

WELFARE DIGITALIZATION

“On dominant narratives in Norwegian media”

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SUMMARY

Digitalized and automated welfare systems are not neutral; a reality which is already causing added patterns of global inequality and generating unsustainable outcomes. The study of welfare technologies and digital welfare systems provides a real societal sample in which AI and automated eligibility systems are governing the lives of specific groups, reflecting the potential social reality global automated governance may generate for our species in the future. Aiming to improve the understanding of such potential future reality and contribute to the risk-related literature on digital social work and social sustainability, this study maps and analyses dominant *welfare technology* and *welfare system digitalization* narratives using a novel combination of phronetic social science methods and Posthumanism, i.e. applied posthumanist ethics. Research questions used: (1) *What are the dominant discourses at play in the implementation of welfare technology in Norway, and which tensions can be detected in Norwegian media coverage and debates on contemporary welfare system digitalization trends?* (2) *To what extent can these situated perceptions tell us something about the country's future socio-developmental pathway and its alignment with social sustainability ethical frameworks?* Dominant discourses are shown to be strongly influenced by technocentric and capitalist values, this instead of sustainability concerns. It is revealed that “questions of belonging and who/what gets to count”, with the economic sustainability of the welfare state and increasing welfare digital exclusion as opposing standpoints, are the most pressing ethical tensions deriving from welfare system digitalization in Norway. Rationalized by time and economic efficiency-focused values, technocentric development has taken over the welfare sector. Consequently, the exclusive and power-based developmental pathway Norway is engaging in is neglecting a potential sustainable future reached through shared social wellbeing, thus failing to align with national and global social sustainability ethical frameworks. Additionally, it is discovered that non-democratic high-tech multinationals may be intentionally using the socially friendly Scandinavian countries to boost the global acceptance needed to start introducing bio-tech enhancements on the global private markets. The results highlight the critical need for posthuman perspectives within the Digital Social Work and digital welfare landscapes, confirming the necessity for independent practice-based research. A list of suggested interventions is generated in which Posthumanism and Phronetic Social Sciences are recommended as positive tools to help rethink social welfare practices and generate true sustainable forms of community bonding through affirmative practices.

FOREWORD

While I have had many inspirations to make this dissertation come through, first of all, I would like to thank my supervisor Ingvil Førland Hellstrand, Associate Professor at the Network for Gender Studies at the University of Stavanger, for being the professional and academical motivation I needed. You have repeatedly showed me what good mentorship means and you will always have my deepest gratitude for your excellent guidance and support.

To Professors Oluf Langhelle, Ingunn T. Ellingsen and Ingunn Studsrød at the University of Stavanger, thanks for making the exception I needed to strategically design my curricula in accordance to my topics of interest: social sustainability, digital social work, automated welfare, socio-environmental justice and ethics of care in digital contexts of practice. Thus, I had the pleasure of following the course *Ethical Reflections in Contextual Social Work*. Since this course was not part of my original Master program, I have had the privilege of participating in the two newest Master degrees the University of Stavanger has to offer, the *Master in Energy, Environment and Society* and the *Nordic Master in Social Work and Welfare*. Thank you.

My thanks to Professor Sarah Banks, Director of Postgraduate Research at the department of Sociology of Durham University and author of the book *Ethics and Values in Social Work*, for your engaging lectures and illuminating conversations.

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Thanks to Beatriz Urruticoechea Sánchez, for being the best Social Work teacher I have ever met. You showed me very early that there is a huge difference between unsophisticated social work based on simple thinking and professional social work based on caring and multidimensional social practices. Your lectures were always enriching, and your integrative thoughts made a difference for those ready to move one step forward.

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1. INTRODUCTION

1.1 THESIS OBJECTIVES

“There is a posthuman agreement that contemporary science and biotechnologies affect the very fibre and structure of the living and have altered dramatically our understanding of what counts as the basic frame of reference for the human today. Technological intervention upon all living matter creates a negative unity and mutual dependence among humans and other species” (Braidotti, 2013:40).

The growing use of Artificial Intelligences (AI) within the central areas of our public services, brings with it many ethical questions. Particularly in the field of Social Work, we see how traditional decision-making powers are shifting from the social worker towards increasingly advanced AI's and automated task-based programs. This not only constitutes an increasing risk for the vulnerable spheres of society which social workers affirmed to protect, it also impedes provision of the fundamental relational bases in which the social care and safety nets needed to develop sustainable societies are originated.

The study of digital social work practices within digital welfare systems is exceptionally relevant because it provides a real sample in which AI's, automated eligibility systems and machines are currently governing the lives of specific societal groups, as will be further introduced in the following section. As such, it also helps us to better understand the social reality global automated governance may generate for our species in the future.

With the core objective of starting to address the lack of risk-related literature concerned with digital social work and social sustainability, this research explores the leading tension points deriving from the escalating use of technology within the welfare sector. It also analyses the values at play in algorithmic decision-making, values which are thought to be responsible for the creation of these tensions in the first place. To do so, a located and embedded case study was designed with the aim of mapping contemporary narratives on welfare technology in Norway and tracking the tensions deriving from current welfare system digitalization trends.

