembly and critical analysis of discourse and social practice (Fairclough, 2009). Tenorio (2011) asserts that Fairclough views discourse as a formula that is generated to wield, or to maintain influence over, the power structures within society. Fairclough (1997) emphasises that the relationship between discourse, power structures and society, is dialectical in its constitution. He developed his trifold formulaic model in 1992 for applying CDA through the following discursive analysis techniques; 'Description, Interpretation and Explanation' (Fairclough, 2015; Jimenez-Silva et al., 2016). In the description or textual analysis phase, the identification of the social problem and the tracing and detection of elements of communal reactionism to these issues in the discourses produced within society comprises a key objective (Fairclough, 1995).

This thesis also occasionally cited Van Dijk's work in discourse analysis as he provides an insight into the influential role of discursive narratives in moulding and ossifying power structures and relations through a cognitive approach (Van Dijk, 2000; Van Dijk, 1996). Van Dijk focuses on the cognitive aspects of discourse projection and consumption and the role it plays in shaping mental schemas and the resultant relationship between discursive narratives, biases and prejudices in populations and institutions (Bhandari & Yasunobu, 2009; Van Dijk, 1996). In this sense, this research occasionally 'borrows' from Van Dijk's empirical focus on CDA to assist in the conveyance of points and argumentation at times, though it relies entirely on Fairclough's framework to account for the discourses in the analysis of the data.

Further to this, a subsequent and intensive CDA based on Fairclough's approach was implemented on each document within the text corpus of the data sample (Chouliaraki &

Fairclough, 1999). This study makes use of data sample screening by reading through documents to apply a thorough CDA approach to the thematic patterns of social, legal or political significance (Van Dijk, 1996; Fairclough 1995; Mayring, 2014). Moreover, this assists with the identification of pervasive attitudinal traits and perceptions that are relevant to the research question in the collected data (Oteíza, 2017). Furthermore, this project arguably speaks to aspects of grounded theory and thematic analysis in providing an empirical deconstruction of thematic discourse trends of interaction in the field of old age, care, disability and digital technology (Charmaz, 2014), whilst simultaneously manifesting a defensible and scientific conclusion or hypothesis, with resultant recommendations, based on patterns that emerge from the data analyses. This greatly aids the thesis in understanding the linkages between text, discourse and social practice (Oteíza, 2017), and in comprehending the linguistic features of policy literature and the accordant framing of ageing, alongside the institutional and political contexts influencing the production of discursive narratives, and the general communal impact of Commission policy towards older adults and digitalisation. Furthermore, this framework proved to be significantly effective at deconstructing the language surrounding ageing and digitalisation in Commission policy, exposing the discourses, sectoral interests and sub-themes therein (Charmaz, 2014). It also enabled this thesis to analyse how historic EU policy influences current narratives, yielding further insights into the evolution of Commission discourse on ageing and digitalisation over time.

8.6.2 Contributions to Discourse Studies on Ageing and Digitalisation

This study attempts to provide a significant contribution to discourse studies on ageing and digitalisation as it is a subject area that, despite being highly topical and relevant, has not yet received significant attention from the broader academic research community (Peine & Neven, 2020). This study expands the application of CDA in academic research on

ageing and it fills a gap in the literature through the use of a novel strategy that provides a detailed discourse analysis of Commission policy documents and scholastic publications. This strategic approach enables the thesis to discern the nexuses between policy discourse and lived experience by incorporating the voices of older adults and caregivers within the comparative investigatory framework of Fairclough's model of CDA (Chouliaraki & Fairclough, 1999; Fairclough, 1995). Furthermore, the interdisciplinary aspect of this research intersects with psychology, law and social policy, contributing to a rich discussion on the societal implications of digitalisation and ageing in the EU. As such, this project exposes areas of accordance and tension within Commission policy discourse and the narratives of caregivers and older adults, leading to a comprehensive overview of the interplay between institutional discursive output and those of people at the ground level in society. From a CDA standpoint, this triangulation in a comparative context reveals how institutional discourses can shape, and themselves be moulded by, the narratives of older adults and caregivers, effectively demonstrating Fairclough's assertion that discourse practice is related to social practice through dialectic transmission (Fairclough, 1993).

8.6.3 Methodological Reflections: Strengths and Limitations of the Approach

Vulnerabilities that may pertain to qualitative studies include the matter of the generalisability of the research in the exploration of complex social phenomenon and their causality (Ibid.). The size and composition of the data sample can lead to complications in conclusively determining the respective generalisability of a study (Chouliaraki, 2006), which can call into question the suitability of the research for utility as an example of a mean standard of normative phenomena that is occurring in a particular social context and grouping. The size and demographic capture of the data sample may also be of central importance to the above in determining the overall generalisability of a study at large

(Chouliaraki & Fairclough, 1999). Small sample sizes can erode generalisability and, therefore, may undercut the reliability of a study if the target group and questions posed are too precise for nuanced flexibility, and too narrow for the task of discerning a mean example of a social phenomenon that occurs at a more significant scale.

As such, this study is designed to carefully tread the boundaries of precision in the research design and questions posed, whilst enabling the capture and synthesis of nuanced phenomena (Epp & Otnes, 2020). Further to this, the data sample accumulated for this research is designed with careful cognisance of the above risk to purposefully negotiate this weakness, and to adopt as much generalisability as is possible within the context of a niche corpus of literature (Kaplan & Grabe, 2002). The material composition of the text corpus includes policy documents and journal articles comprising studies that are representative of definitive sectoral groupings from the public and care sectors. Ostensibly, this indicates that the issues of smaller data samples leading to reduced generalisability are likely circumvented to a significant extent in this project. In other words, some of the traditional vulnerabilities associated with qualitative research that pertain to this project are greatly reduced through the attentive research design that is tailored to preclude any erosion of generalisability in the thesis and the conclusions (Anderson, 2017; Epp & Otnes, 2020). Although this research does not assert any statistical representativeness, the validity of this study can be found in the emphasis of the CDA on the consequential salience of discursive depictions, rather than their outright frequency of occurrence, as well as the systematic operationalisation of the coding process across Fairclough's Three-Dimensional Framework which bolsters the reliability of the findings.

With respect to the risks posed by potential researcher bias (Pritlove et al., 2019), the authors of qualitative studies can negotiate this challenge through the conduct of objective screening readings, supported by careful reviewing and critiquing analyses from their

supervisory team and colleagues. Further to this, the advent of computer assisted data management and analysis software empowers researchers to carefully navigate the difficulties of avoiding confirmation bias and prejudiced research design. The independent oversight of this project by the research supervisory team and the maintenance of an auditable approach to the study architecture employed therein enhances the objectivity of this thesis to account for researcher positionality (Fairclough, 2001). This does not ultimately preclude individual limitations that are intrinsic to this type of research (Bloomberg & Volpe, 2008), however, the chosen approach applied within this study is partially designed with a pre-emptive cognisant posture of critical reflexivity regarding potential empirical vulnerabilities and (Anderson, 2017), thus, these risks are accounted for and are minimalised to the greatest possible extent therein. Overall, the methodological architecture complies with Fairclough's assertion that CDA must be theoretically rigorous and transparent in terms of reflexivity (Fairclough, 2015), thus ensuring that the conclusions that are subsequently extrapolated are defensible within the wider field of discourse analysis studies.

8.6.4 The Bourdieusian Perspective: An Alternative Scholastic Framework for Recapitulation of the Research

As discussed in Chapter 3 (Section 3.4.1), the work of Pierre Bourdieu provides a pertinent and applicable scholarly framework through which this study can be understood if it were recapitulated along cognate methodological and theoretical lines. Indeed, Bourdieu's concepts on habitus (Bourdieu, 1984), capital and social reproduction and the nuances of power relations and their accordant shaping (Bourdieu, 1990; 1992), moulding and transferral in society, constitute a robust alternative schema through which this study could be reproduced. The characteristics of the interactions between older adults and digital technology do not comprise a monolithic and sweeping representation of an entire

demographic. Instead, they are profoundly personal and uniquely idiosyncratic to every older person, being shaped by socio-economic position, life experience, and a myriad of other variables that mould the singular and distinct impression of each individual in this respect (Woolrych et al., 2018). To this extent, Bourdieu offers a schematic theoretical lens through which to explore the human experience of digital technology in later life, both at an individual level, and at a demographic and societal scale (Bourdieu, 1984), while discerning and illustrating the ebbs and flows of social power relations that define these relationships in socio-economic, cultural, idiosyncratically personal and intergenerational terms, among others. As such, his work is pertinent to the discussion section of this research as it is, assertedly, well-positioned as a robust and suitable cognate disciplinary framework from which to observe (Maton, 2012), comprehend and expound upon the manifold and complex social relationship between older people and digital technologies and the accordant social power relations that define these relationships at an individual and demographic scale.

8.7 Policy and Practical Implications

8.7.1 Recommendations for EU Policymakers on Ageing and Digitalisation

Until now, the EU approach to ageing and digitalisation has been quite inconsistent, with a lack of coherency in strategic initiatives throughout Member States. Moreover, intersectional discrimination has led to the ‘othering’ of older adults with disabilities who are frequently considered to be ‘old’ rather than having a genuine disability in a manner akin to a younger person with a physical or mental illness or other impairment (Foster & Walker, 2015). Gaps in EU policy have resulted in a situation whereby older adults are not given the same priority as younger people with disabilities who are seeking to benefit from assistive digital technology and access to employment (Priestley et al., 2010). A fragmented policy

landscape has exacerbated these trends, leading to discriminatory models of digitalisation and ageist production and design processes in digital technologies (Mladenov, 2015).

To this end, civil society organisations such as Age Platform Europe and others, have undertaken significant advocacy and research efforts to lobby the Commission and European Parliament to combat ageism in digital technologies (Age Platform Europe, 2020). Recommendations include the fostering of engagement processes involving older adults in the creation of policies governing ageing and digital technology. They also advocate the facilitation of user-centred design processes by manufacturers of digital goods and services to empower people in later life to provide feedback on system use and architecture in order to meet individual idiosyncratic requirements (Peine & Neven, 2020). Moreover, the Commission is placing an emphasis on the importance of digital literacy programmes and is working to support the creation of user-friendly connected devices and services to meet the needs of older users (European Commission, 2021). In addition, it is also seeking to encourage greater coherence among Member States in the development of unified approaches to ageing and digital inclusion for older people. The Commission is arguably pursuing a multifaceted strategic initiative, with increasingly apparent vigour, to ameliorate the effects of the digital divide and promote the rights and inclusion of older people in a digitalising EU.

As such, this thesis recommends that future Commission policy on ageing and digitalisation should emphasise the importance of creating further engagement mechanisms with caregivers and older people to involve them in the creation of digital technologies and services that incorporate their wishes and preferences to reinforce quality of life, human rights, independence and personal privacy (Peine & Neven, 2020; Coley et al., 2022). Moreover, it is also advisable that Commission policymakers are attentive to the avoidance of discriminatory measures in a productivist society, particularly where there may be a future risk of a dual-track model of ageing between older people who either choose to actively

volunteer and participate in employment in later life, and those who do not. Therefore, it is important that the Commission avoids discrimination based on productivism in a future digital society (Mladenov, 2016; Foster & Walker, 2015). From a CDA standpoint, these recommendations accept that overarching framings of ageing in policy language as representing a 'challenge' or a 'resource' may implicitly reinforce values of productivism and (European Commission, 2012b), as such, they seek to redirect and recontextualise Commission discourse towards more inclusive and rights-based narratives that put to the fore the voices of older adults.

8.7.2 Insights for Practitioners Working with Older adults and Digitalisation

Although certain long-anticipated initiatives are underway to harmonise digital healthcare systems in the EU through enhanced interoperability and an easing of some inhibitory regulatory barriers to the smooth functioning of health technology companies in the single market (Kouroubali & Katehakis, 2019; European Commission, 2023), change is happening at an often-lethargic pace. Unfortunately, this puts an unwelcome delay on the latent potential benefits that could be felt by carers and patients at an individual level given the current capabilities of digitalisation and technological innovation (European Commission, 2022). Furthermore, carers note that interoperability and scalability challenges often only become apparent when trialling digital technologies in the care environment (Zanchetta et al., 2022). As such, the involvement of healthcare workers and older adults in the creation of policy and best practices for the interoperable digitalisation of the care environment is critically important (Turale & Kunaviktikul, 2019). Caregiver engagement mechanisms in Commission policymaking and communication with industry represent essential components in the development of digital interoperability frameworks that function smoothly and effectively, delivering versatile person-centred digitalised healthcare at an EU-wide level

(European Commission, 2022). This thesis recommends that caregivers continue to work with civil society organisations and older people to lobby the Commission to pursue human rights-oriented models of ageing and digitalisation and streamline the interaction between institutional policy, carers and older adults, to facilitate a comprehensive bottom-up and top-down transmission of discursive exchange. From the level of discourse practice (Fairclough, 1992; van Leeuwen, 2008), this section reveals how the perspectives of carers are infused into digitalisation discourses in the EU, demonstrating the way in which institutional mechanisms of lobbying and consultation can influence the meanings that gain traction. As such, this reflects Fairclough's tier of discursive practices (Fairclough, 2010), in this case comprising consultation, lobbying and stakeholder engagement activities, and it shows how they mediate between the lived experiences and realities of carers and older people, and the textual depictions in policy publications. Indeed, by increasing levels of participation in these discursive mediations, carers and practitioners can mould the formulation and consumption of discourse in digitalisation policy in the EU.

8.7.3 Suggestions for More Inclusive and Participatory Policy Development

Commission policy discourse increasingly recognises that stakeholder engagement involving older adults in the development of protocols and, indeed, digital technologies, can constitute a valuable mechanism for ensuring the success of a person-centred and user-focussed approach to accessible connected devices and services with inclusive design features for people in later life (Peine & Neven, 2020; European Commission, 2022). In addition, the EU approach to AI with an emphasis on the rights and privacy of the user, represents a positive development towards a rights-based digital future for older people (European Commission, 2023). As such, the EU is adopting a pragmatic strategy to the challenges posed by the digital divide through new policies to reinforce inclusivity for older

people in a digitalised society, and by way of active engagement with persons in later life, to ensure the ethical development of accessible technology that protects the rights and freedoms of all users, irrespective of age or ability. When viewed through the dimension of sociocultural practice (Fairclough, 1995; Wodak & Meyer, 2016), Fairclough's framework shows how these proposals are demonstrative of the ways that wider conceptualisations of rights and participation can mould, and themselves be shaped by, institutional discourses on ageing and digital technology.

To this end, civil society organisations such as Age Platform Europe, have undertaken significant advocacy and research efforts to lobby the Commission and European Parliament to combat ageism in digital technologies (Age Platform Europe, 2020). Recommendations include the fostering of engagement processes involving older adults in the creation of policies governing ageing and digital technology. They also advocate the facilitation of user-centred design processes by manufacturers of digital goods and services to empower people in later life to provide feedback on system use and architecture in order to meet individual idiosyncratic requirements (Peine & Neven, 2020). To this end, this thesis reasserts that the creation of engagement mechanisms to expedite the formulation of inclusive and participatory policy development processes is necessary to ameliorate the digital divide. Some additional suggestions include the establishment of further inclusive policy-making engagement mechanisms for older people who are geographically isolated, and residing outside of traditional care settings, to promote their participation in trials of digital technology and in the development of institutional protocols. Indeed, a future standalone 'UN Convention on the Rights of Older Persons' of the kind that has long been supported by EU civil society would indeed be an auspicious development if it comes to fruition (Hopf et al., 2020), but it would need to directly address ageism and digital inequality, and promote a social 'voice' for older people as a cohesive community in a digitalised society (Office of the

United Nations High Commissioner for Human Rights, 2014). When viewed through the explanatory dimension of Fairclough's CDA (Fairclough, 1992), these proposals stress that mechanisms for inclusive engagement are not merely procedural nor technical adjustments but, rather, they represent a component of a wider cognitive shift in sociocultural practice in the EU towards the recognition of older adults as participatory and rights-enjoying people in a digital society.

8.8 Limitations of the Study and Avenues for Future Research

8.8.1 Limitations in Data Collection, Scope, or Methodology

An aspect of weakness pertaining to the stakeholder literature corpus is rooted in the question of bias resulting from the ability to participate. To this end, scholarly research often represents the perspectives of older people who were able to take part in the investigation process, potentially rendering invisible the challenges faced by those who are unable to participate (McMurdo et al., 2011). This research attempts to navigate this challenge by analysing findings and interpreting results as a unitary and cohesive textual discourse, thereby reducing, but perhaps not omitting entirely, a degree of subtle bias (Pritlove et al., 2019).

The policy-centric focus of the thesis does not explore individual protocol differences between EU Member States. Moreover, the level of representation for older adults and caregivers in the dataset is nuanced. Therefore, it is challenging to determine whether it is truly representative of the diverse cultural, socioeconomic, geographic or educational background of the caregivers and older people involved in the scholastic database. Targeted research samples in literature containing discourses of older people from specific backgrounds, or categories of social capital (Bhandari & Yasunobu, 2009), may yield

findings that could be useful for comparative analyses with other datasets employing different criteria.

8.8.2 Areas that Require Further Investigation

Some additional areas that merit further investigation include the implementation of comparative analyses of similar studies across individual Member States to discern the variations in national ageing and digitalisation policies in each country. A study that reveals the differences between Member States and their individual approaches to ageing and digitalisation may yield specific insights into best practices, as well as examples of potential discrimination that might follow geographical patterns due to respective levels of national wealth, culture or nuanced demographic profiles (Foster & Walker, 2015; Mladenov, 2015). Viewed from the aspect of discourse practice, further research into variations between Member States may shed light on how national discursive policy genres recontextualise and interact with EU-level portrayals (Wodak & Meyer, 2016; Fairclough, 2003).

8.8.3 Future Directions for Discourse Analysis in Ageing and Digital Policy

The future direction for discourse analysis in ageing and digitalisation policy may witness an increase in studies of this kind that asses their origins, trajectories and progress, particularly if they can inform the creation of more effective policies (Chouliaraki & Fairclough, 1999). Furthermore, discourse analysis into AI and algorithmic processes, and their interactions with older adults, could explore how emerging technologies mould narratives surrounding ageing to discern whether they can contribute to discriminatory outcomes (Binns et al., 2018). In addition, further comparative analyses could be undertaken to compare the ageing and digitalisation discourses within the EU to those of non-EU countries or other regions across the world (Mladenov, 2015). This could reveal further

differences in national or regional approaches to ageing and digital technologies, shedding light on the variables such as social or cultural capital which might impact these variations. As such, this awaits the extension of CDA into novel aspects of digital governance, where textual analysis of algorithmic discourse must share a clear connection to discourse practices in the development of connected technologies, as well as the sociocultural ramifications of digitalisation and automation for older people (Chouliaraki & Fairclough, 1999; Binns et al., 2018).

8.9 Final Reflections

8.9.1 Revisiting the Significance of the Research

This research attempts to provide a novel academic contribution by way of discerning and comprehending the discourses within Commission policy to reveal the narratives and interplay of discursive themes, and the effects of discourse transmission, to discern the areas of influence, overlap and divergence between official EU protocols and the experiences, wishes and preferences of older adults and caregivers (Chouliaraki & Fairclough, 1999). To this end, this thesis takes into consideration the opinions and viewpoints of caregivers and older adults and it identifies disparities between their real-life experiences and precepts of digitalisation and the policy narratives of the Commission. It constitutes a novel and original academic research project on digitalisation and ageing in the EU through the implementation of Fairclough's model of CDA to deconstruct and comprehend a highly topical social phenomenon (Fairclough, 1995). This enables the thesis to consider the key challenges faced by older people in the context of the digital divide to identify solutions and risks in the current direction of Commission policies influencing ageing and digitalisation. The findings of this research are likely to be valuable to EU policymakers and academic scholars of Commission policy on ageing and digitalisation, and they also provide insightful

considerations for researchers and civil society organisations whose work extends to ageing studies, social policy, digital technology and human rights law. In this sense, this thesis implemented Fairclough's Three-Dimensional Framework of CDA with a high degree of clarity by demonstrating the intersection between discourses on ageing and digitalisation and their institutional production in Commission policy, as well as their accordant entrenchment in sociocultural tensions between the narrative domains of rights, productivism and inclusion (Fairclough, 1995; Chouliaraki & Fairclough, 1999).

8.9.2 Broader Societal and Ethical Implications of Digitalisation and Ageing

The broader ethical and social implications of digitalisation and ageing that are revealed in this thesis are complex and multifaceted. It is clear that the digitalisation process entails risks to the autonomy, accessibility, privacy and independence of older adults who have, thus far, frequently experienced an erosion of their personal liberty due to the effects of the digital divide (Donnelly et al., 2018; Hunsaker & Hargittai, 2018). Moreover, it is unclear whether AI and algorithmic decision-making in digital technologies may project further discriminatory tendencies in the design and implementation of connected devices and services (Binns et al., 2018). The protection of data privacy for older users comprises an area of digitalisation where considerable risks are likely to continue into the future as people in later life must increasingly rely on digital technologies to access their personal finances, health services and social contacts. Moreover, the intergenerational digital divide is likely to persist into the future, irrespective of inclusive digitalisation policies that are designed to mitigate the ageist discriminatory potential of connected technologies. In addition, the Commission, most probably, will continue to face pushback from digital technology manufacturers as it seeks to promote accessibility and universal design specifications in new devices and services (Peine & Neven, 2020; Zanchetta et al., 2022). The framing of universal

access to digital technology as a core human right in digitalisation policy is necessary to enhance the momentum of a rights-based approach in Commission digitalisation and ageing protocols. When analysed through the tier of sociocultural practice (Fairclough, 2003), ethical risks such as these demonstrate how discourses of rights, autonomy and surveillance, interact with broader technological and neoliberal schools of thought (Donnelly et al., 2018).

8.9.3 Concluding Thoughts on the Future of Ageing in the EU Digital Landscape

It is evident that the EU has made significant progress in recent years towards the development of a more cohesive policy framework for a strategic and long-term approach to ageing and digitalisation (European Commission, 2021; 2022). The Commission is tentatively embracing an inclusive pathway to ageing and digital policy with an emphasis on engagement and productivity by older people in a digitalised society (Foster & Walker, 2015). However, it also echoes palpable concerns over rising healthcare costs, workforce decline, pension systems maturation and the digital divide (Zanchetta et al., 2022). In terms of CDA, the textual portrayal of ageing as representing a ‘challenge’ as well as a ‘resource’ shows that tension exists between discourses of a political economy orientation and narratives of a human rights inclination (Fairclough, 1993; European Commission, 2012b; 2012c). As such, it may be reasonable to conclude that the Commission has effectively been prompted into action on ageing and digitalisation due to an exacerbation of chronic trends that have persisted and intensified at an unabated pace over recent decades (European Commission & EPC, 2024; Pinkus & Ruer, 2025). The Commission is keen to preserve the competitive edge of the social market economy and is, assertedly, making the necessary adjustments to accommodate ageing demographics and digitalisation, albeit imbued with adjunct considerations surrounding political economy, productivism and human rights discourses, amongst other subthemes that drive contemporary policy (European Commission, 2021).

Overall, there are signs of significant and laudable potential for the future development of Commission policy towards ageing and digitalisation which, ostensibly, indicates that there is a shift in the direction of a more inclusive digital transformation where older people may achieve further avenues for self-representation, at least to a certain degree, through participatory design-processes and implementation efforts for connected devices and services (Peine & Neven, 2020; Coley et al., 2022). However, the full extent of future inclusion in this regard is ambiguous. In the domain of discourse practice (Fairclough, 1995), the degree of genuine empowerment is directly linked to the extent to which institutional consultation mechanisms permit older people and carers to provide their input into policy, rather than simply reacting to it. As such, it is important for civil society to continue to work with carers and older people to apply pressure on the Commission to prioritise the creation of effective consultation mechanisms and ensure that relevant stakeholders can participate in the creation of policy (Falanga et al., 2020; AGE Platform Europe, 2024). In this sense, the establishment of consultation processes that empower older people and carers to assume an active role in the formulation of policy, and in the creation of digital devices, services and solutions to promote a person-centred and inclusive digitalised environment is of utmost importance (Sowa-Kofta et al., 2021). Accordingly, these closing reflections integrate Fairclough's Three-Dimensional Framework by linking the lexical portrayals within policy texts, their institutional circulation, and their sociocultural ramifications for the digital futures of older people and ageing populations (Fairclough, 1995; Fairclough, 2003).

This thesis concludes that continuous civic engagement and pressure from civil society is necessary to encourage the Commission to pursue holistic and coherent policy integration and digital interoperability throughout the EU. To this end, the Commission ought to ameliorate fragmented ageing and digitalisation policies to harmonise strategic efforts to create a uniform grand-strategic initiative for digitalisation and old age by focussing on

human rights, digital accessibility and intergenerational engagement and interactionism (Foster & Walker, 2015; European Commission, 2022). There are some positive signals in contemporary Commission policy to this effect, where digitalisation is increasingly seen as a potential solution to specific challenges posed by demographic ageing. In this sense, digital technologies are perceived as tools to facilitate social participation, independence, productivity, civic engagement and lifelong learning for older people (Peine & Neven, 2020). However, it is necessary for civil society to ensure that discourses of productivity do not come to dominate ageing and digitalisation policy in this regard in the future, as it may risk the creation of discriminatory tendencies towards older people who are unable to engage in an economic, or labour market-focussed sense of productivism in a digital society (Mladenov, 2016). As such, while reflecting upon the social discourse-generating potential of the general public, and especially that of older people and caregivers as integral parts of the civic body-politic, and considering the juridical monopoly on legislative and policy initiatives as invested within the institutional bureaucracy of the Commission, it is necessary to contemplate who wields the greatest influence over narratives of ageing and digitalisation in the contemporary EU (Foster & Walker, 2015; van Dijk, 2009)?

In conclusion, the development and enhancement of civic engagement mechanisms between the Commission, caregivers and older adults, constitutes a veritable prerequisite for ensuring that persons in later life can have a say in the direction of the digital transformation and ensure that their human rights, democratic participation and access to connected technologies and services, are protected and upheld in a digitalised future (AGE Platform Europe, 2024; Sowa-Kofta et al., 2021). By integrating Fairclough's Three-Dimensional Framework, including the textual analysis of policy portrayals and the examination of institutional practices, and by situating them within broader sociocultural contexts, this thesis shows how EU discourse on ageing and digitalisation both moulds, and is shaped by, social

attitudes and transformations in society (Fairclough, 1995; Wodak & Meyer, 2016). Thus, the future direction of EU ageing policy is dependent upon the sustainment and growth of civic engagement mechanisms and the willingness of institutions to recognise older adults not as passive recipients in need of paternalistic treatment but, instead, as active agents of the digital transformation.

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List of Appendices

Appendices A – E, Chapter 4: Research Methodology.

Appendix (A.)

Table 1. Displaying Search Terminologies Applied in Each Database

Database	Search Terminologies (Glossary of Keywords used in the Search Strategy)
EUR-Lex Legal Database	(1.) Narrative Search Comprising Individual Target Documents and Related Documents as Suggested by EUR-Lex 'Advanced Search' Function. Search of EUROVOC Strands Searched: 1. 'Population Ageing' 2. 'Care for the Elderly'
EUR-Lex Legal Database	(2.) Systematic Search: "Elderly" OR Old* OR Health* OR Care* OR "Active Ageing" OR "ICT" OR "Digital" OR "Access" OR Service*
ProQuest Central	("Elderly" AND "Digital") OR ("Old Age" AND "Ageing" AND "Care" AND "Public Health" AND "Technology") OR ("Internet" AND "Accessible" AND "Later Life" AND "Frailty" AND "Silver Economy" AND "Aged" AND "Golden Years") OR ("Autonomy" AND "Burden" AND "Geriatric" AND "Infirm*" AND "Online") OR ("Elderly" AND "Digital" AND "Internet" AND "Old Age" AND "Ageing" AND "Universal Design" AND "Older Adult" AND "Frailty" AND "Infirm*" AND "Discours*" AND "Percept*" AND "Attitud*") OR ("Ageing" AND "Isolat*" AND "Internet of Things" AND "Digital" AND "Assisted Living" AND "Technolog*" AND

	"Device*" AND "Digital Divide" AND "Stigma" AND "Interact*" AND "Discrim*") AND "Digital" AND "ICT" AND "Elderly" AND "Aging")
ProQuest ASSIA	("Old Age" OR "Aging" AND "Caregiver" OR "Support" OR "Care" OR "Institutionalised" OR "Carer" OR "Digital Technology" OR "Healthcare" OR "Elderly" OR "Connected Health" AND "Older People" AND "Internet" OR "Devices" OR "Utility" OR "Computers" OR "Assistant" OR "Aged" OR "Mobility") OR ("Digital Integration" OR "Stereotype" AND "Aging" OR "Age in Place" OR "Aspect" OR "Age Friendly" AND "Caregiver" AND "Digital" OR "Online" OR "Monitoring" OR "Fear" OR "Anxiety" OR "Decline" OR "Ageism" OR "Sustainable" OR "Education" OR "Familiarity" OR "Internet" OR "Device") OR ("Care Sector" AND "Aged" AND "Aging" OR "Wardship" OR "Internet" AND "Connected" AND "Home" AND "Service" OR "Digital" OR "Telehealth" OR "Robotics" OR "Wearable" OR "Health Professionals" OR "Healthcare" OR "Automated" OR "Independence" OR "Machine" OR "Electronic" OR "Algorithms" OR "Artificial Intelligence") OR ("Older User" AND "Universal Design" OR "Active Ageing" OR "Attitudes" OR "Care" OR "Support" OR "Caregiver") OR "Caregiver" OR "Robotics" OR "Digital" OR "ICT" OR "Ageing in Place" OR "Healthcare" OR "Care Provider")

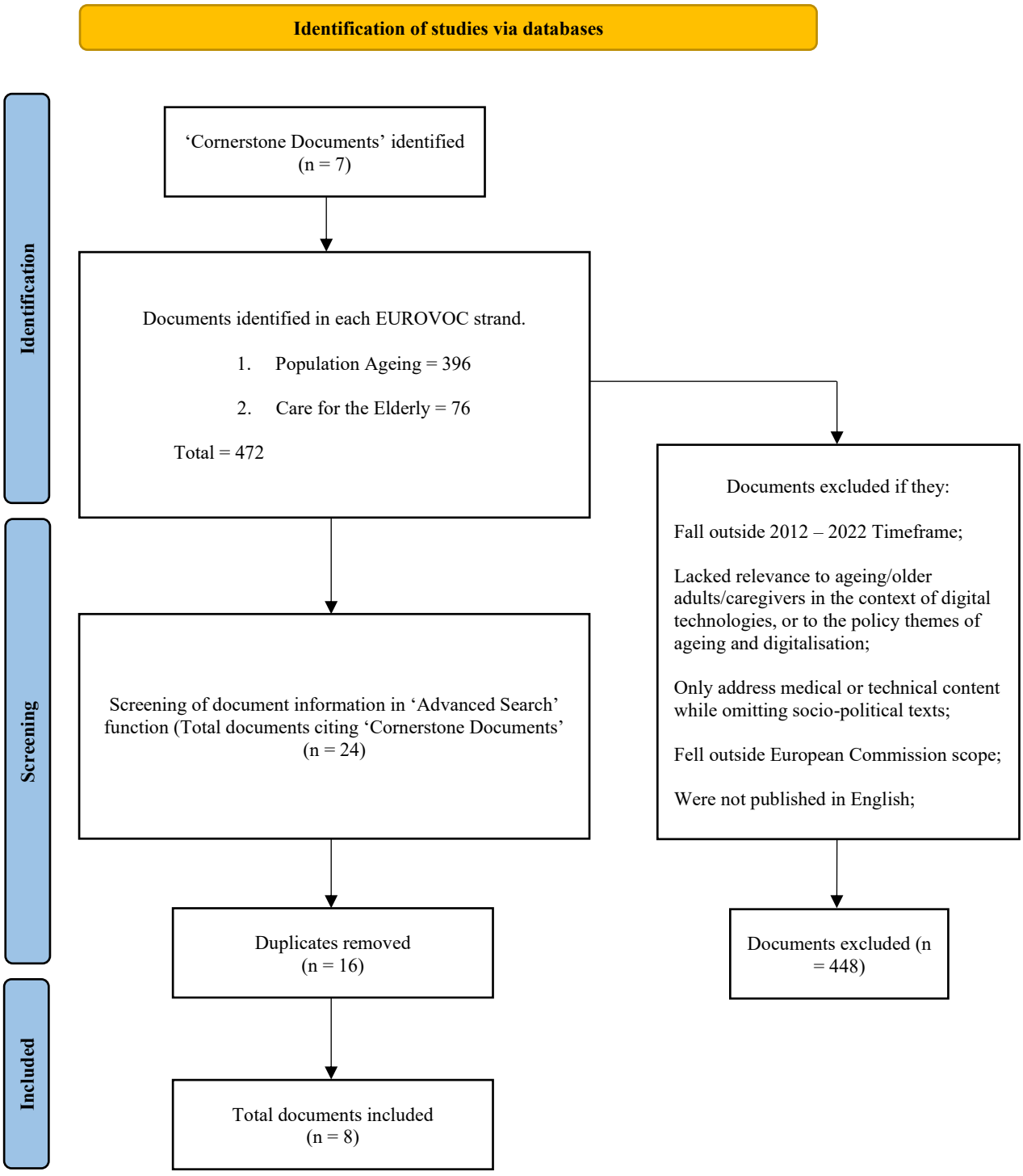
Appendix (B.)

Table 2. Displaying Narrative Search Strategy Implemented in the EUR-Lex Repository.

The narrative search strategy implemented in the EUR-Lex repository is outlined below in a format that is intended to convey the method of isolating cornerstone policy documents and the subsequent application of the 'advanced search' function to identify related papers of cognate subject matter.

Step 1.	Step 2.	Step 3.
Sample 'Cornerstone Document' – In this instance, the Green Paper on Ageing 2021 is selected as an example. The document is searched by using the 'Advanced Search' function and by selecting the 'Title' search option whilst the 'In-Text' field is left unselected.	The selected cornerstone document is investigated by utilising the 'Advanced Search' field to view the 'Instruments Cited' (related cognate publications) and the 'Classifications' list which details the relevant 'EUROVOC (EU Vocabularies) Descriptor' and 'Subject Matter' pertaining to the cornerstone document. The EUROVOC Descriptor is: 'EuroVoc is the EU's multilingual and multidisciplinary thesaurus. It contains keywords, organized in 21 domains and 127 sub-domains, which are used to describe the content of documents in EUR-Lex' (EUR-Lex, n.d.).	The list of 'Instruments Cited' is screened through readings that utilise deductive analysis to determine the inclusion or exclusion of each document. In addition, the EUROVOC Descriptor headings: 'Population Ageing' and 'Care for the Elderly', derived from the Green Paper on Ageing are searched to yield further policy documents of potential relevance to this research (European Commission, 2021; European Commission, 2022). This process is repeated with each cornerstone document.

Table 3. PRISMA 2020 flow diagram for searches of databases – EUR-Lex Database Narrative Search

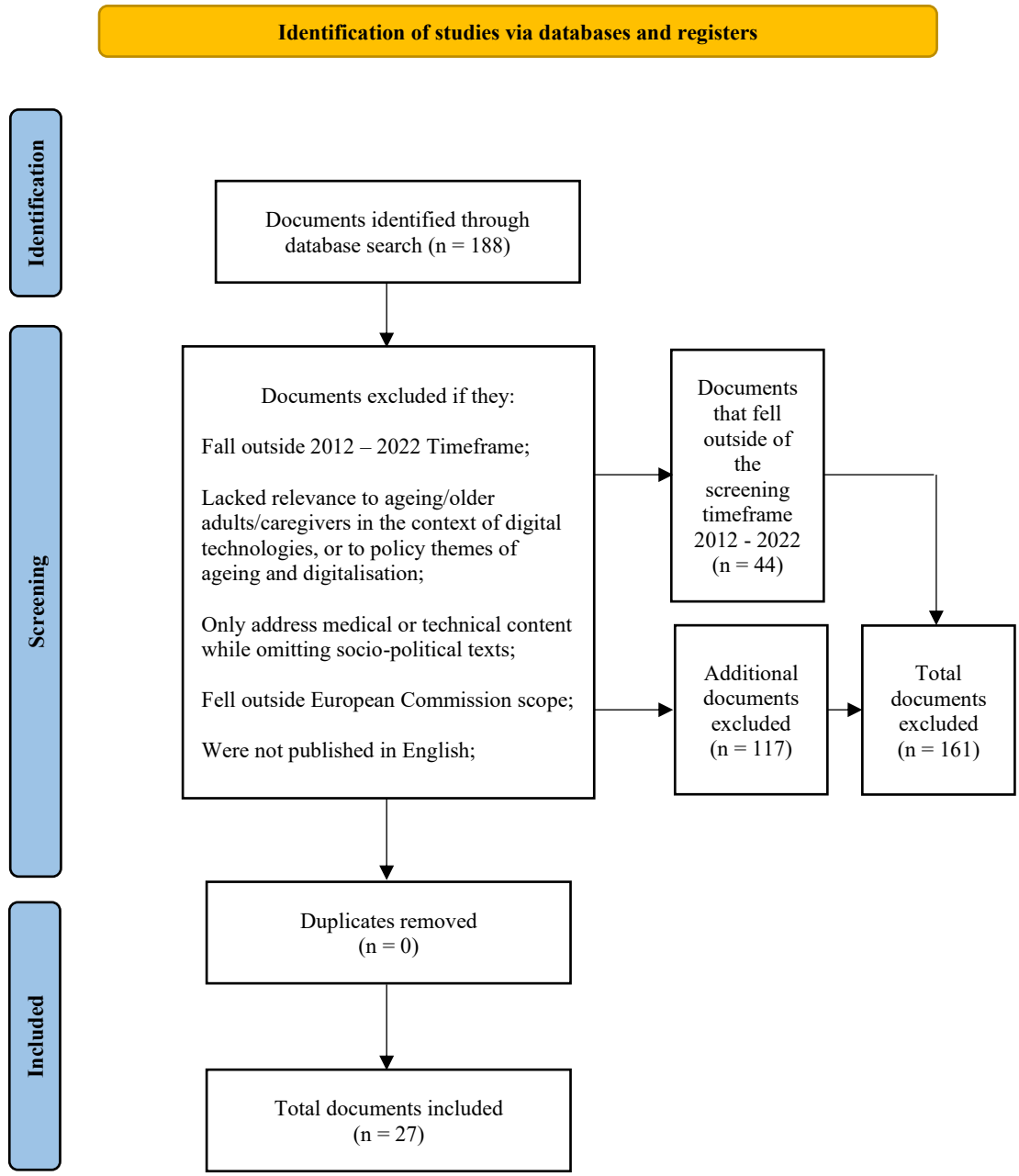


PRISMA Flow Diagram Source: Page MJ, et al. BMJ 2021;372:n71. doi: 10.1136/bmj.n71.

Appendix (C.)

Table 4. PRISMA 2020 flow diagram for searches of databases – EUR-Lex Database Systematic Search

The systematic search strategy developed for the capture of relevant data through the EUR-Lex online database is outlined below:



PRISMA Flow Diagram Source: Page MJ, et al. BMJ 2021;372:n71. doi: 10.1136/bmj.n71.

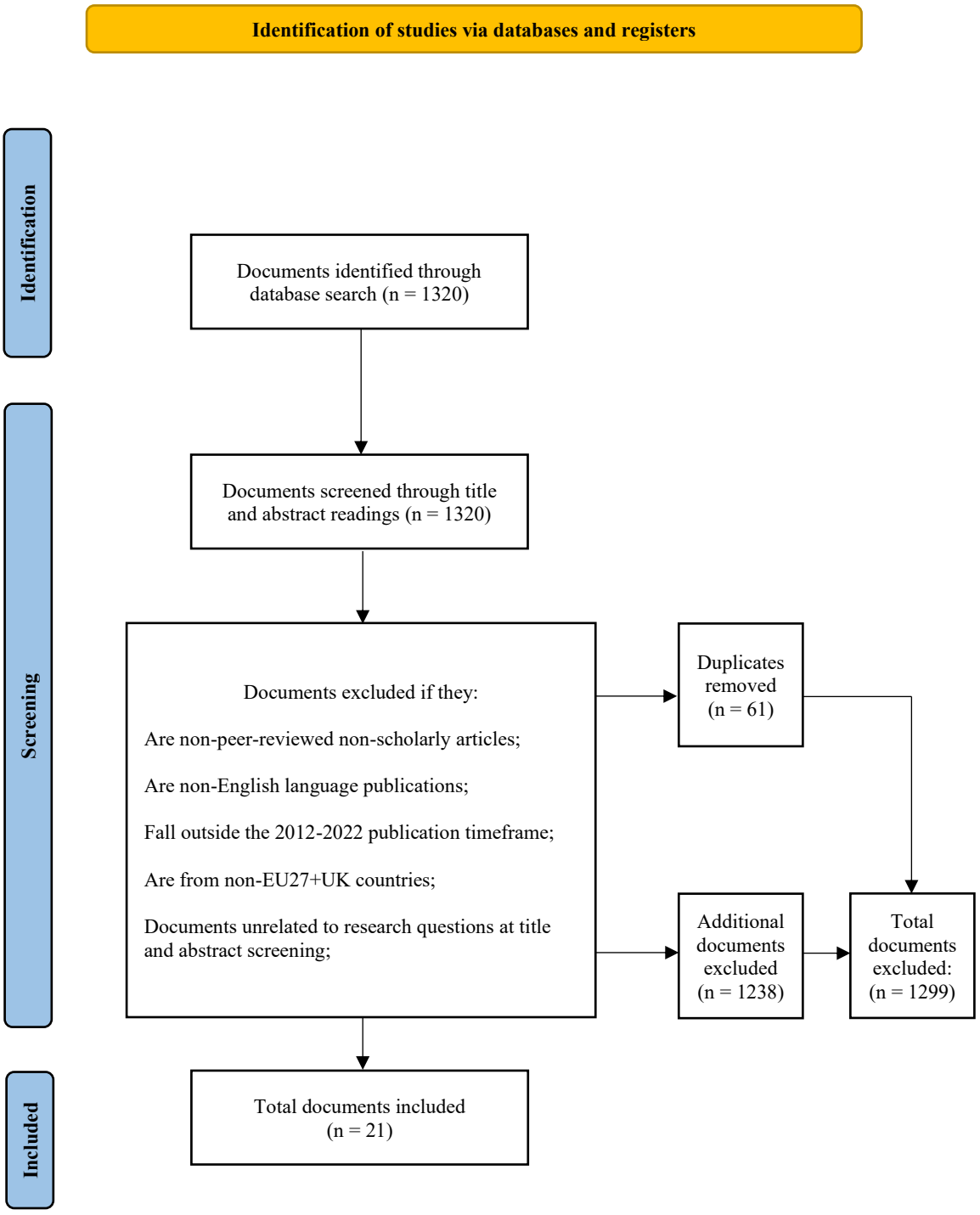
Appendix (D.)

Table 5. Displaying Filters Applied in the ProQuest Central Database.

‘ProQuest Central’ journal article database for researching older adults and their perceptions of their interactions with digital technology

Filters Applied:
• 'Health Care' OR 'Older People' OR 'Attitudes' OR 'Elderly People' OR 'Caregivers' OR 'Internet' AND 'Aging' • Scholarly Articles • English • 2012 – 2022 • EU Countries (Including UK)

Table 6. PRISMA 2020 flow diagram for searches of databases – ProQuest Central Systematic Search



PRISMA Flow Diagram Source: Page MJ, et al. BMJ 2021;372:n71. doi: 10.1136/bmj.n71.

Appendix (E.)