Embedded case studies are characterized by containing more than one sub-unit of analysis (Yin, 2003). In this research, three sub-cases were developed using phronetic methods

(B. Flyvbjerg, 2001). These methods set out to attempt to answer four power and value based questions focusing on a specific development in question: “(1) Where are we going? (2) Who gains and who loses, and by which mechanisms of power? (3) Is this development desirable? (4) What, if anything, should we do about it?” (B. Flyvbjerg, 2004:1).

The potential answers for these questions are achieved by providing “concrete examples and detailed narratives of the ways in which power and values work” (B. Flyvbjerg, 2004:1) towards generating a type of development or outcome and with “what consequences to whom” (B. Flyvbjerg, 2004:1). Phronetic methods also aim to generate recommendations on “how relations of power and values could be changed to work with other consequences” (B. Flyvbjerg, 2004:1). “Clarifications of that kind are a principal concern for phronetic research” (B. Flyvbjerg, 2004:1; Rorty, 1994) since they provide “the main link to praxis” (B. Flyvbjerg, 2004:1).

This Thesis explores the increasing digitalization and automation processes the Norwegian welfare system is engaging in through a contextualized study which uses three differing but mutually illuminative media-based cases.

By tracking Norwegian news and media coverage on the topics of *welfare technology*¹ and *welfare system digitalization*, my research identifies the concrete power mechanisms, dominant values and central societal perceptions operating in the Norwegian digital welfare landscape. It also defines where this landscape is situated and where it is being directed to, highlighting the socio-environmental consequences welfare system digitalization and automation are causing. Additionally, it generates suggestions to change the power mechanisms and deficient values identified so that new welfare understandings and practices which align with social sustainability ethical frameworks, can be developed.

The explorations, categorizations and analyses taking place employ differing value-based perspectives. First, the categorization of the dominant discourses at play in the implementation of welfare technology², as well as the meanings associated to them, are obtained in Case Study 1. Secondly, Case Study 2 develops a more specific classification of the multiple tensions deriving from current welfare system digitalization trends in Norway. Lastly, an overall

¹ The concept of “welfare technology” is mainly used in Nordic countries while in Europe “Ambient Assisted Living” (AAL) is preferred (Brynn, 2016).

² In Norway, the concept of “welfare technology” was governmentally made official by the NOU 2011:11

analytical synthesis of the results obtained in the first two cases is assembled using an integrative phronetic analysis of the results, this constitutes Case Study 3.

Subsequently, this practice-based research generates the type of bottom-up, contextualized and ethical knowledge that matters to sustain healthy and diverse political and policy-making processes, using heterogeneously integrated methods that end up benefiting society and democratic cohesion.

Still, even though this project starts to address the concerning theoretical gap surrounding digital welfare practices and their links to sustainability matters, additional innovative, creative and renewed inputs are needed. Particularly, knowing that whereas a notable body of scientific knowledge can be found on the public perceptions, attitudes and behaviours related to public welfare services and private “vulnerability markets”, still too little research is available on the dominant public perceptions linked to the increasing commercialization of the need for implementation of automated welfare systems or digital welfare tools in the welfare sector.

“Technologies of poverty management are not neutral” (Eubanks, 2018:9). The enormous investments being made in public data-driven administrations “rationalized by a call for efficiency, doing more with less, and getting help to those who need it” (Eubanks, 2018:9) are increasingly leading to socio-environmentally unsustainable results.

Thus, the environmental discrimination, the unsustainable organizational patterns and the systemic technological lock-in mechanisms taking place within the fields of digital welfare and digital social work, can be said to have been developed based on the given sets of social and environmentally exclusive frameworks for linear thinking, as will be further introduced later.

Consequently, as shown throughout this project, applying an innovative Posthumanistic perspective towards social welfare can lead to valuable results, especially knowing that the complex processes taking place within the fields of digital welfare and digital social work cannot be entirely condensed to single patterns or units of information (Wolfe, 2010).

These complexities highlight and trigger the need for new ways of thinking which integrate themes such as, for example, biology, ecology, the environment and technology, therewith confronting the traditional anthropocentric and thus, exclusive perspectives, which have dominated the majority of the humanities and social sciences theories until now, including social welfare theory and the subsequent Social Work field.

Posthumanism is a cooperative and integrative branch of philosophy which makes these new ways of thinking available, therewith decentring the traditional notion of the human from the complex relationalities of our present-time (Wolfe, 2010). However, a posthuman perspective towards social welfare or social work, as well as their subsequent digital and automated practices, “does not mean to be indifferent to the humans, or to be de-humanized. On the contrary, it rather implies a new way of combining ethical values with the well-being of an enlarged sense of community, which includes one’s territorial or environmental inter-connections” (Braidotti, 2013:190) and extends to digital and automated welfare contexts as well.

Subsequently, current welfare theories and their deriving practices need to find new forms of ontological relationalities which integrate the natural environment and the living beings constituting it, as well as the digital environment and the subjectivities operating in and through it, all this in an affirmative way.

With the use of posthumanist theoretical frameworks, welfare theorists and practitioners can unfold an “enlarged sense of inter-connection between self and others, including the non-human or “earth” others, by removing the obstacle of self-centred individualism on the one hand and the barriers of negativity on the other” (Braidotti, 2013:190).