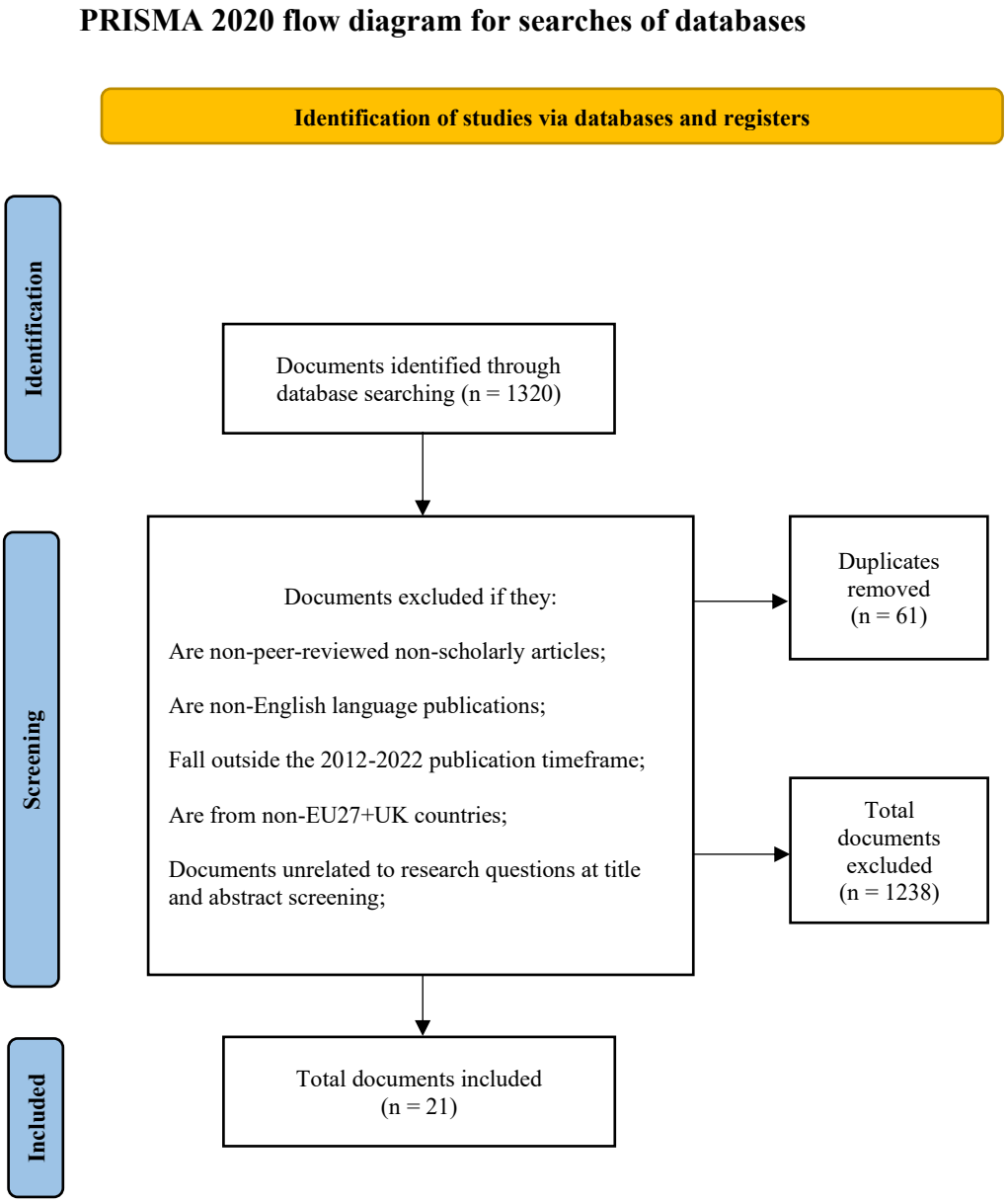
Table 7. Displaying Filters Applied in the ProQuest Applied Social Sciences Indexes and Abstracts (ASSIA)

‘ProQuest: Applied Social Sciences Index & Abstracts’ (ASSIA) journal article database for researching care sector perspectives of the role and utility of digital technology in the lives of older adults

Filters Applied:

- 'Older People' OR 'Quality Of Care' OR 'Caregivers' OR 'Perceptions' OR 'Aging' OR 'Nursing Homes' OR 'Health Care Policy' OR 'Home Health Care' OR 'Attitudes' OR 'Residential Care' OR 'Communication' OR 'Policy Making' OR 'Activities Of Daily Living' OR 'Systematic Review' OR 'Geriatrics' OR 'Approaches' OR 'Elder Care' OR 'In Care' OR 'Caregiving'
- Scholarly Articles
- English
- 2012 – 2022
- EU Countries (Including UK)

Table 8. PRISMA 2020 flow diagram for searches of databases – ProQuest ASSIA Systematic Search



PRISMA Flow Diagram Source: Page MJ, et al. BMJ 2021;372:n71. doi: 10.1136/bmj.n71.

Appendices F – J, Chapter 5: Analysing the Discourses of the EurLex Dataset

Appendix (F.)

Coding the Hierarchical Node: Ageing as a Challenge

The theme of 'Ageing as a Challenge' is built upon a foundational pillar of eleven codes that comprise an interwoven complex of sub-themes which, together, represent the thematic mainstay of this single discourse and node hierarchy. The codes that are generated in this section are described below (Fairclough, 1995; Wodak & Meyer, 2016):

Table 1. Qualitative Coding Scheme – Node Hierarchy 1 - 'Ageing as a Challenge'

Dominant Discourse	**Hierarchical Node**	**Thematic Codes**	**Example**	**Frequency**
Political Economy / Free Market	Ageing as a Challenge	Sustainable Economics: Greatly Increased Healthcare Costs in an Ageing Population	"If this demographic transition is not tackled head-on, it will raise considerable concerns for the financial stability of health and care systems (European Commission, 2012a)".	891 (30 Files Aggregated)
Political Economy / Free Market	Ageing as a Challenge	Top-Heavy Demographic Pillars: A Shrinking Workforce in Proportion to Numbers of Older People	"The EU-27's working-age population has been shrinking for a decade and is projected to fall by 18% by 2070 (European Commission, 2020a)".	816 (31 Files Aggregated)
Political Economy / Free Market	Ageing as a Challenge	Ageing Demographics: A Major Systemic Challenge	"Demographic ageing is one of the most serious challenges Europe is facing (European Commission, 2020a)".	799 (31 Files Aggregated)

Political Economy / Free Market	Ageing as a Challenge	Future Ageing and Health Trends: Necessity of Larger Care Workforces Despite Digitalisation	"While the health and social care sector makes up 10% of total employment in the EU, estimates forecast an increase by more than 830,000 new jobs, which together with replacement needs means 8 million job openings in the next 10 years (European Commission, 2020b)".	522 (30 Files Aggregated)
Political Economy / Free Market	Ageing as a Challenge	Economic Concerns Over Pensions Systems Maturation: A Digitalising Economy with an Ageing Population	"For the EU, it is projected that total government spending on pensions, healthcare, long-term care, unemployment benefits and education will increase by almost 20 percent between 2010 and 2060 (European Commission, 2012a)".	419 (28 Files Aggregated)
Political Economy / Free Market	Ageing as a Challenge	Challenges Facing Digital Socio-Economic Realignment	"An effort to provide training has to be made to compensate for the ageing of the population and the need to keep up with rapid technological change (European Commission, 2020a)".	371 (32 Files Aggregated)
Political Economy / Free Market	Ageing as a Challenge	Increased Life Expectancy: Substantial Increase in Chronic Illnesses in an Ageing Population	"(…) the prevalence of disabilities increases dramatically with age, from 30% in those aged 65 to 74 to 50% in the 75-84 age group and 80% for those over 85 (European Commission, 2018a)".	355 (26 Files Aggregated)
Political Economy / Free Market	Ageing as a Challenge	Digitalisation of Work and Retirement: Demographic Challenges Necessitate a Productivist Approach to Ageing	"Foster the emergence of innovative ICT-based Products, services and systems for (…) skills and employability of elderly (…) (European Commission, 2021a)".	351 (27 Files Aggregated)
Political Economy / Free Market	Ageing as a Challenge	Unavoidable Austerity: Increased Retirement Ceilings to Offset Workforce Contraction	"(…) the past 10 years have seen a withdrawal or reduction of incentives to early retirement – in both the public and private sectors – in line with a	286 (23 Files Aggregated)

			policy consensus that emphasises the importance of broadening labour market participation and of increasing the effective retirement ceiling (European Commission 2012a)".	
Political Economy / Free Market	Ageing as a Challenge	Ageing Care in the Digital Era: A Sector Rife with Gender Discrimination	"Women form the majority of the workforce in all sectors related to care – health, education and long-term care and they carry the lion's share of informal care work too (European Commission, 2014a)".	187 (19 Files Aggregated)
Political Economy / Free Market	Ageing as a Challenge	Digitalisation and Ubiquity: Widespread Digital Illiteracy Among Older Population	"Population Ageing, (…) require additional actions for up-skilling and lifelong learning, to successfully adapt to technological transformations and fast-changing labour markets (European Commission, 2016a)".	147 (24 Files Aggregated)

Code 1 – Sustainable Economics: Greatly Increased Healthcare Costs in an Ageing Population (Coding References: 891, Items Coded: 30)

This code features strongly as a primary consideration throughout the text corpus. It is deduced from tracts of text that discuss the healthcare challenges presented by an ageing society (European Commission, 2012a). These considerations mainly revolve around the predicted steady rise in healthcare costs pertaining to the provision of high standards of care to a growing number of older people. The fiscal considerations within this code are outlined in Commission policies in very straightforward terms; the mean average of the portion of national gross domestic product spent by EU Member States on healthcare will increase steadily and pronouncedly in the short, medium and long term. Despite the ongoing processes of digitalisation in healthcare, there is a strategic imperative to grow the size of the care workforce to accommodate the increase in the number of older people requiring long-term ministration (Ibid., 2022). Furthermore, there is movement at an EU-wide level to encourage

Member States to facilitate the provision of remuneration to informal caregivers, including the granting of recognised pension credits, and acknowledging their indispensable role in the provision of long-term care for older people (Ibid., 2021).

Code 2 – Top-Heavy Demographic Pillars: A Shrinking Workforce in Proportion to Numbers of Older People (Coding References: 816, Items Coded: 31)

The reduction in the number of persons in employment in the EU is a steady long-term trend (European Commission, 2020a). The data sample reflects a resonant concern within the Commission regarding the potentially negative economic effects of an ageing population and cites the 'old age dependency ratio' (EuroStat, n.d.), a term also often utilized by the Eurostat agency, to refer to the number of older people who depend upon their younger counterparts in the workforce for their economic welfare under the current fiscal models in the EU. This ranks as one of the most prominent concerns, and it features strongly in 31 of the 35 Commission documents. The Commission perceives a reduction in the total workforce and the commensurate increase in the number of older persons who are no longer in employment as a substantial threat to the future economic health of the EU.

Code 3 – Ageing Demographics: A Major Systemic Challenge (Coding References: 799, Items Coded: 32)

This theme reflects the burgeoning impetus within the Commission to support research and development, as well as public-private partnerships, to identify remedial measures utilising digital technologies to mitigate the challenges posed by an ageing population (European Commission, 2020a). To this end, there is a palpable concern in Commission policy about problems of sustainability of the current economic framework that supports a welfare model which, to date, is still largely non-digitalised. The Commission is actively seeking out ways to offset the fiscal challenges of demographic ageing and identify the means by which a cost-effective transition to the digitalisation of many human-delivered

economic and healthcare provisions and processes can occur. The impetus for change here is largely driven by economic necessity, and fear of substantial fiscal consequences of demographic ageing.

Code 4 – Future Ageing and Healthcare Trends: Necessity of Larger Care Workforce Despite Digitalisation (Coding References: 522, Items Coded: 30)

Despite being at outset of a burgeoning digitalisation of healthcare, the Commission foresees that there will continue to be an expanding requirement for more human caregivers and healthcare professionals in the EU in the coming years and decades (European Commission, 2020b). This might reflect a lack of confidence within the Commission that the digitalisation process in healthcare provision will be able to offer substantial cost mitigation for EU Member States in light of demographic ageing. A large care workforce will, as discerned from Commission policy, be required to work within the contextual framework of a digitalising society and healthcare sector to support demographic ageing and long-term care provision. A large care workforce presents a formidable economic challenge for the Commission; one that will require a steady budgetary commitment that will increase incrementally over time.

Code 5 – Economic Concerns Over Pension Systems Maturation: A Digitalising Economy with an Ageing Population (Coding References: 419, Items Coded: 28)

The data sample recognises the difficulties in ensuring that pensions are adequately supported by a suitable indexing stratagem that also takes into account the economic effects of demographic ageing and a resultant decline in the number of people in active employment (European Commission, 2012a). This features as a prominent concern in Commission ageing policies, and there is a growing awareness that increasingly outmoded pension indexing systems will necessitate phased restructuring or reform over time in order to adjust in accordance with the shifting demographic ratios between workers and retirees (Walker, 2010,

European Commission, 2020a). This, in part, entails a gradual increase in retirement ceilings, and the accrual of pension credits by people through the provision of informal care duties. As such, there is an apparent growth in impetus to support initiatives that can leverage the digital transition to facilitate or smoothen these socio-economic adjustments in a manner that will support welfare structures without risking larger portions of the population falling beneath the poverty line (Beard et al., 2016).

Code 6 – Challenges Facing Digital Socio-Economic Realignment to Population Ageing (Coding References: 371, Items Coded: 32)

There is a widespread lack of digital literacy amongst older people, with a substantial portion of the digital economy being youth-oriented or work-focussed (European Commission, 2020a). This poses significant challenges to equitable digitalisation and necessitates a reconceptualization of the design parameters of digital technologies that are ubiquitous in society. Digitalisation and old age are sometimes viewed as juxtaposed phenomena. However, an ageing and rapidly digitalising society entails significant challenges that emerge from this very paradigm. Friction between digitalisation and ageing demographics is reflected in Commission policy which, particularly in the post-pandemic era, is concerned with mitigating the economic costs emerging from this dynamic.

Code 7 - Increased Life Expectancy: Substantial Increase in Chronic Illness in an Ageing Population (Coding References: 355, Items Coded: 26)

This theme reflects a palpable concern in Commission policy that an ageing society leads to increased incidences of chronic long-term illness and disability in the general population (European Commission, 2018a). In this way, the number of people living with chronic illnesses and disabilities will also steadily increase over time, and that will also entail further substantial healthcare costs that will put more strain on welfare structures. Furthermore, there is a general recognition from extensive research initiatives that increased

longevity often does not correlate with a reduction in the amount of time spent living with a disability or illness and, rather, it can mean that the reverse is often the case.

Code 8 – Digitalisation of Work and Retirement: Demographic Challenges Necessitate a Productivist Approach to Ageing (Coding References: 351, Items Coded: 27)

The Commission is increasingly eager to mitigate the economic and fiscal challenges posed by demographic ageing through inclusive productivism (European Commission, 2021a). Paradigms of sustainable economics are central to this consideration and are arguably manifesting as a driving force behind burgeoning demands in the Commission for a productivist approach to ageing (Graafland & Verbruggen, 2022; Mladenov, 2016). The productivist perspective in this school of thought emerges from a free-market standpoint that places a priority on the preservation of the financial health of the EU by introducing policies that will adjust the demographics of the workforce to support inclusive economic growth in an ageing society (Soll, 2022). Digital technologies play an important role in this discourse, as they are increasingly viewed as the potential vehicle through which extended work lives and higher retirement ceilings will be facilitated (Beard et al., 2016). Upskilling, reskilling, dynamism and mobility, are all potential synergies of productivist approaches to ageing demographics in a society that draws upon the resources of older workers to boost economic yields. This theme is strongly reflected in the data sample, and it receives a particular boost in attention in policies that are published in the latter part of the decadal timeframe spanned within the literature corpus.

Code 9 – Unavoidable Austerity: Increased Retirement Ceilings to Offset Workforce Contraction (Coding References 286, Items Coded: 23)

The Commission is slowly phasing out early retirement as a normative social phenomenon for employees in the public and private sectors (European Commission, 2012a). Ageing demographics and the resultant fiscal consequences comprise the direct reasons for

these measures. The Commission is advocating an increase in retirement ceilings that will continue well into this century. This measure is seen as a necessity in order to financially mitigate the negative economic consequences of the shrinkage in the EU workforce (Ibid., 2020a; Walker, 2010). The Commission is cautiously optimistic that equitable and accessible digital technologies, alongside flexible working arrangements, will facilitate a harmonious increase in retirement ceilings for older employees and accommodate reskilling and upskilling of pre-retirement age persons (Zanchetta et al., 2022; European Commission, 2021).

Code 10 – Ageing Care in the Digital Era: A Sector Rife with Gender Discrimination (Coding References: 187, Items Coded 19)

The Commission has been pursuing gender equality initiatives with increasing vigour in the past decade (European Commission, 2014a). Substantial progress has been made in certain dimensions of public and private sector employment to narrow the pay gap between men and women and to promote equal remuneration and pension benefits for both sexes. Progress here has been unequal and varies substantially between EU Member States, with some countries being significantly more equitable than others (European Commission, 2022, Walker, 2010). However, despite limited but noteworthy progress in the pursuance of gender equality initiatives in employment, the Commission is aware of the specific circumstances surrounding healthcare and general care provision that can contribute to severe inequality and discrimination for women who work in these sectors (European Commission, 2021).

The vast majority of informal caregivers are women, particularly those who provide care for older adults and, in many cases, they are the spouses or relatives of the person who requires constant, long-term care (Age Platform Europe, 2020). Further, nurses and professional caregivers are predominantly female, and this sector is almost uniformly and chronically underfunded throughout the spectrum of EU Member States, with many carers

working long hours for low pay or minimum wage. In addition, women who are informal caregivers often feel that the care burden falls on them ahead of others, and many are faced with having to leave their careers to provide constant, and often unremunerated, ministration for a person requiring long-term supports (Mladenov, 2016). Digital technologies have, thus far, not been able to mitigate this trend, though the Commission is hoping that they will play an increasing role in reforming dynamics of gender inequality within the care sector. The Commission also plans to remunerate informal caregivers and tap into the burgeoning capacities of connected health platforms, as well as digital technologies and services, to support the care provider and the recipient, whilst simultaneously reducing pronounced levels of gender-discrimination in the healthcare sector at large (European Commission, 2016a; Zanchetta et al., 2022).

Code 11 – Digitalisation and Ubiquity: Widespread Digital Illiteracy Among Older Population (Coding References: 147, Items Coded 24)

This theme is reflected in the dataset in the broader discourse of 'Ageing as a Challenge'. The Commission is concerned with the lack of digital literacy among older adults in comparison to their younger counterparts, as there is a general sentiment that many people in later life do not have the requisite skills with respect to the utility of modern technology and services to be able to actively engage in society (European Commission, 2021; Walker, 2010). In this respect, the driver of digital literacy training among older adults is also located within free-market discourses concerning the best interests of the economic wellbeing of the EU as it undergoes digitalisation and ageing processes (Graafland & Verbruggen, 2022).

Digitalisation is viewed by the Commission as a potential mitigator of costs, but a widespread lack of digital literacy among older people, and inaccessible design interfaces across the spectrum of connected devices and services, represents a substantial practical and financial hurdle that must be overcome in order to achieve a paradigm for future-proof socio-

economic stability in this respect. Digital literacy training among older adults may translate into potential for greater economic dynamism through active participation in the workforce or voluntary sector (European Commission, 2016a, Zanchetta et al., 2022), thereby bolstering the interest of free-market perspectives on ageing and digitalisation.

Appendix (G.)

Coding the Hierarchical Node: Social Inclusion

The thematic hierarchical node of 'Social Inclusion' features as the second-strongest discourse in the EurLex text corpus (Table 2.) (European Commission, 2021b). Social inclusion is a prominent theme in Commission policy documents, and it derives from the principle legal texts of EU human rights law and the European Pillar of Social Rights, "The EPSR is not a binding document, but a tool reaffirming and completing pre-existing rights in the treaties" (European Commission, 2017), and it also provides a basis for policies promoting active ageing and the development of the silver economy. The theme of social inclusion acts as an accompaniment to Commission policy and serves as a legal and human rights-based addendum to the consideration and development of new protocols. This ensures that the Commission must reinforce human rights and humanitarian principles in new policies, including those affecting ageing and digitalisation (Wodak & Meyer, 2016).

Table 2. Qualitative coding scheme – Node Hierarchy 2 - 'Social Inclusion'

Dominant Discourse	**Hierarchical Node**	**Thematic Codes**	**Example**	**Frequency**
Human Rights / Modernism	Social Inclusion	Independence: Advocating Ambient Assisted Living	"The AAL Programme is mentioned as one of the Article 185 TFEU initiatives eligible for continued support, (…) (European Commission, 2022c)".	498 (23 Files Aggregated)

Human Rights / Modernism	Social Inclusion	Digital Equality: Accessible ICT and Digital Goods and Services	"(…) the Commission will: (…) accelerate standards developed under the standardisation mandates on ICT, build environment and mainstreaming accessibility following "design for all" concepts and propose mandates in eHealth and independent living (European Commission, 2012b)".	392 (27 Files Aggregated)
Human Rights / Modernism	Social Inclusion	Social and Technological Equality: Promoting Active and Healthy Ageing	"Supporting active and healthy ageing is important both to improve the quality of life of elderly citizens (…) (European Commission, 2012a)". "The European Innovation Partnership on Active and Healthy Ageing (the Partnership) has been selected as a pilot to tackle the challenge of an ageing population (European Commission, 2012b)".	323 (24 Files Aggregated)
Human Rights / Modernism	Social Inclusion	Decentralised Digital Care: Access to eHealth for Older Adults	"The Digital Agenda focuses on ICT-enabled innovative services, products and processes, and includes several actions on eHealth and a specific action on reinforcing the AAL JP (European Commission, 2012b)".	261 (27 Files Aggregated)
Human Rights / Modernism	Social Inclusion	ICT and Digital Technologies: Supporting Carers of Older Adults	"Improve the quality of life for the elderly and their carers and help increase the sustainability of care systems, by enhancing the availability of ICT based products and services for active and healthy ageing; (…) (European Commission, 2013a)"	154 (16 Files Aggregated)
Human Rights / Modernism	Social Inclusion	Autonomy: Protecting the Digital and Corporeal Privacy of Older Adults	"Strategic Plan for Horizon Europe includes (…), 'Secure and resilient digital infrastructures and interconnected systems', 'Artificial Intelligence for cybersecurity reinforcement'	94 (14 Files Aggregated)

			and 'Human-centric security, privacy and ethics' (European Commission, 2021c)".	
Human Rights / Modernism	Social Inclusion	ICT and Digital Technologies: Augmenting Mobility for Older Adults	"Developing ICT solutions to help older people stay independent more active and mobile for longer (European Commission, 2012b)".	89 (14 Files Aggregated)
Human Rights / Modernism	Social Inclusion	Skills for Equality: Digital and ICT Utility Training for Older Adults	"(...) trans-European research and innovation for ICT based products and services addressing active and healthy ageing, in particular involving SMEs and users; (…) (European Commission, 2012b)".	70 (16 Files Aggregated)
Human Rights / Modernism	Social Inclusion	ICT and Digital Technology: Improving General Quality of Life for Older Adults	"(…) improve the quality of life of older people through the use of new information and communication technologies (…) (European Commission, 2013a)".	66 (10 Files Aggregated)
Human Rights / Modernism	Social Inclusion	ICT and Digital Technology: Promoting Participation by Older Adults	"(…) the Commission underlined the fact that demographic ageing is one of the main challenges facing all the Member States and that increased use of new technologies could help to control costs, improve well-being and promote the active participation in society of elderly people (…) (European Commission, 2012b)".	59 (12 Files Aggregated)
Human Rights / Modernism	Social Inclusion	Key Objectives: Eliminating Ageist Barriers to ICT and Digital Technologies	"The feedback from older people is a necessary part of the design process, as they do not represent a homogeneous population group with regards to aspects like their health situation, personal needs, aspirations and living circumstances (European Commission, 2012b)".	47 (15 Files Aggregated)

Human Rights / Modernism	Social Inclusion	Leadership in Innovation: Universal Design in ICT and Digital Technology	"A substantial progress to the innovative ICT-based products and services. Over 100 projects on ICT-based solutions for older people and their carers have been launched (European Commission, 2013a)".	25 (9 Files Aggregated)

Code 1: – Independence: Advocating Ambient Assisted Living (Coding References 498, Items Coded 23)

An Ambient Assisted Living (AAL) environment can be defined as "the use of information and communication technologies (ICT) in a person's daily life to enable them to stay active longer, remain socially connected, and live independently into old age" (Ambient Assisted Living Association, n.d., Vimarlund et al., 2021; European Commission 2022c). The Commission strongly advocates the promotion and development of AAL systems for older people and underscores a person-centred approach as the way forward in an ambient digital environment. The emphasis behind the drive for the development and integration of AAL systems for older people is predominantly humanitarian, and it focuses on the principles of protecting and enhancing the independence, mobility and corporeal sovereignty of persons in later life (Peine & Neven, 2020). This thematic code shares strong overlap with other humanitarian themes of universal design and an inclusive digital environment, and it is the leading subtheme in the human rights and modernist discourses for the implementation of integrated digital technologies and services.

Code 2 – Digital Equality: Accessible ICT and Digital Goods and Services (Coding References: 392, Items Coded: 27)

This code is prevalent in the dataset, particularly in the latter half of the timeframe represented in the literature and especially since the adoption of the Accessibility Act in 2019, the WAD 2016, the Digital Agenda for Europe, the 2021 Green Paper on Ageing and

the Covid-19 Pandemic (European Commission, 2012b). There has been a general growth in emphasis on the development of accessible ICT, digital goods and services. The data-sample reflects a recognition that universal design and digital inclusivity will enhance human-rights law and policy while also fulfilling critical social and economic imperatives as a natural result of a person-centred approach to digitalisation. This code reflects a desire within the Commission to promote social inclusion and reduce inequality and discrimination in a digitalising and ageing society.

Code 3 – Social and Technological Equality: Promoting Active and Healthy Ageing (Coding References: 323, Items Coded: 24)

The data-sample reveals a strong desire on the part of the Commission to promote active and healthy ageing for older people, particularly after retirement (European Commission, 2012b). The traditional normative ageing processes of gradual social disengagement and creeping immobility are increasingly perceived by the Commission as incompatible with aspirations to foster an inclusive and digitalised society that protects the ability of all persons to control their affairs and corporeal sovereignty irrespective of age or ability. The Commission foresees that accessible digital technologies and services play an important role in the promotion of active and healthy ageing through the decentralisation of care provision and facilitation of connected health services to foster independence and empower self-governance over personal affairs and welfare in older age (Ibid.). Further, the Commission envisages a future in which accessible digital technologies can assist mobility and increased activity among older people with greater levels of personal safety, reduced risk of injury, and enhanced involvement in a connected society, rendered possible through accessible ICT and improved communication with peers and family members.

Code 4 – Decentralised Digital Care: Access to E-Health for Older Adults (Coding References: 261, Items Coded: 27)

The Commission is committed to the promotion of e-health for older adults to stimulate changes that will revolutionise healthcare for people in later life (European Commission, 2012b). This involves the proliferation of e-health that can be delivered through ICT, digital goods and services. It is expected by the Commission that e-health will assume an increasingly supportive and symbiotic relationship with traditional in-person care delivery by healthcare providers and through the work of formal and informal caregivers. The Commission does not foresee that digital technology and e-health will end traditional in-person care delivery by caregivers and healthcare professionals (European Commission, 2012b; 2022). Instead, the Commission believes that digital technology will shift current models of service provision away from traditional and disempowering wardship practices and replace these structures with a decentralised modus of care assistance. The intention here is to foster patient-centred care for older people that empowers them to maintain control over their welfare, personal affairs and corporeal independence, through digital and ICT-supported service delivery.

Code 5 – ICT and Digital Technology: Supporting Carers of Older Adults (Coding References: 154, Items Coded: 16)

Developing ICT and digital technology to support carers of older adults is advocated in the data-sample as part of a multi-fold emphasis in Commission policy to facilitate better working conditions for healthcare workers and informal caregivers whilst simultaneously enabling the decentralisation of traditionally wardship-minded approaches to the delivery of care (European Commission, 2013a). The Commission intends to promote a patient-centred integration of ICT and digital technology in the care sector whilst also enabling carers to monitor patient health and discharge their services in a more efficient manner that also benefits their working conditions and employee welfare structures.

Code 6 – Autonomy: Protecting the Digital and Corporeal Privacy of Older Adults (Coding References: 94, Items Coded 14)

An adjunct concern of the Commission towards the digital revolution, as reflected in the dataset, is an emphasis on a digitalisation process that promotes inclusivity for older adults whilst protecting their privacy and independence (European Commission, 2021c). The Commission is aware that there are privacy and monitoring concerns surrounding digital confidentiality, as well as additional considerations that are worthy of further attention with respect to the delivery of healthcare and e-health services for older people. Therefore, the development of AAL solutions for older people in the EU must comply with EU law and policy to protect the digital and corporeal privacy of all persons.

Code 7 – ICT and Digital Technology: Augmenting Mobility for Older Adults (Coding References: 89, Items Coded: 14)

The text-corpus reveals that the Commission is supportive of ICT, digital technology and related services, for enhancing mobility of older people in the home and within the built environment (European Commission, 2012b). With an accessible and integrated systems approach to digitalisation and AAL solutions, the Commission envisions a safer and more accessible environment for older people in both public and private settings. Decentralised care provision and e-health is also integral to the realisation of this human-centred and modernistic vision of enhanced mobility for older people.

Code 8 – Skills for Equality: Digital and ICT Utility Training for Older Adults (Coding References: 70, Items Coded: 16)

This code is reflected strongly in the dataset as part of an emphasis on an inclusive strategy for digitalisation. Inaccessible devices and interfaces have compounded high levels of digital illiteracy among older adults, and the Commission is seeking to reverse these trends and to support users with accessible and available technologies (European Commission,

2012b). Digital skills training plays a strong role in strands of human rights discourse in Commission policy for equitable digitalisation intended to reduce discrimination emanating from widespread lack of access to, and familiarity with, ICT devices and services. Digital literacy skills training represents an important dimension of the wider Commission strategy of promoting active ageing and AAL initiatives.

Code 9 – ICT and Digital Technology: Improving Quality of Life of Older People (Coding References: 66, Items Coded: 10)

The Commission is committed to ensuring that older adults can enjoy a high quality of life in a digitalised society by empowering them to avail of digital goods and services to participate in all aspects of public, private, economic and social life (European Commission, 2013a). Further, it is intended by the Commission that digital technologies and connected health will directly contribute to quality-of-life improvements for older people by enabling them to monitor their own health and personal affairs with greater ease and to live independently outside of wardship structures (European Commission, 2021; Peine & Neven, 2020). The Commission envisions that digital technology, and ICT will empower older people and persons with disabilities to assume greater control over their personal affairs and to lessen respective levels of dependence on caregivers for support or for the administration by proxy of their private lives and business (European Commission, 2022).

Code 10 – ICT and Digital Technology: Promoting Participation by Older Adults (Coding References: 59, Items Coded: 12)

The data-sample acknowledges that population ageing under current systems entails a practically obligatory retreat from social, public and private life for the older person. Furthermore, the current model of ageing follows a pattern of traditional wardship practices that, instead of fostering participation by older adults, actually disempowers and confines people in later life to a portion of society that is proverbially ‘cordoned off’ and devoid of

agency or autonomy for the individual. The Commission expresses enthusiasm for the promotion of all forms of social participation, including those within the domains of civic, social, private and economic life in a digitalised society (European Commission, 2012b). This person-centred ethos mirrors established ethical principles surrounding the development of disability law and policy in the EU in the aftermath of the CRPD as described in the slogan 'nothing about us without us' (Frezzo, 2014). Digital technologies represent an indispensable and latent potential enabler for a similar approach with respect to the development of equal ageing policies in the Commission by empowering older people to participate in the creation of protocols through age-inclusive stakeholder initiatives and consultation processes (Peine & Neven, 2020).

Code 11 – Key Objectives: Elimination of Ageist Barriers to ICT and Digital Technology (Coding References: 47, Items Coded: 15)

The Commission has made progress in utilising hard and soft law to ensure compliance with higher accessibility and universal design standards within the private sector (European Commission, 2022; European Telecommunications Institute, n.d.). This represents a strong example of the Commission acting in the interests of human rights for people with disabilities and older persons (European Commission, 2012b). The private sector has been traditionally hostile to unilateral uptake of universal design measures without incentives such as significant public subsidisation or changes in legislation (Graafland & Verbruggen, 2022). However, the Commission, representing the entire EU bloc, wields considerable economic leverage and coupled with the power of EU law, the private sector is more likely to adjust with rapidity and competitive ingenuity to novel EU Directives incorporating humanitarian principles in the single market. This will hopefully enable older people to access digital technologies at more competitive prices and attain familiarity and comfortability with their utility. The expansion of internet coverage to rural areas is also intended to ensure that people

do not experience geographic discrimination in smaller communities or in isolated regions (European Commission, 2021).

Code 12 – Leadership in Innovation: Universal Design in ICT and Digital Technology (Coding References: 25, Items Coded: 9)

Universal design in digital and ICT goods and services is emerging as a prevalent theme in Commission policy towards active ageing, digitalisation and disability (European Commission, 2013a; Steinfeld & Maisel, 2012). The data-sample reflects a growing emphasis on eliminating the digital divide through the geographical expansion of digitalised infrastructure and internet connectivity (European Commission, 2021). It also advocates the incorporation of improved accessibility standards into digital devices, particularly in the aftermath of the Accessibility Act and the WAD (European Commission, 2019; 2016). Promotion of digital skills alongside improved universal design features in ICT devices are advocated as important ways in which older people can benefit from the utility of these technologies (Peine & Neven, 2020). The Commission is making progress in using soft and hard legal power to encourage the private sector to incorporate universal design in the manufacturing of digital technologies, and it hopes that a competitive market will make these devices and services affordable and accessible for older people (European Telecommunications Institute, n.d.; European Commission, 2022).

Appendix (H.)

Coding the Hierarchical Node: Digital Agenda for Europe

The hierarchical thematic node of the ‘Digital Agenda for Europe’, as the third prevalent discourse in the data-sample, is primarily concerned with the transition to a digitalised society that is inclusive and equal (European Commission, 2020c). This stratagem advocates for the best utility of existing systems and policy instruments to apply good

governance to the digital transition and minimise discrimination along lines such as age or ability while enhancing opportunities for economic growth (Borrás & Radaelli, 2011), civic and social interactionism, and supporting the protection of human rights and freedoms. This hierarchical node is predominantly reflective of discourses that are concerned with the 'Agents of Change' (Caldwell, 2003). The ethos underpinning this discourse is primarily located in the conceptual stratagem of aspiring towards medium and long-term humanitarian objectives, whilst optimising the existing structures, policies and parameters of Commission agency to yield the best possible results in the meantime while undergoing this transition (Wodak & Meyer, 2016). There is a duality of sub-themes here that echo the discourses of human rights and modernistic values whilst embracing critical realist perspectives on what is currently achievable with existing instruments. The Agents of Change discourse entails a strong emphasis on the application of best practice principles while pursuing longer-term human rights objectives.

Table 3. Qualitative Coding Scheme – Node Hierarchy 3 - 'Digital Agenda for Europe'

Dominant Discourse	**Hierarchical Node**	**Thematic Codes**	**Example**	**Frequency**
Agents of Change / Market Interventionism	Digital Agenda for Europe	Digital Care Services: Expansion of Infrastructure	"The Digital Agenda focuses on ICT-enabled innovative services, products and products, and include several actions on eHealth and a specific action on reinforcing the AAL Programme (European Commission, 2018b)".	420 (26 Files Aggregated)
Agents of Change / Market Interventionism	Digital Agenda for Europe	Digitalisation of Systems: Proliferation of Digital and ICT Technology	"AAL JP aims to create a critical mass of applied research, development and innovation at EU level for innovative ICT-based products, services and systems for ageing well (European Commission, 2012c)".	401 (27 Files Aggregated)

Agents of Change / Market Interventionism	Digital Agenda for Europe	Digital Economy: Stimulating Inclusive Growth	"Challenges such as the ageing of the population, the rapid evolution of ICT, increasing globalisation and the greening of the economy have concrete implications for companies in their day-to-day business (European Commission, 2012c)".	286 (29 Files Aggregated)
Agents of Change / Market Interventionism	Digital Agenda for Europe	Digitalisation of Care: Cost-Effective Digital and ICT Solutions	"Older consumers and consumers with disabilities also need accessible products and assistive technologies that are compatible with mainstream technologies (European Commission, 2014b)".	253 (28 Files Aggregated)
Agents of Change / Market Interventionism	Digital Agenda for Europe	Personal Autonomy: Promoting Ageing in Place	"(…) Strategic Implementation Plan sets out priorities for accelerating and scaling up innovation in active and healthy ageing across the Union, in three domains: prevention and health promotion, care and cure, and independent living and social isolation (European Commission, 2012c)".	141 (19 Files Aggregated)
Agents of Change / Market Interventionism	Digital Agenda for Europe	Fostering Innovation: Public-Private Partnership for Ageing and Digitalisation	"(…) in line with the Partnership priorities, (…) enhance the use, quality, interoperability of and access to ICT including e-health, and strengthening research, technological development and innovation; (European Commission, 2012c)".	129 (19 Files Aggregated)
Agents of Change / Market Interventionism	Digital Agenda for Europe	Digital Infrastructure and Internet Connectivity: Geographical Expansion	"Next Generation Access (NGA) Infrastructure: The Existence of national NGA Plans which take account of regional actions in order to reach the EU high-speed Internet access targets, focussing on areas where the	77 (18 Files Aggregated)

			market fails to provide an open infrastructure at an affordable cost and to an adequate quality in line with the EU competition and state aid rules, and provide accessible services to vulnerable groups (European Commission, 2012c)".	
Agents of Change / Market Interventionism	Digital Agenda for Europe	Digital Skills: Developing Competency Across all Age-Groups	"(…) Calls on the Commission and the Member States, (…) for the development of digital and soft skills, including adaptation to the virtual environment (Augmented Reality), which enable the ageing population to adapt better to growing demands for e-skills in many different sectors; (…)(European Commission, 2012c; 2018)".	74 (15 Files Aggregated)
Agents of Change / Market Interventionism	Digital Agenda for Europe	Digital Systems Approach to Inclusion: Accessible Cities and Public Spaces	"Horizontal Issues: Thematic marketplace: Innovation for age-friendly buildings, cities and environments. Promoting innovation for age-friendly and accessible buildings, cities and environments (European Commission, 2018; 2018b)".	69 (17 Files Aggregated)
Agents of Change / Market Interventionism	Digital Agenda for Europe	Person-Centredness: Ethical Development of ICT and Digitalisation	"A fair and non-discriminatory approach to the digital transformation should cater to the needs of older consumers, consumers with disabilities and more generally 'off-liners' who may be less familiar or less at ease with digital tools and more prone to fall victim to fraud (European Commission, 2020d)".	66 (15 Files Aggregated)
Agents of Change / Market Interventionism	Digital Agenda for Europe	Universal Design: Accessible Devices, Places, and User-Interfaces	"Cities will have to adjust their services in areas such as healthcare and mobility, as well as public infrastructure, housing, education and social policy to cater to the changing demographics. Given the strong link between ageing	62 (12 Files Aggregated)

			and disabilities, this also includes improving accessibility, notably of products, services and infrastructure (European Commission, 2021d)".	
Agents of Change / Market Interventionism	Digital Agenda for Europe	Digital Divide: Undoing Exclusionary Trends	"One of the opportunities for the EU is the 'silver economy' – this term refers to a general shift in demand for products and services that reflects the specific needs and preferences of older people (European Commission, 2015a)".	24 (9 Files Aggregated)

Code 1 – Digital Care Services: Expansion of Infrastructure (Coding References: 420, Items Coded: 26)

The Commission is committed to the expansion of digital care services to cover all regions throughout the EU, including areas that are geographically isolated (European Commission, 2018b). A near-term objective of the Commission is to expand internet coverage and connected health to ensure that people, including older adults, are comprehensively included in state welfare structures and healthcare reforms (European Commission, 2021). The expansion of digital health services comprises a major part of these reforms that incorporate near-term transitional measures, such as the introduction of more accessible devices that can support e-health service delivery, alongside medium and long-sighted objectives to aid de-institutionalisation and deconstruct wardship models of care delivery (European Commission, 2022; Mladenov, 2016). Longer term objectives also include a vision of digital care services as playing a critical role in the lives of older people to empower them to exercise autonomy and independence whilst still being able to engage with caregivers and healthcare professionals in a human rights-oriented framework that is strongly supported by connected technologies (Peine & Neven, 2020; Frezzo, 2011).

Code 2 – Digitalisation of Systems: Proliferation of Digital and ICT Technology (Coding References: 401, Items Coded: 27)

The digitalisation process and the expansion of the IoT is gathering pace with increasing rapidity (European Commission, 2012c). Older people alive in the modern EU grew up in an era where digital technologies did not exist. These technologies only came into existence in a much later phase of their lives. Further, the development of digital technologies has traditionally been a youth-oriented phenomenon that is directed towards economic activity and employment (Peine & Neven, 2020). The Commission aims to reform the traditionally ageist aspects of the digital revolution and expansion of the IoT by increasing accessibility standards and promoting the utility of connected technologies to improve the quality of life and livelihoods of older people (European Commission, 2021). This also reflects the 'agents of change' aspect of this thematic code, but it arguably speaks to elements of political economy, productivism and human rights when it comes to the motivating and driving elements of this transformation (Mladenov, 2016; Graafland & Verbruggen, 2022; Frezzo, 2011).

Code 3: Digital Economy: Stimulating Inclusive Growth (Coding References: 286, Items Coded: 29)

The Digital Agenda for Europe entails a strong focus on the development of digitalised markets, skills, infrastructure, AI, cybersecurity and data (European Commission, 2021). However, the Commission is pursuing these primarily economy-oriented objectives whilst being cognisant of how the Digital Agenda can strengthen the provisions of the EPSR (European Commission, 2012c). This involves measures to ensure that older people can access public services and supports that are undergoing the process of digitalisation. This is particularly important, as older people have routinely found themselves being suddenly cut off from public services and the ability to administer their own finances and affairs, through

the digitalisation of traditionally manual and analogue processes. To this end, the Commission is adopting aspects of agents of change discourses as it oversees the digitalisation process and is actively promoting measures to circumvent difficulties faced by older adults in accessing public and financial services (Frezzo, 2011; Peine & Neven, 2020). Many challenges remain in this area, but the Commission is taking steps to ensure that the expansion of the digital economy is inclusive of older adults.

Code 4 – Digitalisation of Care: Cost-Effective Digital and ICT Solutions (Coding References: 253, Items Coded: 28)

The Commission has taken substantial and proactive steps to increase the accessibility of digital technologies in the single market, particularly with the proposal of the Accessibility Act in 2015, which was adopted by EU legislators in 2019 (European Commission, 2019). The implementation of the accessibility measures contained in the Act must be fully in place by 28th June 2025. The Commission is also sponsoring research and development initiatives to foster the manufacture of cutting-edge digital technologies for the care of older people and persons with disabilities (European Commission, 2014b). As a result, the Commission is hopeful that the passage of the Act, along with an increasing probability of adjunct measures being taken in the form of soft and hard law and policy, means that the EU will become a global leader in the development of person-centred and accessible digital technologies and services for older people and persons with disabilities.

Code 5: Personal Autonomy: Promoting Ageing in Place (Coding References: 141, Items Coded: 19)

The Commission aims to promote ageing in place through the effective implementation of ehealth structures whereby older people can benefit from decentralised forms of care with the support of carers and service delivery through the medium of digital technology (European Commission, 2021). Digital technologies, services and wearable

devices, are increasingly able to provide the potential means for many older people to live at home and retain their independence (Zanchetta et al., 2022). In addition, digital technology is central to efforts by the Commission to promote the deinstitutionalisation of care, and end wardship practices towards older adults (European Commission, 2012c), which still pervade and punctuate standard modalities of ministration for people in later life throughout the EU (Mladenov, 2016; Peine & Neven, 2020).

Code 6 – Fostering Innovation: Public-Private Partnership for Ageing and Digitalising (Coding Reference: 129, Items Coded: 19)

The Commission is aware of reluctance within the private sector to embark on initiatives on a unilateral basis without obvious evidence of tangible economic benefits if such actions are taken (European Commission, 2012c; Graafland & Verbruggen, 2022). Past examples of efforts by governments and civil society to encourage the implementation of universal design measures by private sector technological companies have yielded many incidences where there is an obvious disinclination, and even outright rejection, of such proposals by enterprises that do not foresee it to be in their interest to pursue. The Commission has committed over ninety-five billion euro to Horizon Europe to pursue a seven-year strategic vision of science and research initiatives that heavily involve public-private partnerships and cooperation with academic research institutions from 2021 to 2027 (European Commission, 2021b). Sustainable development and fostering an inclusive and accessible built environment and digital IoT comprise a significant component of these public-private partnership initiatives (European Commission, 2022).

Code 7 – Digital Infrastructure and Internet Connectivity: Geographical Expansion (Coding References: 77, Items Coded: 18)

The Commission is aware of the problems of geographical isolation that older people suffer from across the EU, particularly for those who live in rural and isolated areas that are

difficult to reach (European Commission, 2012c; 2021). There are many regions across the EU where digital infrastructure and internet connectivity is very poor or almost non-existent. This can contribute to socio-economic deprivation in such regions, as a lack of internet access and poor digital infrastructure often results in a population that experiences low levels of employment and high rates of impoverishment (Currie et al., 2015). Older adults in these regions are particularly at risk, as low levels of digital literacy, personal mobility and internet access can result in a lack of opportunity, exacerbating isolation and deprivation. In these instances, older adults may suffer from extreme social detachment and loneliness. However, the Commission is hoping to reform this dynamic of geographic discrimination by expanding digital infrastructure and internet connectivity to these regions (European Commission, 2022).

Code 8 – Digital Skills: Developing Competency Across all Age Groups (Coding References: 74, Items Coded: 15)

Though the Commission is determined to avail of digital technologies to develop the silver economy, there are aspects of agents of change discourses in the promotion of skills and training initiatives for the utility of connected devices to facilitate social interactionism by older people for non-employment purposes (European Commission, 2012c; 2018). This includes interpersonal communication for family, social or care reasons, and broader use of digital technologies to live independently and manage personal affairs and finances. Moreover, this also encompasses the support of greater interactionism between older people and younger generations through the social mediums of digital technologies.