Thus, traditional social work values and developments have long been based in dualistic, decontextualized or anthropocentric theoretical frameworks, if not the combination of the three, a ticking ontological bomb in critical need of deactivation. Therefore, in this project, the integrative viewpoints and relationalities offered by posthumanist philosophers, have been applied to automated social welfare practices, whether these automated processes happened in a cognitive, professional or technical sphere. Herewith, the complex analytical interconnections taking place to develop new thinking about automated welfare practices, were sustained by posthumanist frameworks which facilitated the understanding about how the Social Work field has been affected by the heavy influence of years of humanistic-based practices (Snaza & Weaver, 2014; Wolfe, 2010).

Additionally, through the use of a posthuman perspective, the identification of present thought-operational biases became much easier, therewith, offering a way to overcome the deficient ontology which has led social workers and other welfare theorists to the current lack of true contextualized and integrative theory based on values intrinsic to social sustainability frameworks.

Besides, the active combination of a posthumanist theoretical framework with phronetic social science methods being applied to digital welfare narratives, strategically contributes to the generation of sustainable and holistically integrative social welfare and thus, Social Work theory. Here, the findings obtained point towards setting the initial ground needed to activate the multiscale research which is required if we are to, cooperatively, resolve both the theoretical gap Social Work is experiencing and the unsustainable automated welfare practices currently taking place, therewith, enhancing the future of social welfare practices, whether they happen in a physical or digital way.

Thus, through this dissertation, the intention is to develop the Social Work theoretical field in a healthy, integrative and sustainable manner which contributes to expand shared well-being and social connectedness for the living, powering socio-environmental sustainability from a social perspective.

This entails many new possibilities and opens a new theoretical landscape for social work theorists interested in the topics of techno-ethics, automated welfare, digitalization and effectivity, digital communications and new digital care-based practices in times of the Fourth Industrial Revolution.

Since, as Donna Haraway brilliantly said, “It matters what thoughts think thoughts. It matters what knowledges know knowledges. It matters what relations relate relations. It matters what worlds world worlds. It matters what stories tell stories” (D. J. Haraway, 2016:35), this explorative study examines the current dominant public perceptions connected to the stories powering the technological developments taking place within the public welfare sector in Norway.

1.2 THESIS RELEVANCE

In the near past, while effectivity and digitalization were proposed to set a positive path towards a welfare system reform in which contributions to save time and economic resources could help increase the quality of the social services where most needed, this did never really happen (Eubanks, 2018).

At the time being (2019), this pattern seems to be taking place once more. As can be appreciated in the public discourses being developed in some of the world's most advanced welfare systems, such as the Norwegian. Here, key public Norwegian administrations have started to develop rationalized effectivity-focused discourses and measures, such as the overarching quest for the effectivization of the Norwegian Welfare system through an increased focus on digitalization and automation of national welfare services.

Power-based technocentric development can be said to cause increased social and environmental unsustainability. In turn, leading to the same negative forms of societal development which are causing deeper vulnerability patterns and generating deeper disconnection from the true social and environmentally friendly values that have the true potential of generating socio-environmental connectedness and well-being.

Data centers have become the new drivers of our digital economy, serving as the new form of "factory" for our digital age. While their size is variable, there are already data centers "capable of consuming as much power as a medium size city" (Greenpeace, 2017). However, despite a few improvements in transparency, "most companies in the sector were very reluctant to discuss electricity use in any level of detail, as if IT companies had adopted a collective code of silence" (Greenpeace, 2017).

Additionally, many of the components used by these sectors are based on very specific minerals, often called rare earths, which are extracted in poor countries such as Congo and then processed in China before reaching their final markets via high-tech multinationals such as IBM, Apple, HP, Samsung and others (Ma, 2009:3). This does not only add to global warming but also to the suffering, exploitation and depletion of living beings and their shared environment on a global scale.

While I have long been operating within both the public and private welfare spheres, based on the benefits a multidisciplinary approach towards socio-environmental well-being has to offer, the last two years have been extra rewarding in order to further develop these insights and enrich, through them, my area of expertise, the social welfare sector.

By having been enrolled in the first group of students attending the pioneering *Master in Energy, Environment and Society*³ developed by the University of Stavanger (Norway), I have gained extraordinary understandings on the relations between the energy sector, the ICT sector and the challenges digitalization poses to the environment and society. This constitutes the very heart of this Thesis.

I have also developed a more holistic vision on sustainability transitions and on how policy and politics work in differing contexts towards triggering one or another type of outcome. This was the reason making me choose to combine Posthumanism with Phronetic Social Sciences since both fields “work towards a more affirmative approach to critical theory” (Braidotti, 2013:192) in a collective pursuit of developing affirmative politics which benefit both society and the environment. This resembles a novel and beneficial approach which has not been taken advantage of until now, having made me decide to expand it further and generate an innovative contribution to my Master program.

Then, as demonstrated by this project, I have developed my “knowledge of the challenges associated with a low carbon transition, and on how this affects both societal structures and individual lives in an intersectional perspective” (UIS, 2019), with special focus on the Norwegian context and the digital welfare sector.

Additionally, I have had the pleasure to partially adapt my curricula towards my key topics of interest, being allowed to join the course “*Ethical Reflections in Contextual Social Work*” offered by the likewise innovative program *Nordic Master in Social Work and Welfare*⁴, thus, participating in the two newest Master degrees the University of Stavanger has to offer.

Here, I obtained a real glimpse of the state of the art of the ethics and values being taught in the Nordics for global social work practices. To my surprise, in times of the Fourth Industrial Revolution and global warming concerns, I realized that there was a deep lack of environmental

³ See: <https://www.uis.no/studies/master-s-programmes-in-english/energy-environment-and-society/>

⁴ See: <https://www.uis.no/studies/master-s-programmes-in-english/social-work-and-welfare/>

awareness and insufficient reflections on automated welfare practices as well as on the socio-environmental consequences deriving from digital social work.

Returning to the situation in Norway, the critical national vulnerability-loaded data being collected through public “vulnerability-processing” administrations, such as the digital welfare system and operated by private high-tech corporations, may have already been compromised in favour of AI development.

The issues at stake would not be so critical if the private entities controlling the public digital infrastructures (and their activities) would have been democratically elected and, repeatedly, socially and environmentally evaluated. However, as proved by Greenpeace, most of these entities do not even agree to discuss their electricity use (Greenpeace, 2017).

Therefore, it can be said that powerful non-democratic actors have control and run some of the most essential public infrastructures connected to “social vulnerability vs social well-being” sources of information, such as the health, educational and social welfare sectors, without being openly subject of accountability or transparency processes which help clarify for what purposes our data is being collected.

This represents not only the type of deep-rooted infrastructural lock-in mechanism which can end up granting access to extremely sensitive data, it is also a well-designed control instrument which delivers automatic economic benefits given its strategic emplacement, showing how social vulnerability management systems, automated or not, have through the years become a juicy business for dominant technological profit-based organizations. This also implies that, in turn, there is no economic interest for these multinationals to eliminate poverty and other societal issues, since they do obtain massive benefits therefrom.

Accordingly, exclusion and discrimination have, unfortunately, become part of everyday life, therefore, the utilization of “human rights perspectives” with the values they entail, only lead to cause deeper fragmentations in the sense that the notion itself intrinsically infers that there are humans “with rights” and humans “without rights”, generating the very division it seeks to remove. Subsequently, it is not surprising that two main opposing views towards poverty remain alive within our current decision-making spheres, that is, the one which seeks to remove poverty and the one which seeks to diminish it (Eubanks, 2018).

These divisions are directly linked to the dualistic historical roots of social work practice and the human categorizations of “deserving poor” and “undeserving poor” which took form under

the strong influence of the worldwide Eugenics Movement (1900-1940), a scientific (and later political) movement which attempted to enhance our species by better breeding (Allen, 1997).

It is thought that current automated welfare systems may have taken over these biased values (Eubanks, 2018) and that welfare technologies may be serving to cover up the same genetic arguments supporting elitist human enhancement.

Accordingly, engaging in public macro technological implementation processes should be thoroughly evaluated based on nowadays social sustainability standards, since historically-biased values may be rooted in the process and could, therefore, end up being automatically boosted by our newest automated redistributive mechanisms.

In other words, welfare system digitalization and automation processes could end up “effectivizing” discriminatory values and regenerating the essence of the Eugenics Movement instead of increasing social cohesion and well-being in a way that positively affects the environment.

Besides, the increasing automated resolution power our current public systems have gained through automated task-based programs and digital communications, have proved already to not always be able to cope with social well-being and sustainability indicators, especially when related to social vulnerability, welfare and care-based professions.

Welfare System automatization has been experimented with before, such as in the case of Indiana where IBM, the American high-tech multinational headquartered in New York, piloted its first automated welfare system program already in 2006, with such negative societal consequences for the most vulnerable that the experiment was cancelled by the same public authorities responsible for its implementation (Eubanks, 2018). The macro execution of this automated welfare program happened under a context in which the characteristic pro-effectivization discourses had gained leading positions within public discourses due to the likewise familiar background of economic instability (Eubanks, 2018).

In Indiana, digitalization and automation of welfare services not only ended up increasing poverty, it also fostered social vulnerability, augmented already existing patterns of societal division and generated a powerful modern tool for nearly untraceable programmed discrimination. This lead single mothers with Afro-American origins, children, the deaf or the chronically ill (among many others), to be automatically excluded based on the programmed

human values with which the basic elements for this algorithmic decision-making were built (Eubanks, 2018).

At IBM's experiment, the system's goals were clear: "maximize efficiency and eliminate fraud by shifting to a task-based system and severing caseworker-to-client bonds" (Eubanks, 2018:74). The quality metrics for this automated welfare program were based on "economic savings" and the "response time of call centers" instead of being measured based on "case-determination accuracy" (Eubanks, 2018:74). Additionally, social worker-service user relations were thought to be the source of fraud. Something which does not only go completely against the values and practices of the profession, it also undermines the vast potential social workers have to generate positive social change.

In Norway, The Norwegian Labour and Welfare Administration (NAV) is immersed in the most advanced overarching digitalization process the Norwegian history of welfare has experienced.

Being a well-developed welfare state and having such an advanced digital welfare system, NAV should be providing the highest levels achievable of "optimized" social service practices in a way that leads to the achievement of higher shared degrees of social wellbeing, even though this process happens in a digital way. However, there are several aspects which currently seem to be telling a different story.

First, even though Norway is currently ranked as the world's leading country in the Social Progress Index (SPI) it is also highlighted that the country is underperforming when it comes to "access to online governance" (SPI, 2019), an odd fact for a country with one of the most developed internet infrastructures in the world.

Second, the explosion of service complaints⁵ NAV has received the last years highlights the deficient social quality of the digital services the Norwegian welfare system administration is currently providing.