Code 9 - Digital Systems Approach to Inclusion: Accessible Cities and Public Spaces (Coding References: 69, Items Coded: 17)

The Commission places a strong emphasis on the creation of an accessible built environment, especially in new buildings, public infrastructure and spaces (European

Commission, 2020). Further, the refitting of older and inaccessible structures is also an important dimension to the creation of accessible public spaces and built environments. The Commission recognises that digital technologies and infrastructure are a critical component for ensuring that older people and persons with disabilities, including those who utilise assistive technologies, can traverse the built environment (European Commission, 2021). The Commission is supporting the development of accessible built environments through initiatives such as the 'Access City' awards that promote accessibility for persons with disabilities and older people (European Commission, 2022). The Commission explains that "A smart city is a place where traditional networks and services are made more efficient with the use of digital solutions for the benefit of its inhabitants and business" (European Commission, 2018; 2018b). It also specifically states that smart cities are designed to take into consideration the requirements of older adults and to work towards, "meeting the needs of an ageing population" (Ibid.).

Code 10 – Person-Centredness: Ethical Development of ICT and Digitalisation (Coding References: 66, Items Coded: 15)

The development of person-centred digital technologies designed to monitor the health status of older adults has been cited by potential users and activists as a possible source of risk to the privacy and security of the individual (Coley et al., 2022). Monitoring and privacy concerns are major ethical issues in the integration of digital technologies into the care environment of older adults and people with disabilities (Milligan et al., 2011; Chung et al., 2016). The Commission is engaging with stakeholders and researchers to address the concerns of device users whilst identifying areas of potential compromise to the data and corporeal privacy of the patient (European Commission, 2021). Through this process, and by way of inclusive policies that promote the EPSR and the protection of personal data, the EU is seeking to enhance the ethical development of digital and ICT technologies through the

Digital Agenda and Horizon Europe programmes as the transition to a digitalised society progresses (European Commission, 2020d). The agents of change discourse is prevalent in this initiative as the Commission seeks to enmesh person-centred design and ethical considerations into the Digital Agenda in order to guide the development of future technologies (Frezzo, 2011).

Code 11 – Universal Design: Accessible Devices, Places, and User-Interfaces (Coding References: 62, Items Coded: 12)

The Commission is encouraging greater compliance with universal design principles. The Accessibility Act "harmonises requirements for electronic communications and related products and services" (European Parliament and Council, 2019). It also states that "It is therefore necessary to harmonise accessibility requirements across the digital single market and to ensure that all Union citizens, regardless of their abilities, can enjoy its benefits" (European Commission, 2021d). These measures are coming into place in a phased process, and it is likely that further soft and hard legal institutive action will follow to bolster and tighten standards of universal design in digital goods and services within the EU. As this process is gradual, the dataset arguably reflects an agents of change theme in these efforts, as such reforms involve stakeholder engagement by the Commission alongside receptiveness to the lobbying of civil society in order to influence the direction of future EU law and policy.

Code 12 – Digital Divide: Undoing Exclusionary Trends (Coding References: 24, Items Coded: 9)

The Commission is taking significant steps to mitigate the effects of the digital divide and the impact of exclusion on older adults, many of whom cannot, for a variety of reasons, participate in a digitalising society under current circumstances (European Commission, 2015a; 2021). These measures include the promotion of high corporate competitiveness within the EU single market by tightening universal design regulations to encourage

compliance and rivalry within the private sector to develop cost-effective digital technologies that are accessible for older adults and people with disabilities (European Telecommunications Standards Institute, n.d.; European Commission, 2019). Digital upskilling initiatives and the expansion of internet connectivity also comprise some of the measures intended to mitigate the effects of the digital divide (Zanchetta et al., 2022).

Older adults are increasingly included in research processes that are intended to identify barriers and solutions to digital device and service utility, and accessible universal design (Peine & Neven, 2020). It is intended that this, along with a change in ageist social narratives regarding old age and digital technologies, can result in greater comfort for older people with respect to device and service accessibility, as well as improved affordability and utility. The agents of change discourse is prevalent in this domain, particularly as the Accessibility Act comes into full effect in June of 2025 (European Commission, 2019). Moreover, the Commission is sponsoring initiatives to engage stakeholders in device utility, trustworthiness and accessible design interfaces, with a nascent emphasis on the digitalisation of the care sector for older people and persons with disabilities (European Commission, 2022). Though this is a process that will take some time, the Commission is attempting to promote a smooth transition to digital accessibility and inclusivity for all persons.

Appendix (I.)

Coding the Hierarchical Node: Ageing as a Resource

The thematic node hierarchy of ‘Ageing as a Resource’ represents the fourth primary discourse in the data-sample. This discourse is primarily concerned with ‘productivism’, and the reconceptualization of older people as a latent potential strategic resource that can benefit the society, rather than being representative of a burden or net drain on economic health as perhaps envisioned within free-market or political economy perspectives (Mladenov, 2016).

The ethos of productivism experiences interplay with the discourses of modernism and human rights, but the angle taken on some of the same thematic codes is also distinct at the same time (Fairclough, 1995). Therefore, it is important to be cognisant of the interplay of discourses whilst recognising aspects of distinctiveness with respect to their interpretation through these conceptual frameworks.

Table 4. Qualitative Coding Scheme – Node Hierarchy 4 - 'Ageing as a Resource'

Dominant Discourse	**Hierarchical Node**	**Thematic Codes**	**Example**	**Frequency**
Productivism / Agents of Change	Ageing as a Resource	Empowering Older People to Embrace Digitalisation	"Developing ICT solution to help older people stay independent more active and mobile for longer (European Commission, 2012b)".	341 (32 Files Aggregated)
Productivism / Agents of Change	Ageing as a Resource	Supporting Active Ageing: ICT, Digital Health, Research and Development Initiatives	"Commission encourages (…) enhancing the use, quality, interoperability of and access to ICT including e-health, and strengthening research, technological development and innovation; (…) (European Commission, 2012b)".	282 (28 Files Aggregated)
Productivism / Agents of Change	Ageing as a Resource	Social Narratives on Ageing: Challenging Ageist Dynamics in the Digital Economy	"An example of an innovative awareness-raising is to appoint 'ambassadors' with the task of promoting training to help keep older workers in employment (European Commission, 2012b)".	250 (31 Files Aggregated)
Productivism / Agents of Change	Ageing as a Resource	Ageing as a Resource: Digitalisation with an Emphasis on the Silver Economy	"Older citizens are increasingly shaping economies and the demand for services and products in the 'silver economy' is increasing rapidly (European Commission, 2014b)".	246 (32 Files Aggregated)
Productivism / Agents of Change	Ageing as a Resource	Active Ageing and Digitalisation: Participation in the Voluntary Sector	"This goes beyond skilling for a job but also includes voluntary work and older people who equally need new skills (European Commission, 2020d)".	183 (30 Files Aggregated)

Productivism / Agents of Change	Ageing as a Resource	Maximising Efficiency: A Productivist Approach to Ageing	"Supporting active and healthy ageing is important to improve the quality of life of elderly citizens and help them contribute to society as they grow older; and to reduce unsustainable pressure on health systems (European Commission, 2012b)".	106 (26 Files Aggregated)
Productivism / Agents of Change	Ageing as a Resource	Productive Inclusion: Valuing Older Adults as a Social Asset in a Digital Society	"Healthy older people are able to contribute substantially to the production of social and economic value in our societies". "Wasting their cognitive skills is not only detrimental to their mental and physical health and well-being, but also a missed opportunity for the community (European Commission, 2012b)".	96 (23 Files Aggregated)
Productivism / Agents of Change	Ageing as a Resource	Stakeholder Engagement: Participation in Policy Development for Active Ageing and Inclusive Digitalisation	"The Active and Assisted Living Research and Development Programme should build on the achievements of the previous programme and address its shortcomings by encouraging stronger user participation in projects and by a more agile programme implementation (European Commission, 2012b)".	73 (18 Files Aggregated)
Productivism / Agents of Change	Ageing as a Resource	Civic and Social Engagement: Challenging Ageist Discrimination Amidst Digitalisation	"(…) promoting measures to fight against discrimination of older people both in accessing the labour market and in the work place (e.g. innovative, accessible and age-friendly forms of work organisation, longer healthier working lives); (European Commission, 2012b)".	70 (23 Files Aggregated)
Productivism / Agents of Change	Ageing as a Resource	Social Lives: Networking for Older People Through Digital and ICT	"Older people reported that smart homes improved their sense of security, the quality of their daily life and activities and provided them with information about the	69 (22 Files Aggregated)

care available (European Commission, 2020d)".

Code 1 – Empowering Older People to Embrace Digitalisation (Coding References: 341, Items Coded: 32)

Digital skills training is discussed in the dataset in the context of upskilling an older workforce, and thereby economically compensating for challenging employment dynamics intrinsic to ageing demographics (European Commission, 2012b; 2021). It is intended to boost productivity and employability among older workers, and to enable people in old age to contribute to economic activity through further employment, volunteering and private entrepreneurship initiatives (Graafland & Verbruggen, 2022). Digital skills are perceived by the Commission as practically indispensable in realising of the objective of a productive, dynamically skilled and economically involved population of older adults (Walker, 2010). The Commission hopes to tap into, and harness, the latent productive potential of older people as a highly experienced knowledge and talent-base that can contribute to economic growth (Mladenov, 2016).

Code 2 – Supporting Active Ageing: ICT, Digital Health, Research and Development Initiatives (Coding References: 282, Items Coded: 28)

The Commission is supportive of research and development initiatives involving the utility of digital technologies, ICT and miniaturised devices and connected services in support of active ageing (European Commission, 2012b; 2021b). Horizon Europe is an example of such an initiative, whereby cooperation between academic researchers in academia, as well as the private sector and civil society, are benefitting from increased EU funding supports to conduct cutting-edge research in person-centred policies that can fulfil human-rights commitments whilst maximising the productivity levels of older people

(European Commission, 2022b). This thematic code represents the dual potential of these policy narratives to fulfil multiple Commission targets with intrinsic aspects of productivism and human rights (Frezzo, 2011; Mladenov, 2016).

Code 3 – Social Narratives on Ageing: Challenging Ageist Dynamics in the Digital Economy (Coding References: 250, Items Coded: 31)

The data-sample places a high level of value on social discourses and narratives with respect to 'European Values' of equality and non-discrimination (European Commission, 2014b; 2020). The Commission is taking steps to mitigate pronounced levels of ageist discrimination in EU workplaces. Furthermore, it is cognisant that, despite some legislative action on the part of the EU, ageist discrimination remains a prevalent challenge throughout multiple sectors of employment, but particularly in areas that involve the utility of digital skills. The Commission has had some considerable success in shifting public narratives surrounding ableist discrimination in the built and digital environments, including the workplace, and has raised public awareness of such prejudices in conjunction with Article 8 of the CRPD (United Nations, 2006). Although this process has not been extended to cover older people, the Commission is seeking to change popular precepts around older people and their place in a digitalising society (Peine & Neven, 2020).

Code 4 – Ageing as a Resource: Digitalisation with an Emphasis on the Silver Economy (Coding References: 246, Items Coded: 32)

The Commission is developing strategies to increase retirement ceilings (European Commission, 2020d; 2020a). Further, it plans to phase out early retirement and to accommodate older workers by promoting digital skills initiatives alongside general lifelong learning and the upskilling and reskilling of the workforce, especially for people at a later stage in their careers (Walker, 2010). The Commission hopes to enable people to work longer in their lives, and for older adults to be able to remain in active employment, and to volunteer

and pursue entrepreneurial ventures in their post-retirement life (European Commission, 2021). The Commission is discernibly instituting a reconceptualization of the demographic ageing phenomenon, and old age in general, to encourage perceptions of it as constituting an opportunity as well as a challenge, rather than purely being a negative development with solely adverse consequences for society and the economy. The productivist view, with strong human-rights undertones, is reflected here in the data-sample, with evidence of preparedness on the part of the Commission to draw upon the skills and knowledgebase of older workers through the vehicle of inclusive ageing and digitalisation policies to yield economic gains from positive synergies across all age-groups in the workforce (Graafland & Verbruggen, 2022; Frezzo, 2011).

Code 5 – Active Ageing and Digitalisation: Participation in the Voluntary Sector (Coding References: 183, Items Coded: 30)

The Commission is placing an emphasis on lifelong learning initiatives and opportunities for enhancing social interactionism between older adults and younger people (European Commission, 2012b). The data-sample reflects the ambitions of the Commission to create further opportunities for older adults to become actively involved in society, their local communities, and to shape the dynamics of civic engagement (European Commission, 2022). The Digital Agenda of the Commission envisions that digital technologies and enhanced means of communication and mobility will enable older people to actively participate and engage in society and civic life, and to foster cross-generational cooperation through increased interactions with younger people (European Commission, 2021; Peine & Neven, 2020).

Code 6 – Maximising Efficiency: A Productivist Approach to Ageing (Coded References: 106, Items Coded: 26)

The productivist approach to ageing is a novel way of conceptualising old age, and the dataset reveals a significant increase in emphatic adjustment by the Commission towards this new model of ageing and socio-economic symbiosis through inclusive digitalisation policies (European Commission, 2012b). The productivist narrative of ageing shares strong connections with human rights discourses in the data-sample, revealing a close relationship between the desire to yield economic benefits from the latent talents of older adults and the drive to promote active ageing and independence for people in later life (Frezzo, 2011; Graafland & Verbruggen, 2022). The Commission is cognisant of a desired outcome that entails a marriage of these discourses, where the interplay between the two discursive dimensions both promote and drive one another to enhance independence and digital inclusion in old age and maximise the economic potential of older people in employment, entrepreneurial and voluntary roles (Mladenov, 2016; European Commission, 2021).

Code 7 – Productive Inclusion: Valuing Older Adults as a Social Asset in a Digital Society (Coding References: 96, Items Coded: 23)

As in the previous two codes, the productivist aspects of active ageing and digitalisation policy by the Commission are partially predicated upon the fostering of a view of older adults as a social asset, rather than a burden on society and the economy (European Commission, 2012b; Graafland & Verbruggen, 2022). This approach relies upon a conceptualisation of older adults as a latent source of talent, information and lifelong experience, which can be transmuted into economic and social gains and progress if the correct approach is applied in the digital revolution (European Commission, 2021). Moreover, the Commission also aims to blur the lines between work and retirement by empowering older adults to pursue personal self-employment opportunities or to volunteer in civic engagement programs and lifelong learning initiatives at any age (Walker, 2010;

Mladenov 2016). In this way, older adults are conceived of as an asset and a resource in an ageing society that is shedding traditionalist and discriminatory models of ageist policies.

Code 8 – Stakeholder Engagement: Participation in Policy Development on Active Ageing and Inclusive Digitalisation (Coding References: 73, Items Coded: 18)

The Commission is developing a strong track record in fostering stakeholder engagement with affected parties when considering the creation of new protocols (European Commission, 2012b). The Commission has established mechanisms of interlocution with civil society and representatives of the disability community to directly involve affected persons in the creation of policies that will have a determinative influence upon their lives and freedoms (European Commission, 2020). The CRPD was drafted with a leadership involvement of people with disabilities and, accordingly, the slogan of 'nothing about us without us' arose through the success of the negotiation process (United Nations, 2006). However, there has yet to be a comprehensive mechanism to ensure that the right to participate in civic engagement and political life is also extended to older people without prejudice to their retired status or age (Walker, 2010). The data-sample shows that the Commission is aware of this civic disempowerment that older people experience, and there is a growing impetus to change ageist structures in rulemaking processes within public bureaucracy and government (Peine & Neven, 2020). The Commission wants to involve older adults in the development of policy and through productivist initiatives that will also empower them to engage with government from stronger positions such as the lobbying platforms of a robust civil society (Frezzo, 2011).

Code 9 – Civic and Social Engagement: Challenging Ageist Discrimination Amidst Digitalisation (Coding References: 70, Items Coded: 23)

The era of digitalisation has arguably compounded ageist narratives in workplaces and amongst younger people who view older adults as being 'out of touch' with the pace of

social change brought about by rapid progress in digital technology (Peine & Neven, 2020). In the online environment, it is possible to arrive upon a multiplicity of ageist narratives without much difficulty (Warner, 2024). The data-sample reflects a growing awareness on the part of the Commission with respect to the challenges posed by negative stereotypes of ageing and digitalisation (European Commission, 2021). Old age is still frequently perceived as a process whereby an individual has, in effect, outlived their usefulness to society and the economy, thereby transiting through an inevitable, isolating and lingering decline towards death (Mladenov, 2016). The Commission, through active ageing policies and digital inclusion and upskilling initiatives, and by way of increased civic and social engagement opportunities for older adults, aims to deconstruct traditional precepts of old age and refute ageist narratives through productivism and humanitarian reforms (European Commission, 2012b; Frezzo, 2016; Graafland & Verbruggen, 2022).

Code 10 – Social Lives: Networking for Older People Through Digital and ICT (Coding References: 69, Items Coded: 22)

The Commission intends to tackle problems of loneliness and isolation frequently suffered by older people, often exacerbated by ongoing digitalisation processes (European Commission, 2012d; 2021). In recent decades, loneliness has become a chronic systemic challenge within the EU as demographic decline, increased life-expectancy and rapid digitalisation, have substantially reduced the level of social interactionism shared by older people with their counterparts in younger age categories (Warner, 2024). Further, youth-oriented digitalisation policies have arguably exacerbated ageist prejudices, leading to a worsening of the overall paradigm of social isolation and disempowerment experienced by older adults (Peine & Neven, 2020). As such, the Commission aims to tackle the persistent problem of loneliness among older adults by encouraging social interaction and relationship-building between persons in old age and their younger peers through digital and ICT

technologies (Frezzo, 2011). Digital skills and social empowerment initiatives through volunteering and group activity programmes comprise an integral part of this stratagem (Mladenov, 2016).

Appendix (J.)

Coding the Hierarchical Node: Digital Divide

The fifth node hierarchy is the 'Digital Divide Thematic Code', espousing the theme of critical realism, as the data-sample reflects lucidity in the Commission towards the scale of the challenges posed by paradigms of unchecked exclusionary digitalisation (Gunn, 1989; Wodak & Meyer, 2016). The latter portion of the dataset, comprising the more recent Commission policies in this domain, delivers a substantial overview of the predicament posed by the digital-divide and the discriminatory potential of non-inclusive digitalisation processes. The Commission is evidently aware of these difficulties, and it seeks to take remedial action to reverse discriminatory trends in digitalisation that have proceeded at a disquieting pace for many years (European Commission, 2020d). Central to these efforts, is the desire of the Commission to tangibly extend all human-rights and liberties to older people in a realist, rather than purely aspirational sense.

Table 5. Qualitative Coding Scheme – Node Hierarchy 5 - 'Digital Divide'

Dominant Discourse	**Hierarchical Node**	**Thematic Codes**	**Example**	**Frequency**
Critical Realism	Digital Divide	Reliance on Carers: Significant Latent ICT and Digital Technology Capacities	"(…) needs of healthcare organisations to successfully deploy new digital technologies, such as artificial intelligence, that improve the quality of care and increase efficiency in Member States' health systems, the demanding for basic and advanced digital skills will grow significantly	131 (17 Files Aggregated)

			by 2030 (European Commission, 2018b)".	
Critical Realism	Digital Divide	Inaccessible Technology: Barriers to Equal Digital and ICT Utility	"(…) insufficient involvement of end-users in the development state was identified as the most significant barrier to innovation in ICT and ageing (European Commission, 2013a)".	66 (19 Files Aggregated)
Critical Realism	Digital Divide	Ageist Digitalisation: Youth-Oriented Aspects of the Digital Economy	"The institutional embedding of ICT-based products and services for ageing well has not yet been established properly at national – let alone at a European – level (European Commission, 2012b)". "This is a clear sign that the EU is prioritising growth and jobs (Ibid.)".	64 (18 Files Aggregated)
Critical Realism	Digital Divide	Ageist Digital Environment: Exclusionary Trends of Digitalisation	"(…) most R&D and innovations of AAL JP appear also still to be taking place at the national rather than at European level and thus involve mostly actors with a national orientation and "There is still a lack of real focus on a large scale European market […], there are still attitude barriers that limit progress as many actors remain oriented to national or local markets only (European Commission, 2012b)".	53 (17 Files Aggregated)
Critical Realism	Digital Divide	Affordability: High Costs of Digital and ICT Technologies	"(…) it is unlikely that a genuine market for interoperable ICT solutions for ageing well can be established without a joint programme with a European dimension (European Commission, 2018b)".	45 (12 Files Aggregated)

Critical Realism	Digital Divide	Familiarity of Use: Deficit of Digital Skills Among Older Adults	"The vulnerability of consumers can be driven by social circumstances or because of particular characteristics of individual consumers or groups of consumers, such as their age, gender, health, digital literacy, numeracy or financial situation. A lack of accessibility can put older people or persons with disabilities in situations or exclusion or limit their interactions (European Commission, 2020d)".	44 (15 Files Aggregated)
Critical Realism	Digital Divide	Digitalisation and Society: Barriers to Social Participation	"Due to a lack of digital skills, a lack of IT infrastructure, lower income or by choice, some persons in need of care cannot make use of digital tools (European Commission, 2021e)".	40 (14 Files Aggregated)
Critical Realism	Digital Divide	Changes to Society: Inaccessible Digital Services	"Main drivers of this problem are the fragmentation of the European market for ICT-based products and services for ageing well, a lack of real focus and vision on a large scale European or global market, and a lack of user involvement, especially in earlier stages of R&D and product development (European Commission, 2014b)".	36 (13 Files Aggregated)
Critical Realism	Digital Divide	Protection of Corporeal Self and Personal Data: Digital and ICT Unfamiliarity	"Their willingness to accept and accommodate new developments may also falter because of uncertainties around privacy, personal autonomy and information integrity (European Commission, 2021e)".	16 (8 Files Aggregated)
Critical Realism	Digital Divide	Negative Stereotypes of Ageing: Digital and ICT Incompetence	"For a wider adaptation and societal adoption of ICT-based products and services for ageing well, it is necessary to overcome the lack of technical culture and	15 (10 Files Aggregated)

		low acceptance of new technologies by users (the primary users and other possible user groups) (European Commission, 2019)". "A lack of accessibility can put older people or people with disabilities in situations of exclusion or limit their interactions (Ibid.)".