Another critical aspect is that the Norwegian welfare system's central Operative System has been run by IBM technology already since the 1970's. This technology, called System/360 architecture was launched in 1964 and also constitutes the heart of the world's financial system. This means that NAV has one of the more stable technological platforms in the market

⁵ See: <https://www.nav.no/no/Person/Innhold+til+Person-forside/Nyheter/betydelig-%C3%B8kning-av-serviceklager-p%C3%A5-ett-%C3%A5r>

(IBM, 2014) but still, societal division, exclusion, poverty and vulnerability are increasing in the country, especially among children and youth (Backe-Hansen, 2006).

Finally, there is also the fact that Norway is one of the richest and most social and environmentally friendly countries in the world and, following very basic reasoning, no poverty or poverty-deriving issues should be found.

From a global perspective, Norway is currently positioned in a complex political situation. Norwegian society is experiencing international and national pressure towards the de-coupling from an oil-based economy, an economy which is supporting present welfare practices in the country. While this carbon-free transition is beneficial for our species as a whole, if the wrong political decisions are taken under a vulnerable social context and the power and interests of the underlying societal values at play are not thoroughly considered, as history has already shown, exclusive or elitist tendencies may start taking form within the power-based values powering current and future public technological developments in the social sector.

Subsequently, there is a serious need for further research which can help clarify the Norwegian case.

The relevance of this research relies on both the achievement of deeper insight on the Norwegian present indicators of social sustainability, especially when related to the use and implementation of welfare technology and automated welfare systems, and in the identification of the basic power mechanisms that influence the implementation of digital social practices and automated processes. Accordingly, the following research questions were fundamental for this project:

1. *What are the dominant discourses at play in the implementation of welfare technology in Norway, and which tensions can be detected in Norwegian media coverage and debates on contemporary welfare system digitalization trends?*
2. *To what extent can these situated perceptions tell us something about the country's future socio-developmental pathway and its alignment with social sustainability ethical frameworks?*

The construction of these research questions was made in a way that the actual and concrete results obtained by the first one could help nurture the critical reflections deriving from the second. The findings have been subject of social sustainability ethical evaluations and, therewith, a new ground for further social sustainability studies and investigations was set.

This will hopefully contribute to the generation of the extremely needed research input concerned with the values at play in algorithmic decision-making and digital welfare, especially knowing that true integrative social well-being is at stake.

Having developed a clearer view of the critical relevance of this study, not only for the Norwegian welfare sector and its society's social sustainability indicators, but also for sustainability studies as a whole, the next section will be focused on introducing the key contributions this research generates.

1.3 THESIS CONTRIBUTIONS

As introduced in the first section, there is little research on risk-related literature concerned with digital social work and social sustainability topics which explores the leading tensions points deriving from the escalating use of technology within the welfare sector and which analyses the values at play in algorithmic decision-making with the socio-environmental consequences they generate. Accordingly, contextualized case-based contributions are extremely necessary and provide relevant insights.

The identification, categorization and ethical analysis of the dominant meanings and values associated to welfare technology and welfare system digitalization within a given context of practice, is one of the key ways to start contributing to provide the so-much-needed theoretical input. Subsequently, this dissertation expands Social Sustainability and Digital Social Work theoretical fields and identifies potential areas for further research. Additionally, it does so while contributing to the production of the missing risk-related literature focused on the relations between environmental sustainability, social sustainability and digitalized social welfare practices.

By applying a contextualized and grounded case-study perspective concerned with the dominant public perceptions and narratives linked to the implementation of automated welfare systems or digital welfare tools in the Norwegian welfare sector, inherently utilizing the critical insights provided by posthumanist theory, the ontological gap of digital social work practices in Norway will also start to be addressed. Therefore, a larger contribution to Norwegian social sustainability risk-related literature will be made as well as to progressive social work research.

This study also utilizes phronetical methods, an innovative Scandinavian research design framework which, even though its techniques have long been used within the social sciences, has not until recently been conceptualized and organized as such. Phronetic social science focuses on the generation of contextualized research “that matters” (B. Flyvbjerg, 2001) for Social Sciences and society. As such, the phronetic analysis carried out has supported to create the ground needed to nurture the kind of deliberations which can lead to socially sustainable and integrative social change in the areas of concern, one of the principal quests of phronetic social science (B. Flyvbjerg, T. Landman, & S. F. Schram, 2012b).

Since it has been shown that economic vulnerability habitually presses decision-makers towards choices in which technological effectivity focused towards time and economic saving play central roles, and such decisions may be a potential recipe for social disaster, affecting first the most vulnerable and eventually causing higher degrees of national vulnerability through deeper social fragmentation and instability, this research also contributes to responsible politics, ethical policy-making and socio-environmental sustainability using a novel “applied posthuman ethics” approach which results from the active combination of posthuman ethics and phronetic methods.

Here, with the use of a social sustainability ethical framework, the phronetic value-rational analysis of the tensions deriving from the digitalization trends the Norwegian welfare system is currently engaged in, will provide valuable results and findings about the state-of-the-art of digital and automated welfare practices in Norway and their alignment with social sustainability values. The findings can therewith be further presented and discussed in public decision-making fields so that the current use and future implementation of technologies happens in a truly social sustainable way.

The risks associated to the establishment of automated systems in the most essential public administrations, such as the social, health and education sectors, need to be seriously considered, especially before engaging in macro technically-driven social engineering

processes powered by socially unsustainable forces which, at the end, do not only end up harming society but also, through society, the environment. Historically, these implementations have happened before, as such, comparative research can and should be undertaken. This core contribution of my research is to start making that happen.

1.4 THESIS INTRODUCTION

We are said to be in the middle of the Fourth Industrial Revolution (K. Schwab, 2015). Artificial Intelligences, bio-technologies, robotics, the Internet of Things, nanotechnologies, 5G, welfare technologies and e-health directorates (among others), have replaced mechanised cotton spinning, steam engines and coal-based iron making. What the future results of this drastic developments will look like is still uncertain, however, the red signs already existing must be thoroughly researched.

The field of Social Work emerged as a “hybrid” between the private and public spheres because of the widespread poverty and societal tensions deriving from the Industrial Revolution (Parton, 2002). Here, social workers were seen as a positive mediator to help the state to promote the health and development of vulnerable families and individuals, especially children (Parton, 2002:6). Subsequently, if the Industrial Revolution already led entire countries to experience tremendous urban poverty rates and vast socio-environmental issues in the 18th century, giving birth to Social Work, the globally driven Fourth Industrial Revolution should, at least, be projected to have an immense potential of causing new vast disruptive effects on a global scale.

Arguably, “Social Work fulfils an essentially mediating role between those who are actually or potentially excluded and the mainstream of society” (Parton, 2002:6). When it comes to current digital and automated social welfare practices, social workers count with a privileged position as well as a history of practice-based knowledge to help understand the roots of present social issues and prevent more negative outcomes. In particular, this entails knowing that the present socio-environmental context is marked by the negative consequences of past and present industrial and technocentric developments.

Therefore, this research explores social and organisational aspects of one of the most technically focused social implementations of the SDGs within the public sector, welfare technologies, and it does so by using a digital social work practice-based approach.

The strategic selection of a Scandinavian sampling frame such as the country of Norway, could not make for a better case study. Norway counts with one of the most acclaimed welfare systems in the world and is already several steps ahead in public digitalization and automation processes. Furthermore, Norway is not only increasingly implementing welfare technology devices in the individual and vulnerable group spheres. At the time of writing, Anniken Hauglie, the Norwegian Minister of Labour and Social Affairs is publicly stating that AI can make the Norwegian Labour and Welfare Administration (NAV) more effective⁶. This statement comes after Hauglie's recent visit to IBM's headquarters in New York, where the Norwegian delegation was introduced to Watson, IBM's most advanced AI (Aftenposten, 2019).

IBM presented, among others, automated mechanisms for "smart" surveillance of children placed under institutional care in form of intelligent programs installed in the children's phone. These AI's are able to read infrequent facial expressions, tones of voice or words and spot possible dangerous objects present in the child's location and are already being experimented with in America (Aftenposten, 2019).

Accordingly, the leading public perceptions behind Norway's implementation of welfare technology will first be clarified, categorized and analysed. Then, the tension points deriving from the increasing investments NAV is making in automated services and digital communications, will be further explored. Due to the lack of social sustainability literature focused on digital social work practices discovered in the initial literature review, the exploratory scope of the dissertation will have as central purpose to contribute to the development of these theoretical landscapes.

Present-day social and communicational systems are being affected by the ongoing global digitalization and automation trends our species is increasingly committed to. In order to avoid further negative effects to materialize, collective attempts for setting a basic global ethical guideline for our species' responsible and meaningful development, have resulted in the creation of the sustainable development framework.

⁶ See: <https://www.aftenposten.no/verden/i/2Gjy0r/Kunstig-intelligens-kan-gjore-Nav-mer-effektivt--mener-arbeids--og-sosialministeren>

On the one hand, sustainable development is defined as “the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987:16).

However, given our current technocentric context, “the ability to make development sustainable” seems to be increasingly delegated to machines. But this “ability” depends entirely of what is valued and aimed to develop. Consequently, if we value our societies and the environment they depend on, we must start by aiming to sustain socially and environmentally friendly processes and practices in the present, so that these processes and practices can help sustain a socially and environmentally friendly future and, eventually, positively influence machine learning processes.

In line with the democratic values characteristic to phronetic social science, the development of this ability would depend entirely on the type of public value-rationality generated through reflexive exercises in which clarification and public deliberation of specific topics of interest are the central attributes to generate a type of social sciences that matters to both society and the environment (B. Flyvbjerg, 2001).

On the other hand, the idea of sustainable development from a societal scale perspective comes with four limitations:

- Social Organization.
- Technology.
- The environment’s resources.
- The biosphere’s capacity to absorb the effects of our activities (WCED, 1987:16).

While this implies that our societies need to achieve balance between “the given” and “the taken” among and within these four realms (a task which often becomes difficult when communication barriers are in place⁷), it also means that exponential technological development which destroys the environment to obtain the resources needed to produce electronic components, is not sustainable.

⁷ Here, it is important to underline the existence of many different forms and channels for communication.

Additionally, technological organizations and machine learning processes which do not respect social systems and their meanings or believes, ethical deliberations and morals are not sustainable either. Ironically, the sustainability of machine learning processes and the AIs they generate, are completely dependent on the well-functioning, well-being and diversity of the informational systems developed by and sustained through socio-environmental relations, societal connectedness and communication as well as the shared environment they generate.