Code 1 – Reliance on Carers: Significant Latent ICT and Digital Technology Capacities (Coding References: 131, Items Coded: 17)

Despite rapid digitalisation in many sectors of society, progress to integrate digital technologies and services in healthcare has been gradual (European Commission, 2018b; Fragão-Marques & Ozben, 2022). Moreover, types and capabilities of digital assistive technologies are expanding, and persons with disabilities are increasingly able to achieve higher levels of access to employment, education, healthcare and social life (European Commission, 2020). However, older adults occupy a specific domain in the digitalisation process that, under current trends, has excluded them from many of these positive reforms (Warner, 2024). Instead, older people have often been consigned to dependence on traditionalist and wardship models of care through informal or professional caregivers (Mladenov, 2016). Digital and ICT capacities have yet to reform the care sector for older adults, and the Commission is aware of this. The data-sample reflects a clear realisation of this reality, echoing the theme of critical realism in this code (Frezzo, 2011).

Code 2 – Inaccessible Technology: Barriers to Equal Digital and ICT Utility (Coding References: 66, Items Coded: 19)

The Commission is cognisant of systemic and practical barriers to digital technologies and services for older people and persons with disabilities (European Commission, 2021). It has taken some positive steps in leveraging hard and soft law to mitigate some of these

barriers to digital accessibility, but there are many practical difficulties that remain (European Commission, 2019). In general, older adults lack the same standard of digital skills and device familiarity in comparison to their younger counterparts, meaning that trust, utility and uptake levels are low among this demographic (Peine & Neven, 2020). In addition, digital devices and specialist technologies remain very costly, though modest boosts to competition in the single market in recent years has slightly mitigated the high prices of these apparatuses (Foster & Walker, 2015). Older people often live on subsistence-level incomes or are even below the poverty threshold in many regions within the EU due to inadequate or non-existent pensions (European Commission, 2013a). This exacerbates the digital divide as connected devices and services are often simply too expensive for many older people to afford.

Code 3 – Ageist Digitalisation: Youth-Oriented Aspects of the Digital Economy (Coding References: 64, Items Coded: 18)

Many measures to promote digital inclusivity have focused emphatically on the enhancement of education, mobility and employment prospects of young people (Walker, 2020). In addition, the digital technology manufacturing sector is aware of this reality and has geared marketing strategies accordingly to increase uptake and utility of connected devices and services by young and economically active persons who are familiar with their use (Peine & Neven, 2020). The Commission also recognises that this paradigm is unlikely to change without direct action, namely the leveraging of hard law to ensure that the private sector complies with accessibility and universal design standards (European Commission, 2012b; 2019). ICT upskilling and training are also cited by the Commission as an important step towards the facilitation of digital inclusion for older people (European Commission, 2021).

Code 4 – Ageist Digital Environment: Exclusionary Trends of Digitalisation (Coding References: 53, Items Coded: 17)

Traditional models of ageing have arguably contributed to a broader social precept of old age and digital technologies as two phenomena that are fundamentally juxtaposed and incompatible with one another (Peine & Neven, 2020). As such, the online environment is influenced by ageist impressions that are expressed in various ways, including through humour and satirical expression where prejudicial themes can depict older people as being technologically incompetent and hostile to digital technologies (Foster & Walker, 2015). Moreover, the digitalisation of financial and banking services, as well as social, cultural and public life amongst other areas, has drastically disempowered a significant number of older people by removing from them a sense of familiarity, competency and agency towards the structures of the society surrounding them (Mladenov, 2016). The Commission is cognisant of these challenges, and it is hopeful that, through awareness-raising and combatting of ageist narratives (European Commission, 2012b), it may be successful in altering popular socio-cognitive precepts of ageing with the same vigour with which it has pursued the deconstruction of ableist social themes through the fulfilment of Article 8 CRPD on raising awareness (United Nations, 2006; European Commission, 2020).

Code 5 – Affordability: High Costs of Digital and ICT Technologies (Coding References: 45, Items Coded: 12)

The Commission is aware of the high financial costs associated with digital devices and services (European Commission, 2018b). It is taking steps to increase private sector competition in the single market to encourage innovation that will yield a multiplicity of devices and services whilst bringing down overall costs. Currently however, the data-sample reflects a clear realisation by the Commission of the challenges it faces through this endeavour. It is evident that, to bring down the costs of digital technologies, the Commission must leverage the economic and legal base of the EU to stimulate this change, as bloc action

is far more likely to yield positive results in this domain in place of any unilateral measures by individual Member States.

Code 6 – Familiarity of Use: Deficit of Digital Skills Among Older Adults (Coding References: 44, Items Coded: 15)

Digital skills barriers among older adults comprise a significant and immediate obstacle to the utility of connected devices and services. The Commission is aware of the extent of this challenge, and it is placing a strong emphasis on the development of lifelong learning for all age groups (European Commission, 2020d). It also supports the adoption of accessible user interfaces in digital goods and services to ensure that future devices are age friendly. The short-term reality of digital illiteracy is a phenomenon that the Commission is aware of, and it is placing a strong emphasis on the development of AAL environments and transitioning towards connected health models of care that place the user at the centre of a novel and human rights-oriented digitalisation framework (European Commission, 2022; Peine & Neven, 2020; Frezzo, 2011).

Code 7 – Digitalisation and Society: Barriers to Social Participation (Coding References: 40, Items Coded: 14)

The dataset reveals awareness in the Commission towards general ageist barriers in society that arise from traditionalist models of ageing (European Commission, 2012e; Foster & Walker, 2015). Through established patterns of ageing, older adults are often consigned to a life of increasing isolation and segregation from society after the age of retirement. In essence, this amounts to an inexorable period of disempowerment where older people retreat from all aspects of life over time, often leading to profound social isolation. The Commission is conscious of the immediate challenges faced by older people who are excluded from social participation and suffer from extreme loneliness (European Commission, 2022). This problem has been greatly exacerbated under digitalisation over recent decades as it has

altered the dynamics of social interactionism, meaning that opportunities for purposeful engagements with others are substantially reduced (Peine & Neven, 2020). Digital illiteracy also exacerbates barriers to social participation and interactionism (Mladenov, 2016). However, in the aftermath of the Covid-19 pandemic, the Commission is pursuing inclusive digital environmental integration for older people to enable them to communicate with others and engage in social life (European Commission, 2021).

Code 8 – Changes to Society: Inaccessible Digital Services (Coding References: 36, Items Coded: 13)

Older adults are rarely considered in the design and manufacture of digital goods and services, meaning that traditionally, they have been unable to enjoy the benefits and quality of life enhancements that such technologies can afford a user (Peine & Neven, 2020). Fear of digital technologies and related privacy and monitoring concerns have served to exacerbate high levels of mistrust and apprehension among older people about their utility (Mladenov, 2016). The Commission is seeking to alter trends of ageist digitalisation that have, historically, contributed to the alienation of older people through digital reforms in society and the built environment, alongside radical changes to normative processes for one to administer their own affairs in modern life (European Commission, 2014b). In this respect, the Commission is increasingly mindful towards problems of inaccessibility in digital devices and services and is taking substantial steps to encourage the inclusion of accessibility features in their manufacture (European Commission, 2019).

Code 9 – Protection of Corporeal Self and Personal Data: Digital and ICT Incompetence (Coding References: 16, Items Coded: 8)

The Commission is committed to protecting the data and privacy of users of digital technologies, including older adults and people with disabilities (European Commission, 2021e; 2021). It is responsible for the implementation of the EPSR and is aware of the

potential dangers associated with digital technologies that can compromise the data, privacy and integrity of the user (Frezzo, 2019). Older adults are frequently reluctant to utilise digital technologies as issues stemming from a lack of familiarity with their use, and apprehension regarding privacy concerns, frequently renders paltry their uptake levels within this demographic (Mladenov, 2016). The data-sample reveals an increased emphasis within the Commission towards remediating these concerns in recent years as it seeks to promote an inclusive Digital Agenda that will protect the finances, information and privacy of users (European Commission, 2016).

Code 10 – Negative Stereotypes of Ageing: Digital and ICT Incompetence (Coding References: 15, Items Coded: 10)

The data-sample indicates that ageist stigmas towards older people are still prevalent throughout modern society, with many ingrained precepts about persons in later life being fundamentally incompatible with modern society and digitalisation (Foster & Walker, 2015). The digitalisation process has arguably compounded these precepts, as it has contributed to reduced levels of familiarity between older people and the world around them (Peine & Neven, 2020). The Commission is arguably seeking to utilise digitalisation as a vehicle for reconceptualising the overall socio-cognitive precept of older adults, old age, and their relationship with a modern digital society (European Commission, 2019; 2021). It is aware of many obstacles facing the realisation of this objective, alongside the innumerable immediate challenges such as multilayered and nuanced ageism embedded in current modalities of digital technology and services that govern corporate environments, as well as social processes and interactionism (Mladenov, 2016). The Commission is embarking on policies that are designed to protect older digital users and to instil trust in connected technologies and services among persons in later life (European Commission, 2022).

Appendices K – N, Chapter 6: Analysing the Discourses of the ProQuest ASSIA Database

Appendix (K.)

Coding the Hierarchical Node: Challenges to Implementation of Digital Technologies

Table 1. Qualitative Coding Scheme – Node Hierarchy 1 - 'Challenges to Implementation of Digital Technologies'

Dominant Discourse	Hierarchical Node	Thematic Codes	Example	Frequency
Critical Realism	Challenges to Implementation of Digital Technologies	eHealth - Connected Health Services Needed to Augment Care Service Delivery	"Regressions showed that the likelihood of having used online consultations with doctors or therapists (compared with never using such services) was positively associated with higher education, living with partner in the same household (compared with single), poorer self-rated health, increased loneliness, and increased satisfaction with life (Hajek and König, 2022)."	220 (20 Files Aggregated)
Critical Realism	Challenges to Implementation of Digital Technologies	Determinative Aspects of Successful Technology Utility - Attitudes Towards Use, Anxiety over Use, Ease of Use, Service Availability and Sense of Control	"(…) our evidence suggests that policies designed to improve Attitude toward use appear most effective, followed by policies addressing Perceived usefulness, Perceived ease of use, Service availability, and Sense of control (Askari et al., 2020)".	168 (17 Files Aggregated)
Critical Realism	Challenges to Implementation of Digital Technologies	A Systems Approach to Digital Technology for Older Adults - The Need for Inter-Agency Work to Eliminate Sectoral Disconnectedness	"(…) the implementation of socially assistive robots in care requires a partnership among academic institutions, clinicians, and the industry (Łukasik et al. 2020)."	162 (8 Files Aggregated)

Critical Realism	Challenges to Implementation of Digital Technologies	Chronic Health Conditions - Longer Lives, More Long-Term Illness and Disability Necessitates Utility of Connected Adaptive Technologies	"Both countries have populations that are recognized to be among the fastest aging in the world (United Nations, 2015), and this directly influences efforts to create new knowledge and to develop new technological applications (Coco et al., 2018)".	111 (18 Files Aggregated)
Critical Realism	Challenges to Implementation of Digital Technologies	Need for Positive Attitude Among Caregivers Towards Digital Technology to Encourage Similar Impressions Among Older Adults	"According to Davis's Technology Acceptance Model (TAM)20, these two factors, perceived usefulness and perceived ease of use, lead to the individual's attitude towards using the product (positive or negative), which in turn affects intention to use, which finally leads to actual use. The model also posits that perceived usefulness of technology can directly affect behavioral intention to use", (Burstein et al., 2015).	98 (18 Files Aggregated)
Critical Realism	Challenges to Implementation of Digital Technologies	Fear of Isolation - Older Adults Are Concerned That Digital Technology Might Replace Their In-Person Contact with Caregivers	"More well-designed studies that contain a minimum risk of research bias are needed to draw conclusions on the effectiveness of ICT interventions for elderly people in reducing their perceived social isolation as a multidimensional concept", (Chen and Schulz, 2016).	77 (13 Files Aggregated)
Critical Realism	Challenges to Implementation of Digital Technologies	Sustaining In-Person Care - Digital Technology, Oftentimes, Does Not Supplant These Services	"Education, especially, is crucial in changing attitudes and helping care personnel understand that care robots may perform routine tasks, so allowing care personnel to focus on providing improved care	72 (13 Files Aggregated)

			and nursing", (Coco et al. 2018).	
Critical Realism	Challenges to Implementation of Digital Technologies	Understanding Paradigms of Device Utility - Why Do Older People Use Digital Technology, How Does it Differ from Younger Age Groups	"(…) although older adults were less likely to participate in a web-based chronic disease self-management intervention trial than were younger adults, those who did participate engaged with the intervention in a manner similar to the younger participants", (Coley et al., 2022).	57 (14 Files Aggregated)
Critical Realism	Challenges to Implementation of Digital Technologies	Protecting Caregivers - Digital technology Should Also Assist Caregivers in Their Challenging Role	"Technology has been touted as one solution to address the unmet needs of caregivers and their loved ones and to reduce the burden of care on family caregivers", (Burstein et al., 2015).	57 (14 Files Aggregated)
Critical Realism	Challenges to Implementation of Digital Technologies	Scalability - Significant Strategic Challenges Facing Digital Care Initiatives	"(…) large-scale rollouts can increase the willingness of commercial companies to invest, which is seen as a requirement for making technology for aging in place affordable", (Peek et al., 2016).	28 (9 Files Aggregated)
Critical Realism	Challenges to Implementation of Digital Technologies	A Balanced Relationship Between User and Device - Older People Should Not Emotionally Bond Too Strongly with Any Forms of Digital Technology	"(…) such a robot should not be an older person's companion but should rather act as an assistant", (Łukasik et al. 2020).	22 (6 Files Aggregated)
Critical Realism	Challenges to Implementation of Digital Technologies	Potential Hazards - Risk of Misuse or Overreliance Upon Digital Technology by Patients and Caregivers	"This point is illustrated by studies that observe the way telecare users both use and "misuse" their devices, (Pols and Willems, 2011; Mort et al., 2012, 2013)", (Stirling and Burgess, 2021).	19 (5 Files Aggregated)
Critical Realism	Challenges to Implementation of Digital Technologies	Controlling the Dynamics of Caregiving - Older Adults Should 'Not be Allowed' to Change	"(…) older people should not be allowed to change the robot's settings themselves, as this may result in the needed	17 (7 Files Aggregated)

	Setting on Technology so as Not to Interfere with Care Delivery	functions being turned off", (Łukasik et al. 2020).

Code 1 – eHealth: Connected Health Services Needed to Augment Care Service Delivery (Coding References: 220, Items Coded: 20)

Hajek and König (2022) effectively elucidate the broad variations between the raw capabilities of digital technologies, and the contemporary modus of their production, procurement and availability to older adults. They refer to the effects of the digital divide and the resultant determinative impressions towards the utility of digital technology among older adults along the lines of education, habitation circumstances such as living alone or with another, and health status, among other stratifying phenomena. Older adults who live alone, have poor health and a lower level of education, are far less likely to utilise these devices and services according to the dataset (Ibid.; Konig et al., 2018). However, a considerable number of older people are affected by these circumstances in the modern EU, contributing to a significant challenge for the equitable and smooth integration of digital technologies in their lives and healthcare.

Code 2 – Determinative Aspects of Successful Technology Utility: Attitudes Towards Use, Anxiety over Use, Ease of Use, Service Availability and Sense of Control (Coding References: 168, Items Coded: 17)

Askari et al. (2020) lists some key determinants for successful adoption and utility of digital technologies by older people including attitudes towards use, anxiety over use, ease of use, service availability and sense of control. They explain that these factors are indispensable for achieving successful general utility of digital technologies (Ibid.). Conversely, under current circumstances where the digital healthcare technology market is fragmented and expertise in maintenance and upkeep is often scant, the key determinative adoption prerequisites represent a significant challenge.

Code 3 – A Systems Approach to Digital Technology for Older Adults: The Need for Inter-Agency Work to Eliminate Sectoral Disconnectedness (Coding References: 162, Items Coded: 8)

Łukasik et al. (2020) advocates a holistic approach to the integration of digital technologies and robotics for older adults. They emphasise the importance of inter-agency coordination and the development of strategic partnerships "among academic institutions, clinicians, and the industry", to combine multisectoral resources and knowledgebases in a 'systems approach' to digital technology and robotics (Ibid.). This comprises an imperative course of action to overcome siloed sectoral mindsets that can be prevalent in digital healthcare technology procurement and care delivery for older people, where institutions and individuals are often segregated and initiatives frequently enjoy little strategic effect.

Code 4 – Chronic Health Conditions: Longer Lives, More Long-Term Illness and Disability Necessitates Utility of Connected Adaptive Technologies (Coding References: 111, Items Coded: 18)

Coco et al. (2018) cites Finland and Japan, whose populations are among the most rapidly ageing in the world. Indeed, this example can be extended to cover the general population of the EU where, aside from significant rates of inward migration (Doepke et al., 2008), the native demographics of most member countries are ageing at an expeditious pace (Ibid. Konig et al., 2018). As such, the EU has a significant population of older citizens, and this trend of ageing is set to continue well into the latter half of the 21st century as domestic national fertility rates decline whilst life expectancy grows. This paradigm is creating a critical need for digital healthcare technologies and robotics to offset the general shortage in care professionals and cater for increased incidences of disability among older demographics in the EU. However, inadequate measures to facilitate digital health technology creation and integration renders further complexity to this challenge.

Code 5 – Need for Positive Attitude Among Caregivers Towards Digital Technology to Encourage Similar Impressions Among Older Adults (Coding References: 98, Items Coded: 18)

There is a general view among caregivers that a positive attitude among healthcare professionals and informal carers towards digital technology and robotics can encourage similarly auspicious impressions among older adults. Davis (1989) isolates two central factors in the Technology Acceptance Model (TAM), 'perceived usefulness' and 'perceived ease of use' (Burstein et al., 2015). Burstein et al. complements Davis's TAM framework by applying this logic to carers and stresses the importance of 'perceived usefulness' in determining the behavioural intentions of caregivers to utilise these devices and services.

Code 6 – Fear of Isolation: Older Adults Are Concerned That Digital Technology Might Replace Their In-Person Contact with Caregivers (Coding References: 77, Items Coded: 13)

Chen and Schulz (2016) argue that further research needs to be undertaken to determine the efficacy of ICT and digital technology interventions for older adults in reducing their social isolation. Under current models of digital healthcare technology interventions, it is challenging to ascertain their overall impact on reducing social isolation in the absence of further research. However, the dataset reveals that a fear of incurring social isolation in a care setting by replacing a caregiver with digital technology resonates as a tangible fear among older adults (Ibid.). As such, in the absence of adequate measures to ameliorate these concerns, this does not contribute to a desire among older people to adopt digital technology.

Code 7 – Sustaining In-Person Care: Digital Technology, Oftentimes, Does Not Supplant These Services (Coding References: 72, Items Coded: 13)

Coco et al. (2018) argues that it is very important to educate clinicians and emphasise the relevancy of digital technologies to clinical practice. They assert that, by educating caregivers about the value of digital technology for the enhancement of their ability to discharge their duties, they can potentially free themselves of menial tasks and provide greater human contact to their patients. Educating caregivers to this end is doubtlessly challenging but is nonetheless essential for becoming a successful starting point towards realising the adoption of digital technologies by carers (Ibid.).

Code 8 – Understanding Paradigms of Device Utility: Why Do Older People Use Digital Technology, How Does it Differ from Younger Age Groups (Coding References: 57, Items Coded: 14)

Coley et al. (2022) makes the point that both young and older people are capable of utilising and engaging with digital technologies in a similar way to one another. However, sometimes variations occur in digital technology use due to different motivating factors acting as an impulsion behind their utility (Ibid.). In this sense, caregivers perceive an integral understanding of these differences as highly important to their approach towards the encouragement of older adults to engage with digital healthcare services.

Code 9 – Protecting Caregivers: Digital technology Should Also Assist Caregivers in Their Challenging Role (Coding References: 57, Items Coded: 14)

Burstein et al. (2015) notes that digital technology is vaunted as a possible means of easing the care burden on caregivers and their loved ones. The dataset backs this assertion, as caregivers argue that digital healthcare technologies should have the effect of delivering quality care to the patient whilst also making the job of the carer more manageable by mitigating the substantial challenges that they face in their roles.

Code 10 – Scalability: Significant Strategic Challenges Facing Digital Care Initiatives (Coding References: 28, Items Coded: 9)

Peek et al. (2016) illustrates the fragmented nature of the digital health technology market and the accordant absence of large-scale rollouts of devices and services. The dataset reveals that caregivers have certain misgivings about the digital healthcare technology market in its current format. Moreover, caregivers may be reluctant to embrace new technologies in the absence of a harmonised cross-sectoral coordination for large-scale strategic rollouts of new capabilities.

Code 11 – A Balanced Relationship Between User and Device: Older People Should Not Emotionally Bond Too Strongly with Any Forms of Digital Technology (Coding References: 22, Items Coded: 6)

Łukasik et al. (2020) stresses that a robot should not be a companion, but rather an assistant, to an older person. However, the dataset echoes a degree of ambiguity among caregivers over the perceived appropriate level of closeness that digital technology or robots should have with an older adult (Ibid.). The line between an assistant and a companion may not be straightforward. Some sources do advocate robotic devices and AI applications as being suitable potential companions for older people with dementia (Koo & Vizer, 2019). As such, there is a degree of divergence among healthcare professionals with respect to the intended purpose and role of digital technologies and robotics, and the proposed dynamics of their relationship with caregivers and patients.

Code 12 – Potential Hazards: Risk of Misuse or Overreliance Upon Digital Technology by Patients and Caregivers (Coding References: 19, Items Coded: 5)

Stirling and Burgess (2021) explain that there is a significant potential for the misuse of, or overreliance upon, digital technologies or robotics (Pols and Willems, 2011; Mort et al., 2012, 2013). The dataset echoes concern among caregivers that digital technologies must not erode the efficiency of care service delivery, nor should they give rise to laziness on the part of the carer or the patient (Ibid.). Rather, they should enhance the quality of the care

delivered and improve quality of life for the carer and patient, whilst avoiding any attempts by the user to wilfully surrender autonomy or agency through perceived convenience and resultant propensities for overreliance.

Code 13 – Controlling the Dynamics of Caregiving: Older Adults Should 'Not be Allowed' to Change Setting on Technology So as Not to Interfere with Care Delivery (Coding References: 16, Items Coded: 7)

Łukasik et al. (2020) contends that many caregivers believe their authority should be transmuted through the medium of digital technology administration to protect and enhance their ability to effectively discharge their care responsibilities. As such, some caregivers argue that they should be empowered to wield a degree of determinative primacy with respect to the settings and modes of care pertaining to digital technologies and robotics (Ibid.). They explain that older adults should not be allowed to change the settings on the technology so as not to interfere with the delivery of care. This may give rise to significant legal, ethical and policy implications, as caregivers under such circumstances would, at times, potentially risk superseding the wishes of older adults in order to effectively fulfil their care responsibilities.