Thus, to focus on exploring and ethically analysing the dominant public narratives displayed in the media, helps to clarify the current state of the informational environment surrounding and deriving from machine learning processes and the already existing socio-environmental outcomes originating from the increasing use of AIs in both public and private sectors. This provides critical insights on the state of the art of the implementation processes of the digital and automated systems being increasingly implemented at the heart of our public systems, such as the welfare sector.

These digital systems and the AI's controlling the automated procedures with which they function, are likewise responsible for respecting the four limitations for sustainable development (WCED, 1987:16) and must be accountable for a failure of doing so.

While this dissertation may initially seem to be developed based on a rather anthropocentric approach, the values behind this study could not be more socio-environmentally friendly. The relevance of selecting a social sustainability approach relies in the aim to overcome the limitations of the current understandings of sustainable development, in which a "sustainable future" seems only achievable through technological development.

Here is where the posthumanist framework comes in, providing an extended sense of community and shared wellbeing which integrates the environmental and technological spheres into the critical scope being applied to digital and automated welfare processes and their relation to social sustainability ethics, therewith, "working towards a more affirmative approach to critical theory" (Braidotti, 2013) page 192) in which new ways of thinking "sustainable futures" are developed with the active support of phronetic social science methods.

As such, for Social Work, "the end of classical Humanism is not a crisis, but entails positive consequences" (Braidotti, 2013:51). Starting by developing "a robust foundation for ethical and political subjectivity" (Braidotti, 2013:51). Here, in an affirmative and pro-active way, Posthumanism can be a useful tool as will be presented later.

While technological development is necessary to quit our dependency on fossil fuels, an exclusive focus towards this developmental perspective seems to have left the “socio-environmental connectedness” and “socio-emotional connectedness” fronts exposed. Two crucial areas which are elementary for a true sustainable future in which technology learns to respect the four limitations for sustainable development presented above. Now, let us move forward and discover how the use of a posthuman framework can help set the ground needed for generating a truly socially sustainable research.

1.5 THESIS BACKGROUND: FOUNDATIONS OF SOCIAL SUSTAINABILITY

Our “art of crafting”, conceptualized in ancient Greece as “*techne*” by philosopher Aristotle, is intrinsically connected to the present notion of “technology” and “the technical”. Accordingly, while on the one hand high-tech can be seen as our species’ most advanced and organized art of crafting, on the other hand, technological projects need massive amounts of materials and activities to materialize, as well as massive amounts of information and energy to sustain the processes which allows them to function, especially, when they function on national and global scales. Subsequently, our shared environment is being affected by unprecedented “socially-driven” environmental alterations and biological destructions, also known as “Climate Change”.

While there is no doubt that human activity is causing global issues, what I would like to highlight is the need to identify which activity or activities we are talking about so that preventive measures or entire readjustments can be undertaken, this includes the welfare sector and its current technocentric developments.

Posthumanistic theoretical frameworks are up for the task, as Braidotti puts it, Posthumanism is a “generative tool to help us re-think the basic unit of reference for the human in the biogenetic age known as *Anthropocene*, the historical moment when the Human has become a geological force capable of affecting all life on this planet. By extension, it can also help us re-think the basic tenets of our interaction with both human and non-human agents on a planetary scale” (Braidotti, 2013:5-6), which includes our relations with the non-human agents

powering automated decision-making tasks in digital welfare processes, as well as the devices, systems and robots being employed for social, care and welfare purposes.

The term *Anthropocene* is extremely influential in environmental and sustainability studies and was coined by Nobel Prize winner Paul Crutzen in 2002. This definition “stresses both the technologically mediated power acquired by Anthropos and its potentially lethal consequences for everyone else” (Braidotti, 2013:66).

According to Haraway, from a scientific point of view, systems engineer Brad Werner makes a quite simple and crucial point: “global Capitalism has made the depletion of resources so rapid, convenient and barrier-free that ‘earth-human systems’ are becoming dangerously unstable in response” (D. Haraway, 2016).

Once understood that the real problem behind climate change is the unending fight for “power” and that the control of resources is the key for the status quo of our current technocentric and profit based markets, social sciences are more needed than ever, especially, to clarify the mechanisms of power leading our societies to the current scenario.

Thus, as Braidotti argues, “contemporary capitalism is bio-political in that it aims at controlling all that lives” (Braidotti, 2013:95) and has turned into a form of “bio-piracy” that plunders nature and knowledge (Shiva, 1997). However, new forms of “plundering” are taking form in our digital age, “data banks of bio-genetic, neural and mediatic information about individuals are the true capital today” (Braidotti, 2013:61), as the article “*Norge trenger en bank for datagullet vårt, og det haster*” [Norway needs a bank for its data-gold, urgently] being published in the newspaper Dagens Næringsliv⁸ at the time of writing (2019), clearly shows.

Additionally, we are “undertaking risk analyses not only of entire social and national systems, but also of whole sections of the population” (Beck, 1999; Braidotti, 2013:61). Digital welfare systems are a clear example of this practice, since their digital data mining procedures often include “profiling practices that identify different types of characteristics and highlights them as special strategic targets for capital investments” (Braidotti, 2013:61), as the proliferation of welfare technologies focused towards vulnerable individuals or vulnerable groups proves.