Appendix (L.)

Coding the Hierarchical Node: Critical Evaluation of Novel Digital Technologies

Table 2. Qualitative Coding Scheme – Node Hierarchy 2 - 'Critical Evaluation of Novel Digital Technologies'

Dominant Discourse	Hierarchical Node	Thematic Codes	Example	Frequency
Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	Augmentation, Not Replacement - Robots and Digital Technology Will Transform Care, but Will Not Replace the Human Caregiver	"Assistive robots can not only help older people remain independent for longer, but also support and facilitate the work of doctors and formal caregivers", (Łukasik et al., 2020).	179 (20 Files Aggregated)

Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	Open-Minded Caregiver Attitude to Robotics - Desire for Them to Free Up Resources for More Important Aspects of Care	"(…) potential recipients of eHealth are open to the use of such technologies and that although they cannot be expected to replace existing models of care, eHealth may provide opportunities to sustain and enhance these interactions", (Roberts et al., 2015).	171 (14 Files Aggregated)
Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	AI in Digital Technology - Significant Potential for Care of Dementia Patients	"A robot and AI-powered system that allows people who are house-bound or bed-ridden, such as dementia patients, to engage in society as robot pilots—work remotely in the form of physical robot servers via virtually controlling these robots using an AI-powered system at home or even in bed", (Su et al., 2022).	119 (7 Files Aggregated)
Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	Training for Carers and Older Adults - Effective Utility of Digital Technology in Care Delivery	"Even younger caregivers were no more aware of or used these technologies; age had no bearing on awareness or use of the basic AT, the sensor AT, or the AT that might specifically support caregiving for someone with dementia", (Burstein et al., 2015).	116 (16 Files Aggregated)
Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	Privacy and Monitoring Concerns - Increased Utility of Surveillance-Capable Technologies in Healthcare	"In addition, implementing new technologies and care robots in elderly care should take into consideration the respect and protection of elderly people with regard to their privacy, right for liberty, and	80 (13 Files Aggregated)

			security; their ability to lead a life of dignity and independence and to participate in social and cultural life; and the protection of their personal data", (Coco et al., 2018).	
Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	Legal and Ethical Considerations - Need for Clearly Defined Role for Digital Technologies and Robots	"This was also framed as a legal and ethical issue, where the monitoring of users' changing behaviours could only be justified with carers available to respond when equipment flagged unexpected emergencies", (Stirling and Burgess, 2021).	68 (12 Files Aggregated)
Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	Uncertainty Over Immature Technologies - Doubts Over Capabilities of Robots in their Current State of Development	"When asked why they disliked Paro, some participants commented that they found it somewhat 'fake' and 'regressive' (…)", (Burstein et al., 2015).	67 (13 Files Aggregated)
Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	Cohort Affect - 'Middle-Aged' and 'Young-Old' are More Comfortable with Digital Technology than the 'Very-Old'	"(…) older people often do not have sufficient knowledge of the use of electronic devices or their suitability for potential users' needs and requirements" (Łukasik et al., 2020). "(…) for younger generations to use new technologies with which they have grown and that it is easier for them to make a more accurate choice of the right device", (Ibid.).	59 (7 Files Aggregated)
Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	Late Baby-Boomers - Youthful Self-Image and Improved Technological Competence	"An examination of the strategies that baby boomers in the UK use to construct identity as they grow older led	55 (6 Files Aggregated)

			Biggs et al. (2007) to conclude that the baby boomer's self-image is one that is youthful in outlook but mature in attitude", (Young and Tinker, 2017).	
Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	Inaccessible Built Environment - A Lack of 'Age-Neutral' Designs, Resultant Stigmas Attached to Accessibility Adaptations	"Older adults stressed the importance of not feeling ashamed or stigmatized, while managers, technologists, and policy advisors talked in terms of taking pride in the technology: "It's okay to have it in your home and show it to visitors: 'Look what I have!'...It's not all bad when you grow older, of course you want to show off the nice things that you have" (Technologist #3)", (Peek et al., 2016).	40 (10 Files Aggregated)
Appraisal / Extitutional Theory	Critical Evaluation of Novel Digital Technologies	Unintended Disempowerment - What Happens if the Robot or Technology Takes Over Too Many Tasks	"Thirty percent of the Finnish care personnel totally agreed with the statement "I'm afraid that the introduction of care robots would make the treatment of elderly people inhumane," and about 40% partially agreed with it", (Coco et al. 2018).	30 (10 Files Aggregated)

Code 1 – Augmentation, Not Replacement: Robots and Digital Technology Will Transform Care, but Will Not Replace the Human Caregiver (Coding References: 179, Items Coded: 20)

Caregivers believe that digital technologies and robotics have the potential to greatly augment the delivery of care and, if harnessed correctly, can help to augment their delivery of

healthcare services for older adults. At the same time, they believe that these technologies also have the capacity to enable older people to live more independently. Importantly, carers are firm in the view that they do not foresee digital technology or robotics replacing the human caregiver (Łukasik et al., 2020).

Code 2 – Open-Minded Caregiver Attitude to Robotics: Desire for Them to Free Up Resources for More Important Aspects of Care (Coding References: 171, Items Coded: 14)

Roberts et al. (2015) explains that caregivers are generally open-minded about the prospect of introducing digital technologies and robotics into their care responsibilities. However, they are particularly desirous that these technologies should be beneficial to organisational efficiency by freeing up caregiver time and resources to address more important aspects of care, such as facilitating vital person-to-person contact services for older adults (Ibid.).

Code 3 – AI in Digital Technology: Significant Potential for Care of Dementia Patients (Coding References: 119, Items Coded: 7)

Su et al. (2022) explains that caregivers foresee a significant potential for digital technologies and robots that utilise AI to enhance the care of older adults, including dementia patients in particular, by functioning as an assistant that can help them to engage socially, thereby rendering greater autonomy to the user in the home. However, the dataset also reveals caregiver viewpoints that diverge on the specific role of AI applications, with many viewing interactive digital devices as potential companions for older adults with dementia (Ibid.).

Code 4 – Training for Carers and Older Adults: Effective Utility of Digital Technology in Care Delivery (Coding References: 116, Items Coded: 16)

Burstein et al. (2015) explains that caregivers are often almost completely unaware of the digital technology that might be available to them, or their patients, and they lack general knowledge on how these devices can help them to perform their roles. This general lack of

knowledge or information on digital technologies and robots exists among caregivers irrespective of their age, indicating that there is a general deficit of adequate marketing of these devices to raise awareness of their existence and capabilities (Ibid.). Caregivers feel that trainings and information sharing on new devices and services is very important in combating the lack of readily available information on digital healthcare technologies.

Code 5 – Privacy and Monitoring Concerns: Increased Utility of Surveillance-Capable Technologies in Healthcare (Coding References: 80, Items Coded: 13)

Coco et al. (2018) expresses that caregivers are concerned about the legal and ethical implications posed by the increased utility of surveillance-capable digital technologies and robotics in the care of older adults. In addition, they argue that monitoring technologies should be strictly bound by person-centred and ethical legal principles that will protect the data, privacy and dignity of the user (Ibid.).

Code 6 – Legal and Ethical Considerations: Need for Clearly Defined Role for Digital Technologies and Robots (Coding References: 68, Items Coded: 12)

Stirling and Burgess (2021) reveal tangible solicitude among caregivers about the legal and ethical considerations surrounding digital technologies and robotics regarding their role in the care of older adults. The dataset indicates a degree of apprehension among caregivers regarding legal aspects of digital technology utility, such as the procurement, maintenance and implementation of these new capabilities as part of their roles as carers (Ibid.). Use and liability concerns surrounding new technologies infer that caregivers may be apprehensive about their utility due to legal ambiguities and questions of accountability. These same concerns extend to legal and ethical dimensions pertaining to the utility of monitoring technologies.

Code 7 – Uncertainty Over Immature Technologies: Doubts Over Capabilities of Robots in their Current State of Development (Coding References: 67, Items Coded: 13)

Burstein et al. (2015) notes that caregivers expressed misgivings about the readiness and efficacy of certain technologies, particularly robots, at their current stage of development. The dataset reveals that there is a general sense among caregivers that robots, at present, largely comprise an immature technology that is not yet ready for practical implementation (Ibid.). They are concerned that the technology may be inadequate in numerous ways, and even infantilising in certain respects, as expressed through observations of robotic devices such as the 'Paro Seal' in the care of dementia patients and in the mixed opinions regarding the efficacy of the apparatus.

Code 8 – Cohort Affect - 'Middle-Aged' and 'Young-Old' are More Comfortable with Digital Technology than the 'Very-Old' (Coding References: 59, Items Coded: 7)

Łukasik et al. (2020) explains that caregivers perceive a 'cohort affect' among older adults and their respective comfortability levels with digital technology. Caregivers express concern for current generations of older adults, particularly those who are in the later stages of old age, as they display a marked decrease in technological familiarity in comparison to their younger counterparts (Ibid.). The young-old and pre-retirement age cohort generally display a substantial level of familiarity and comfortability with digital technology utility when compared to those in older age. Caregivers foresee a greater degree of acceptance of digital healthcare technology in the future among younger generations of older adults, and they are cognisant of the need to mitigate these challenges facing the present cohort in later life.

Code 9 – Late Baby-Boomers: Youthful Self-Image and Improved Technological Competence (Coding References: 55, Items Coded: 6)

Young and Tinker (2017) observe a socio-cognitive phenomenon among persons who were born in the years encompassing the 'baby-boomer' generational category. Baby-boomers, and particularly those born in the latter part of this timeframe, often have a more

youthful self-image in comparison to their older counterparts, which may be partially explained by their increased familiarity with digital technologies (Ibid.). A youthful self-image among older people may be an important determinant in their uptake of digital technologies.

Code 10 – Inaccessible Built Environment: A Lack of 'Age-Neutral' Designs, Resultant Stigmas Attached to Accessibility Adaptations (Coding References: 40, Items Coded: 10)

Peek et al., (2016) notes the importance of socio-cognitive impressions surrounding design aspects of new digital healthcare technologies. A lack of 'age-neutral' designs in accessibility adaptations within the built environment may arguably extend to digital technologies and robots, resulting in stigmatic ageist and ableist impressions of such devices among users, carers and society in general. Therefore, ensuring that digital technologies and robots incorporate age-neutral design principles is likely to be important in determining their overall level of uptake among carers and older users (Ibid.).

Code 11 – Unintended Disempowerment: What Happens if the Robot or Technology Takes Over Too Many Tasks (Coding References: 30, Items Coded: 10)

Coco et al. (2018) notes that there is a degree of disquiet among caregivers surrounding the potential for digital technologies and robots to disempower older adults by assuming command of most tasks in their lives. If left unchecked, this could potentially amount to an effective, and even wilful, consignment to disempowerment among older adults as recipients of digital care. Such an unpalatable prospect is undoubtedly detrimental to the well-being and overall independence of older people (Ibid.).

Appendix (M.)

Coding the Hierarchical Node: Protecting the Carer and the User

Table 3. Qualitative Coding Scheme – Node Hierarchy 3 - 'Protecting the Carer and the User'

Dominant Discourse	Hierarchical Node	Thematic Codes	Example	Frequency
Human Rights	Protecting the Carer and the User	Boosting Socialisation Through Digital Technology - Encouraging, Not Replacing, Social Lives for Older Adults	"Evidence indicates that contemporary information and communication technologies (ICT) have the potential to prevent or reduce the social isolation of elderly people via various mechanisms", (Chen and Schulz, 2016).	167 (14 Files Aggregated)
Human Rights	Protecting the Carer and the User	Holistic Digital Inclusivity - Need for Online Community Care to Support Independent Living, Ageing in Place, Civic and Social Participation	"Technology may, for instance, enable older adults to live in their own homes more independently and for a longer period of time", (Askari et al., 2020).	123 (18 Files Aggregated)
Human Rights	Protecting the Carer and the User	Knowing What Technology is Available - Education and Training of Care Staff on Latest and Best Options for Individual Patient Needs	"Even younger caregivers were no more aware of or used these technologies; age had no bearing on awareness or use of the basic AT, the sensor AT, or the AT that might specifically support caregiving for someone with dementia", (Burstein et al., 2015).	101 (17 Files Aggregated)
Human Rights	Protecting the Carer and the User	Innovation to Empower Self-Reliance - A Need for Novel Technologies for Health Self-Monitoring for Older People	"As a way of realising ageing in place, assistive technologies such as home-care robots are expected to play a greater role in the future", (Kodate et al., 2022).	83 (12 Files Aggregated)
Human Rights	Protecting the Carer and the User	AI, Robotics and Digital Technology - Stepping-in for Older People Where There is a Risk to Safety	"This includes simple home adaptations, such as grab bars, bath lifts and stair lifts that help with mobility issues and minimise the chance of falls, as well as digital products and	58 (14 Files Aggregated)

			services including robotics, monitoring systems, social alarm systems and wireless sensor networks", (Young and Tinker, 2017).	
Human Rights	Protecting the Carer and the User	Age-Neutral Digital Environment - Ending the Digital Divide is of Critical Importance	"A concern about using digital health interventions in older populations is that they may further widen existing health inequalities", (Coley et al., 2022).	57 (11 Files Aggregated)
Human Rights	Protecting the Carer and the User	Caregivers and Digital Technology - Person-Centredness, Acceptance of New Systems and Receiving Training in Their Utility	"Health and social care professionals all offered positive opinions about the current and future use of eHealth, but their first-hand professional experience of using eHealth was limited", (Roberts et al., 2015).	48 (15 Files Aggregated)
Human Rights	Protecting the Carer and the User	Universal Design - Promoting Interactionism Between Manufacturers and Caregivers	"From a technical point of view, caring and nursing expertise is needed to develop care robots and automats that are care personnel driven and thus useful in their applications", (Coco et al., 2018).	44 (14 Files Aggregated)
Human Rights	Protecting the Carer and the User	Prerequisites for Digital Technology - Participation of Older Adults in the Design Process, Combatting Loneliness, Reducing Fear of Devices and Services Through Their Utility	"All stakeholder groups felt that the implementation of technology for aging in place can be considered a success when (1) older adults'needs and wishes are prioritized during development and deployment of the technology, (2) the technology is accepted by older adults, (3) the technology provides benefits to older	27 (11 Files Aggregated)

			adults, and (4) favorable prerequisites for the use of technology by older adults exist", (Peek et al., 2016).	
Human Rights	Protecting the Carer and the User	Human Rights, Professional Ethics and Autonomy - Guiding Principles and the Integration of Digital Technology in the Care of Older Adults	"There is now much greater awareness of individual rights and an appreciation that it is important, from both an ethical and practical point of view, to not merely respond to older people but to actively seek their views and to undertake co-design with them", (Young and Tinker, 2017).	9 (4 Files Aggregated)

Code 1 – Boosting Socialisation Through Digital Technology: Encouraging, Not Replacing, Social Lives for Older Adults (Coding References: 167, Items Coded: 14)

Chen and Schulz (2016) explain that digital technologies have shown potential to enhance the level of social contact between older people and the rest of society. However, caregivers believe that, although digital technologies and robotics should boost socialisation for older adults, they must not replace their social lives altogether (Ibid.). Therefore, a balance must be found between encouraging socialisation and avoiding the total supplanting and replacement of a social existence with digital technologies or robotics.

Code 2 – Holistic Digital Inclusivity: Need for Online Community Care to Support Independent Living, Ageing in Place, Civic and Social Participation (Coding References: 123, Items Coded: 18)

Askari et al. (2020) shows that carers are hopeful that digital technologies will facilitate the ability of greater numbers of older adults to be able to live at home for longer and to maintain their own independent connections to their social lives and to continue to

actively participate in society. Carers believe that effective online community care systems driven by an ethos of digital inclusivity can help to achieve this milestone.

Code 3 – Knowing What Technology is Available: Education and Training of Care Staff on Latest and Best Options for Individual Patient Needs (Coding References: 101, Items Coded: 17)

Caregivers need more choices in education and trainings that can provide them with the best digital healthcare options for individual patient needs. Burstein et al. (2015) reveals that the age of the caregiver does not correspond to their knowledge of digital healthcare technologies, availability or intention to use these devices in a clinical setting. This indicates that more needs to be done to support caregivers to know how to utilise these devices, and to develop sufficient expertise to properly decide upon the digital products and services most appropriate for patient needs.

Code 4 – Innovation to Empower Self-Reliance: A Need for Novel Technologies for Health Self-Monitoring for Older People (Coding References: 83, Items Coded: 12)

There is an imperative requirement to empower older people to live independently, age in place, and to be able to take charge of health self-monitoring to manage their own lives. Kodate et al. (2022) maintains the necessity for digital and robotic technologies to augment the ability of older adults to be able to live independently and monitor their own health.

Code 5 – AI, Robotics and Digital Technology: Stepping-in for Older People Where There is a Risk to Safety (Coding References: 58, Items Coded: 14)

Young and Tinker (2017) reveal the desire among caregivers for AI, digital technology and robots to be able to mitigate safety risks for older adults and to undertake tasks that might be perilous for a patient to perform. In this sense, these technologies should

complement more traditional built-environment adaptations by minimising the risk of injury for older patients whilst protecting their personal safety.

Code 6 – Age-Neutral Digital Environment: Ending the Digital Divide is of Critical Importance (Coding References: 57, Items Coded: 11)

Coley et al. (2022) notes that there is concern among caregivers regarding potential risks to health equality among older adults due to the proliferation of digital healthcare technologies and connected services. Thus, there is also the prospect that digital healthcare technology availability may become grafted along traditional lines of social strata such as wealth, exacerbating the effects of the digital divide.

Code 7 – Caregivers and Digital Technology: Person-Centredness, Acceptance of New Systems and Receiving Training in Their Utility (Coding References: 48, Items Coded: 15)

Roberts et al. (2015) explains that, in principle, caregivers have a positive attitude towards digital technology, but that in reality they often receive inadequate support in-practice to acquire sufficient mastery of new devices and services. To this end, caregivers require training in the utility of digital technologies which, in turn, can facilitate their acceptance by older adults and enable carers to put connected devices and services into effect with person-centred care strategies.

Code 8 – Universal Design: Promoting Interactionism Between Manufacturers and Caregivers (Coding References: 44, Items Coded: 14)

Coco et al. (2018) emphasises the importunity among caregivers who desire the requisite empowerment to provide their input in the design of digital technologies and robots so that they can be utilised and administered with the expertise of carers and health professionals. Thus, caregivers must be permitted to participate in a high degree of interactionism with digital health technology manufacturers to realise this eventuality and to

transmute their expertise into tangible affect through the utility of these devices in the performance of their roles.

Code 9 – Prerequisites for Digital Technology: Participation of Older Adults in the Design Process, Combatting Loneliness, Reducing Fear of Devices and Services Through Their Utility (Coding References: 27, Items Coded: 11)

Peek et al. (2016) outlines the prerequisites for successful integration of digital technologies for older adults. Amongst these requirements is the desire for digital technologies to favour the wishes of the user whilst also providing person-centred care. To this end, caregivers also foresee a role for older adults to participate and provide their input in the design, integration and implementation of digital technologies to ensure their acceptance and uptake (Ibid.).

Code 10 – Human Rights, Professional Ethics and Autonomy: Guiding Principles and the Integration of Digital Technology in the Care of Older Adults (Coding References: 9, Items Coded: 4)

Young and Tinker (2017) refer to ethical and human rights principles that govern caregivers in the discharge of their duties of care. Caregivers are especially concerned that human rights, ethical practices and person-centredness, are transmuted into the design and implementation of digital technologies. As such, carers support the involvement of older adults at every stage of the process and place a high value on their opinions on the integration of digital technologies and robotics in healthcare.

Appendix (N.)

Coding the Hierarchical Node: Fiscal Considerations and Market Gaps

Table 4. Qualitative Coding Scheme – Node Hierarchy 4 - 'Protecting the Carer and the User'

Dominant Discourse	Hierarchical Node	Thematic Codes	Example	Frequency

Political Economy / Free Market	Fiscal Considerations and Market Gaps	Fiscal Challenges - Concerns over Rising Healthcare Costs	"The increasing health service demand driven by the aging of the global population calls for the development of modes of health service delivery that are less human resource–intensive", (Askari et al., 2020). (…) "In the Netherlands, for instance, older adults form about 20% of the total population while accounting for approximately 80% of total health care expenditure", (Ibid.).	107 (16 Files Aggregated)
Political Economy / Free Market	Fiscal Considerations and Market Gaps	Digital Technology and Cost Mitigation - Boosting Efficiency of Care Sector	"(…) policy makers are considering increasing human resource productivity, as facilitated by the factor of production technology (…)", (Askari et al., 2020).	75 (13 Files Aggregated)
Political Economy / Free Market	Fiscal Considerations and Market Gaps	Procurement and Upkeep of Digital Technology - Specialist Expertise Needed in Care Sector	"The environment in which caregivers operate is an extreme and stressful one, and while the gains from incorporating technology into care may be great, so too may be the costs involved in learning to use and adding new technologies into the care context", (Burstein et al., 2015). (…) "However, it arguably creates additional burden on staff, particularly where they have a role to play in locally supporting and maintaining technology as part of data collection", (Donnelly et al., 2018).	65 (6 Files Aggregated)

Political Economy / Free Market	Fiscal Considerations and Market Gaps	Market Gaps - More Opportunities for Digital Products for Active and Healthy Ageing	"(…) it is important for manufacturers to market their products early in order to alert caregivers to the options that exist to support them at different stages of the disease", (Burstein et al., 2015). (…) "To be able to conduct large-scale rollouts, technologists mentioned that companies need to do more research in order to gain a more profound understanding of what drives or impedes technology use by older adults", (Peek et al., 2016).	42 (10 Files Aggregated)

Code 1 – Fiscal Challenges: Concerns over Rising Healthcare Costs (Coding References: 107, Items Coded: 16)

Askari et al. (2020) sheds light on caregiver concerns regarding the rising costs of healthcare and the growing demand for carers in light of steady demographic increases in the numbers of older people. Caregivers are concerned about the fiscal challenges posed by demographic ageing, rising healthcare budgets, and the prospect of acquiring and maintaining expensive digital technologies and systems architectures.

Code 2 – Digital Technology and Cost Mitigation: Boosting Efficiency of Care Sector (Coding References: 75, Items Coded: 13)

Caregivers are anxious about the potential affects of digital technology on organisational efficiency in the healthcare sector. Askari et al. (2020) expands on this and explains that policymakers share the same concerns and are eager for digital technologies to boost human resource productivity. Caregivers share these same goals for digital technologies

and are keen to avoid any adverse effects on their human resource productivity or to incur costs due to inefficient matchings between devices and care environments. In private sector care, these concerns are likely to be even more overarching.

Code 3 – Procurement and Upkeep of Digital Technology: Specialist Expertise Needed in Care Sector (Coding References: 65, Items Coded: 6)

Burstein et al. (2015) emphasises that the potential costs incurred upon a care workforce that is embarking upon the procurement, training, implementation and upkeep of digital technologies might be substantial, whilst the benefits, though they may be great, are not guaranteed. Thus, digital technologies are perceived by the care sector as high-risk, but not necessarily high-reward. Donnelly et al. (2018) explains that the introduction of digital technologies into the care environment may create an additional burden for caregivers who must play a prominent role in supporting the upkeep and maintenance of the devices and services.

Code 4 – Market Gaps: More Opportunities for Digital Products for Active and Healthy Ageing (Coding References: 42, Items Coded: 10)

Burstein et al. (2015) draws attention to the inadequate marketing of digital healthcare technologies towards caregivers, leading to a lack of awareness and knowledge deficits among carers as to the technological aids that exist which could potentially be of use to them and their patients. Moreover, Peek et al. (2016) makes note of the lack of large scale rollouts of digital healthcare technology and advocates an increase in market research among older people and carers to understand what drives their utility and uptake. As such, there are substantial market gaps in digital healthcare technologies, and caregivers have a growing awareness of this fact and are increasingly eager to offer their input and expertise to facilitate the rollout of new person-centred devices and services for older people.

Appendices O – P, Chapter 7: Analysing the Discourses of the ProQuest Central Database

Appendix (O.)

Coding the Hierarchical Node: Digital Divide

Table 1. Qualitative Coding Scheme – Node Hierarchy 1 - 'Digital Divide'

Dominant Discourse	Hierarchical Node	Thematic Codes	Example	Frequency
Critical Realism	Digital Divide	Technology Use for Communication	"(…), many general ICT solutions already exist, such as social networking sites, mobile phones and video chat apps, with some demonstrating effectiveness in reducing social isolation and improving wellbeing of older people (Abdi et al., 2022)."	467 (41 Files Aggregated)
Critical Realism	Digital Divide	Positive Inclination Towards AI Applications and Robotics Among Some Older Adults	"The results showed that participants positively perceived the potential benefits of the robot to support older adults at home, even if the intention to use was low. (Cavallo et al., 2018)".	386 (34 Files Aggregated)
Critical Realism	Digital Divide	Poor Understanding of Digital Technology and Potential Benefits	Some of the main barriers that could influence and predict technology adoption by older people include lack of confidence in digital skills and lack of understanding of perceived value and positive impact of technology on their quality of life (Abdi et al., 2022)."	167 (41 Files Aggregated)
Critical Realism	Digital Divide	Lack of Digital Skills	"This was mainly due to their self-perceived technological incompetency and initial feelings that they were not "tech-savvy"	167 (39 Files Aggregated)

			(Balasubramanian et al., 2021)".	
Critical Realism	Digital Divide	Cultural and Social Capital - Importance of Health, Education, Economic Background, among related determinants.	"Education is a well-known determinant of internet usage, so an educated sample was expected, and the so-called education bias is common in internet- and technology-related research", (Abrantes et al., 2021).	125 (29 Files Aggregated)
Critical Realism	Digital Divide	Digitalisation and Erosion of Personal Autonomy and Agency	"On the other hand, for some people, emphasis on technology may be the "final straw" in their alienation from modern culture, so we need to carefully consider whether, and how, to engage older people in using the Internet", (Jones et al., 2015).	98 (23 Files Aggregated)
Critical Realism	Digital Divide	Low User Involvement in Technology Design	"However, despite many documents discussing the potential of these technologies to support various care and support domains, very few have mentioned the inclusion of older people in the design of these technologies", (Abdi et al., 2020).	80 (23 Files Aggregated)
Critical Realism	Digital Divide	Concerns over Affordability	"(…), cost was identified as a major barrier to the wider adoption of the technology.", (Abdi et al., 2022).	66 (23 Files Aggregated)
Critical Realism	Digital Divide	Geographic and Infrastructural Environment	"In light of the observations made by health professionals interviewed in this remote island case study area about the challenges of using eHealth technologies, this finding highlights the need to ascertain whether, in rural areas, lower use of technology exists because the technology cannot be	53 (16 Files Aggregated)

	used due to infrastructure constraints rather than because patients are not willing to use it.", (Currie et al., 2015).

Code 1 – Technology Use for Communication (Coding References: 467, Items Coded: 41)

Abdi et al. (2022) elucidates upon the multifactored communication platforms that exist within the sphere of digital and ICT technologies. It is important to highlight that, across multiple mediums of digital devices and services, their utility by older people hinges strongly upon the efficacy of these technologies in establishing communications with others and reducing social isolation for the individual user (Ibid.). Patterns of usage surrounding digital technologies tend to vary across age groups. The ability of a device or service to function as an effective and intuitive means of communication with others is a key determinative factor towards uptake and satisfaction among older people. As such, utility of digital technology for the purpose of communicating with loved ones and others represents a keystone requirement for ensuring that older adults formulate positive attitudinal tendencies towards connected devices and services (Ibid.).

Code 2 – Positive Inclination Towards AI Applications and Robotics Among Some Older Adults (Coding References: 386, Items Coded: 34)

Cavallo et al. (2018) emphasises that older people who have been introduced to the concept of utilising digital technologies, services and robots, to live at home for longer and enhance their independence in old age, are generally more amenable to the idea of continuous usage. Irrespective of their individual intention to personally use such services, Cavallo et al. infers that the socio-cognitive predisposition towards digital technologies and robotics among older people tends to improve when they understand that such services can facilitate the independent living of an individual in their own home. In essence, understanding the potential for digital technologies, services and robotics to facilitate independent living is

critical to the formulation of positive socio-cognitive precepts towards these devices among older adults (Coley et al., 2022). However, these precepts are also linked to groups of older people who may have economic and educational backgrounds that render greater their familiarity with digital technology than those with an impoverished socioeconomic status.

Code 3 – Poor Understanding of Digital Technology and Potential Benefits (Coding References: 167, Items Coded: 41)

As mentioned above, the socioeconomic status of older people represents an important pillar of social capital that can determine their perception and understanding of digital technologies (Kokubun, 2022). Oftentimes, older people whose career, education, wealth and geographical location, amongst other factors, may play an important role in influencing individual familiarity with digital technologies and their potential benefits (Konig et al., 2018). Generally, these correlations entail increased awareness towards digital technology among those with a higher socioeconomic status. Abdi et al. (2022) emphasises that individual levels of familiarity among towards digital technologies and services can strongly influence their ultimate uptake by older people. To this end, the social predisposition of older people towards digitalisation is partly stratified along more traditional socioeconomic lines.

Code 4 – Lack of Digital Skills (Coding References: 167, Items Coded: 39)

Abdi et al. (2022) notes that levels of uptake of digital technology among older people is often decided by their existing technological skills or lack thereof. Balasubramanian et al. (2021) points out that older people can feel intimidated by the process of digitalisation, particularly if they feel they are digitally incompetent or insufficiently ‘tech-savvy’ to engage meaningfully with the society and infrastructure around them. This can lead to a fear of digital technology as well as feelings of isolation and depression along with a growing tendency to self-stigmatise. Lack of prior life experience with digital technology within an

environment replete with complex digitalisation can undoubtedly be intimidating and threatening to older people. However, social stigmatisation, coupled with self-stigmatic propensities, further compounds ageist paradigms in the relationship between older adults and digital technology (Magdalena et al., 2015).

Code 5 – Social and Cultural Capital - Importance of Health, Education, Economic Background, etc. (Coding References: 125, Items Coded: 29)

Social and cultural capital play a very important role in determining respective levels of successful uptake of digital technologies, services and robotics among older people. While Abrantes et al. 2021 explains that education comprises a significant determinative factor when considering levels of engagement with digital technologies among older people, other aspects of social and cultural capital play an equally important role in this regard. Economic status can often be decisive with regard to levels of digital engagement among older adults, as many who are impoverished may lack the financial means to access a device or service and, as a result, might never have interacted with connected technologies (Konig et al., 2018). Health status is also critically important, as people who are critically ill or have diminished mental capacity may be unable to engage with digital devices in their current form.

Code 6 – Digitalisation and Erosion of Personal Autonomy and Agency (Coding References: 98, Items Coded: 23)

Jones et al. (2015) succinctly captures how many millions of older people feel towards a digitalising society that, increasingly, requires individuals to have internet access and the requisite digital skills to engage with online applications and services to enjoy an independent and normal life in the modern world. Unfortunately, many older people experience digitalisation as a disempowering phenomenon that has eroded their personal autonomy and agency, curtailing their ability to function as independent persons who can engage with the environment around them. As the digital age comprises a very recent

development, older people have uniformly experienced the decades comprising their formative and adult lives in a predigital era. Thus, the rapid digital transformation of society has radically altered social dynamics of interactionism with which older people were traditionally familiar, leading to feelings of disempowerment and isolation in modern times (Peine & Neven, 2020).

Code 7 – Low User Involvement in Technology Design (Coding References: 80, Items Coded: 23)

Abdi et al. (2020) highlights that there is a significant paucity in the number of development projects for digital technologies that involve older people in the design process of conceiving, trialling and implementing novel connected devices and services. The digital age has witnessed the growth of large-scale manufacturing chains of connected hardware and online services that benefit the younger and economically active user. The vast majority of these capabilities are designed with a view to their use by a digitally proficient generation of younger users who will utilise these devices and services in employment and entertainment, generating significant economic output as a result. Therefore, older people have been largely omitted from the design, development, utility and implementation processes of these technologies, as their demographic was not envisioned nor intended as the primary social body of users (Nthubu, 2021).

Code 8 – Concerns over Affordability (Coding References: 66, Items Coded: 23)

Abdi et al. (2022) identifies financial cost as a significant barrier to accessible digital technologies for older people. In many cases, the pensions or other income of older people is insufficient to enable them to enjoy an adequate quality of life, with old age poverty representing a major systemic problem across the EU. When so many older people are struggling to meet their basic needs such as food, healthcare and a permanent home, access to digital technologies and services are often simply a ’bridge to far’ in monetary terms. To

compound these difficulties, digital devices and services are often expensive. This is particularly the case when considering specialist devices and services that incorporate specific adaptations and accessibility applications for persons with disabilities and older people, as non-standardised technologies can entail further fiscal costs for the end user (Konig et al., 2018).

Code 9 – Geographic and Infrastructural Environment (Coding References: 53, Items Coded: 16)

Currie et al. (2015) cites widespread geographical isolation of older people as a prominent barrier to digital accessibility for older people. There remain many internet 'blackspots' throughout the EU where coverage is poor or non-existent. This is despite the ongoing trends of rapid digitalisation of society and social systems. It has become a practically indispensable requirement to have ready access to digital devices, services and internet connectivity, in order to live a modern life. Online connectivity is required for access to personal finances, payment of bills, communications with others and for most forms of modern entertainment. Older people who are geographically isolated are often entirely excluded from modern digitalised life and they do not benefit from the potentially positive aspects of digitalisation for others who live in urban centres with better connectivity and more frequent access to digital services (Currie et al., 2015).

Appendix (P.)

Coding the Hierarchical Node: Reflection

Table 2. Qualitative Coding Scheme – Node Hierarchy 2 - 'Reflection'

Dominant Discourse	**Hierarchical Node**	**Thematic Codes**	**Example**	**Frequency**
Appraisal	Reflection	Technology for Eudaimonic Wellbeing	"Many found that their social activities increased, and mental health has improved/managed	240 (41 Files Aggregated)

			effectively since using assistive technology.”, (Balasubramanian et al., 2021).	
Appraisal	Reflection	Willingness to Take Part in Technological Interventions and Trials	“Recent reports have also shown that older people enjoy the experience of using technology, are willing to engage with technology-based interventions, and tend to acknowledge its importance as a means to facilitate daily activities and communication.”, (Abdi et al., 2020).	231 (33 Files Aggregated)
Appraisal	Reflection	Need for 'Ease-of-use' and Good Training	“User-friendliness and simplicity are crucial when delivering a solution to someone who is often distrustful of information technologies, usually lacks the necessary patience to deal with them, and does not feel like thinking too much about things”, (Abrantes et al., 2021).	222 (36 Files Aggregated)
Appraisal	Reflection	Desire to Live at Home	“The desire of older people to maintain their independence while remaining at home is boosting the development of ambient assisted living (AAL) solutions.”, (Abrantes et al., 2021)	200 (29 Files Aggregated)
Appraisal	Reflection	Trust Issues with Technology, Monitoring and Autonomy	“Generally, the acceptance of new digital solutions and innovative technology by patients and carers relies on their anxieties and feelings of insecurity concerning the device/technology.”, (Balasubramanian et al., 2021).	165 (28 Files Aggregated)
Appraisal	Reflection	Growing Desire for Health Self-Monitoring	“Both patients and carers had positive attitudes towards using the device. Self-reported benefits included: reminders for medications and	155 (30 Files Aggregated)

			appointments improved adherence and disease control; increased independence and productivity; and for those living alone, the device helped combat their loneliness and low mood.", (Balasubramanian et al., 2021).	
Appraisal	Reflection	Inaccessibility and Poor Optimisation for Physical and Cognitive Needs	"Many older people also face physical changes, such as cognitive decline, memory problems, and motor and sensory changes, that limit their use of available technologies", (Abdi et al., 2020).	125 (33 Files Aggregated)
Appraisal	Reflection	Desire for Discrete Technology Design	"More recently, attention has been focused on exploring the provision of affordable and non-obtrusive ubiquitous sensing technologies in home environments.", (Nthubu, 2021).	100 (15 Files Aggregated)
Appraisal	Reflection	Need for Good Person and Technology Matching for Personalised and Idiosyncratic Requirements	The accurate evaluation of the individual needs and preferences of potential users followed by matching the functionality of the robot to them may ensure greater acceptance and significantly improve the quality of life of end-users.", (Łukasik et al., 2018).	89 (24 Files Aggregated)
Appraisal	Reflection	Fears of Technology Replacing Human Contact	"Older patients' fear of losing closely held personal relationships can also induce depression, causing further rejection of new health care monitoring technologies.", (Magdalena et al., 2015).	59 (18 Files Aggregated)
Appraisal	Reflection	Fear of Stigma	"Elderly people may refuse to wear a health monitor, especially in public, because they fear they will be perceived as	30 (14 Files Aggregated)

	old and weak.”, (Magdalena et al., 2015).

Code 1 – Technology for Eudaimonic Wellbeing (Coding References: 240, Items Coded: 41)

Balasubramanian et al. (2021) explains that older adults have a positive view of digital technologies that can enable them to maintain and enhance their eudaimonic wellbeing. To this end, eudaimonic happiness refers to the quality-of-life satisfaction that they can enjoy through the utility of digital technologies to easily communicate with loved ones and others, manage their personal and private life as well as financial affairs, and to live independently and perform tasks with minimised risks to the corporeal self. Older adults who take part in digital trials often develop a positive attitude towards digital technologies and service platforms that can allow them to live with significant eudaimonic happiness and fulfilment (Ryan et al., 2008).

Code 2 – Willingness to Take Part in Technological Interventions and Trials (Coding References: 231, Items Coded: 33)

Abdi et al. (2020) highlights that older people are increasingly willing to take part in technological interventions and trials. However, this presents a nuanced picture as participants often come from higher socio-economic backgrounds that reveal social capital links to higher income, education and better overall health, and a subsequent willingness to take part in trials and interventions of digital devices and services (Konig et al., 2018). In any case, older people increasingly perceive digitalisation and connected technologies and services as being an inevitable part of modern society and are becoming more amenable to their utility over time. Another reason for this is that older people likely gain more exposure to digital devices and services over time, and as a younger generation transits the threshold of

old age with each passing year, amenability and familiarity towards connected technologies likely increases, albeit at a gradual but commensurate pace.

Code 3 – Need for 'Ease-of-use' and Good Training (Coding References: 222, Items Coded: 36)

Abrantes et al. (2021) reveals that, in many instances, academic literature reports a desire among older people, who have taken part in technological trials, for greater attention to be paid to the development of digital devices and services that are easy to use. Furthermore, older people also express a desire for access to good training from those who can provide them with the requisite skills needed to utilise a digital device. Older adults are particularly desirous that digital devices and services should be easily intuitive (Ibid.), straightforward and very simple to use without the necessity of much intensive cognitive rigour being placed into the task at hand.

Code 4 – Desire to Live at Home (Coding References: 200, Items Coded: 29)

Almost universally, older adults express a desire to continue living at home during their golden years. Abrantes et al. (2021) argues that this commonly expressed wish by older adults to remain at home constitutes a driving impulsion behind the development of ambient assisted living solutions. Older adults place a high value on the ability to live at home and view it as a central keystone pillar to individual autonomy and corporeal independence. As such, they tend to have a positive view of digital technologies, robotics and services, that can enable them to live at home in old age and, thus, avoid reliance upon wardship ministration (Santana-Mancilla & Anido-Rifón, 2017). There is a substantial preference among older people for discrete devices in the home that are easily utilised, and which preclude or minimise the risk of stigmatisation emanating from unattractive design aesthetics (Coley et al., 2022).

Code 5 – Trust Issues with Technology, Monitoring and Autonomy (Coding References: 165, Items Coded: 28)

Balasubramanian et al. (2021) explains that older people often experience insecurity around novel digital technologies as they are frequently unsure of the extent of the data capture capabilities wielded by new devices. As such, it is common for older people to mistrust new technologies that incorporate monitoring functions or autonomous capabilities as they feel that their personal affairs, privacy and financial information could be compromised as a result. This can be compounded when older people feel that they lack the technical knowledge and familiarity with digital technologies to be able to ascertain the extent to which their privacy might be compromised by a specific device or service. As such, a general anxiety persists among older people surrounding digital technologies, with respect to privacy, monitoring and autonomy in particular (Magdalena et al., 2015).

Code 6 – Growing Desire for Health Self-Monitoring (Coding References: 155, Items Coded: 30)

Balasubramanian et al. (2021) identifies the desire for health self-monitoring among older people as constituting a significant driver of digital technology utility and uptake within this demographic. To this end, older people are desirous of technological frameworks, alongside devices and services that will enable them to maximise and prolong their corporeal independence and manage their healthcare. Health self-monitoring technologies and services, including wearable devices, smartphones and tablet computer applications, are all especially valued by older people as they can enable them to oversee and administer their own day-to-day care without depending upon others for monitoring and support (ibid., 2021; Coley et al., 2022). Older people display a generally positive disposition towards digital technologies and services that enable them to practice health self-monitoring, and they value this capacity as an integral component of personal and corporeal independence.

Code 7 – Inaccessibility and Poor Optimisation for Physical and Cognitive Needs (Coding References: 125, Items Coded: 33)

Abdi et al. (2020) highlights the diverse range of disabilities that commonly affect a significant portion of people in older age. Moreover, older adults with physical or cognitive disabilities often report that digital technologies are frequently unsuitable and inaccessible for those with specific health conditions who may require idiosyncratic accommodations to device design. In this sense, older people with cognitive impairments or physical disabilities regularly experience digital technologies and devices as inaccessible and poorly optimised for individual requirements. Since incidences of disability and cognitive impairment increase significantly with age, the matter of accessibility and optimisation for individual use cases constitutes an important determinative factor in digital technology utility, as reported by older people (Coley et al., 2022).

Code 8 – Desire for Discrete Technology Design (Coding References: 100, Items Coded: 15)

Nthubu (2021) emphasises that older adults express a strong preference for discrete technologies that can enable them to live and remain at home in old age. Older people are cognisant of the socio-cognitive importance of design aesthetics when it comes to digital technologies and specialist assistive devices. As such, they are generally eager to avoid social tendencies to formulate stigmatic precepts towards old age resulting from the relationship between older people and traditionally non-aesthetic assistive technologies that incorporate unwieldy and stratifying aesthetic design aspects (Ibid.). Older people often self-stigmatise perceived corporeal immobility and the resultant need to utilise assistive technologies, and this can be further exacerbated when obtrusive devices compromise the aesthetic of a normal home setting. Unwelcome apparatuses with non-discrete design aesthetics can lead to socio-cognitive impression formulation that is connotative of stigmatic precepts towards old age.

Utility of non-discrete technologies that are traditionally associated with old age can contribute to the conception of such devices as comprising a negative, stereotypical and even satirical social hallmark of later life (Magdalena et al., 2015).

Code 9 – Need for Good Person and Technology Matching for Personalised and Idiosyncratic Requirements (Coding References: 89, Items Coded: 24)

Łukasik et al. (2018) gives attention to the evident need for technology design processes that draw upon the individual preferences and requirements of older people. Involving older people in the design process constitutes an essential component of such a framework for accessible architectures and person-centred development of digital technologies. Older people perceive a clear need for high-quality person-to-technology matching processes so that they can benefit from personalised and idiosyncratic requirements. Moreover, they are also aware that older people are rarely included in the design or consultation processes relating to the development and implementation of novel digital technologies. As a result, more older adults are increasingly willing to play a role in the development and implementation of digital technologies and are eager for their feedback and opinions to be listened to by carers, policymakers and manufacturers (Preda et al., 2022).

Code 10 – Fears of Technology Replacing Human Contact (Coding References: 59, Items Coded: 18)

Magdalena et al. (2015) notes that older people, particularly those who are unfamiliar with digital technologies and robotics, are anxious that novel devices and services may replace their face-to-face and personal relationships between the patient and caregiver. Furthermore, this fear can sometimes extend to a broader anxiety surrounding the uptake of digital technology that is centred around a belief that novel connected devices and services will eventually lead to the physical isolation of an older person and could replace their relationships with their friends and loved ones. These concerns can be palpable among certain

cohorts of older people, particularly from those who are unfamiliar with digital technologies (Coley et al., 2022).

Code 11 – Fear of Stigma (Coding References: 30, Items Coded: 14)

Magdalena et al. (2015) explains that older people are sometimes reluctant to utilise connected technologies due to a fear social stigmatisation and the appearance of digital incompetence resulting from lack of familiarity with a device. In addition, apprehension of stigmatisation also extends to a reluctance among some older people to wear or physically utilise certain health technologies, as they express an anxiety surrounding a potentially ageist social appearance as users of such devices. To this end, many older people feel that such devices could lead others to formulate stigmatic impressions of the user as an individual who is old or frail, and therefore in need of paternalistic or 'othering' treatment. Fears of stigma are often correlational with older adults who have low levels of familiarity with digital devices and services (Magdalena et al., 2015).