However, even though climate change, capitalism and technocentric forms of development are putting our planet at risk, making it easy to fall into negative patterns of vulnerability-loaded

⁸ See: <https://www.dn.no/innlegg/personvern/teknologi/datalagring/norge-trenger-en-bank-for-datagullet-vart-og-det-haster/2-1-609275>

and unproductive criticism, Posthumanism proposes the creation of a “new transversal alliance across species and among posthuman subjects” (Braidotti, 2013:103) in the sense of generating new possibilities for integrative community building. This helps us rethink ethical accountability using affectivity and responsibility perspectives to generate renewed kinships and shared responsibility, towards both the living and the technological agents we share the planet with (Braidotti, 2013:103).

This clearly highlights that, if we are to contribute positively to a healthy development of our species collective well-being and, as such, start positively affecting the environment we all depend on, we first have to become capable of sustaining and reproducing our very own complex individual system in a way that leads us to achieve a meaningful life and share it with others. As such, to truly understand critical posthuman perspectives, it is necessary to start by applying a posthuman frame of self-reference which helps us to disidentify from the anthropocentric worldviews that we have, over centuries, become accustomed to. Therewith, we have to start to truly make justice to the complexity we are immersed in. This is especially relevant to theorists and professionals within the welfare sector, since social well-being is only achievable if a healthy and biodiverse environment is in place.

A critical posthuman subject is, therefore, embedded “within an eco-philosophy of multiple belongings, as a relational subject constituted in and by multiplicity, that is to say a subject that works across differences and is also internally differentiated, but still grounded an accountable” (Braidotti, 2013:49). This accountability extends directly to the digital spheres and the technocentric developments making them possible, since it is this type of developments which is putting the environment and thus, the living beings and societies depending on it, at risk.

The beautiful, complex, mutable and multi-scalar processes taking form within these subjects generate posthuman subjectivities. These subjectivities have the capacity to express “an embodied and embedded and hence partial form of accountability, based on a strong sense of collectivity, relationality and hence community building” (Braidotti, 2013:49) and provide the combination of elements and processes needed to start co-generating a shared meaningful existence, well-being and a sustainable future.

Therefore, it can already be said that the first mistake being made by sustainability studies is to connect the idea of social sustainability to our species physical existence, while our species physical existence depends entirely on environmental sustainability and the wellbeing of the many species constituting it.

Consequently, it is through community bonding, respect, shared well-being and social sustainability work, that we have the largest global potential of beginning to solve the negative issues deriving from Climate Change. This can be done by utilizing posthuman bottom-up contextualized perspectives and collective rejections of the outdated human values which have led our species to this situation in the first place.

A good place to start is to clarify the socio-environmental effects that technocentric developmental focus towards societal wellbeing might have. Therewith, the unsustainable and biased human values currently governing vulnerability-loaded technological developments, could start to be categorized, analysed and reassessed based on updated socio-environmental sustainability ethical frameworks for socio-environmental welfare. My research starts to do so, therefore, in the next section, we see how located knowledges such as the one provided by social work professionals, can contribute to generate the critical and affirmative information needed to initiate this macro-cooperative process.

1.6 SITUATED KNOWLEDGES: SOCIAL WORK AS A KEY SUSTAINABILITY ACTOR

In line with Braidotti, and having utilized her Posthumanistic framework of thought to approach my own background in social work, I must frankly say that I am not satisfied with the current state of the art of the Social Work field, its humanist and thus, anthropocentric worldviews and its Eurocentric developments, such as the profit-based technocentrism being explored and ethically analysed throughout this research.

As such, the technocentric development of the Social Work field, which I have experienced at first hand, together with my environmental concerns and my critical standpoints towards the current capitalistic worldviews of the social work profession, have led me to a posthuman framework of reference and thus, to an increased attention to the situated knowledges that social workers could provide to sustainability fields.

Therefore, I believe that my social work background combined with posthumanist critical thought, makes better justice to my interests in energy, environment and society and the

existing interconnections among these complex arenas and the welfare state, starting by the increasing energy consumption digitalized welfare procedures are generating, as has been introduced earlier.

Accordingly, for the purpose of this dissertation, I will start exploring digital social welfare practices using the following social work ethical principle as professional guidance.

“Principle 8: “Ethical Use of Technology and Social Media”

8.1 The ethical principles in this Statement apply to all contexts of social work practice, education, and research, whether it involves direct face-to-face contact or through use of digital technology and social media.

8.2 Social workers must recognize that the use of digital technology and social media may pose threats to the practice of many ethical standards including but not limited to privacy and confidentiality, conflicts of interest, competence, and documentation and must obtain the necessary knowledge and skills to guard against unethical practice when using technology.”

(IFSW, 2018)

However, social work conventional ethics are strongly marked by the individual self-centred reflection of “what makes a social worker a good social worker”. This has, through the years, been partially resolved with the use of a virtue-ethics approach based on Aristotle, a rather individualistic Kantian approach or a more capitalistic-redistributive Utilitarian approach towards Social Work and social workers values, generating exclusive-based developments characterized by their anthropocentric and linear modes of thought.

Thus, unfortunately, it can be said that moral elitism has been and still is a major characteristic feature of present mainstream social work practices, extending as well to the digital fields. Accordingly, to be able to recognize and guard against unethical practice, social workers need to start by rethinking the values which currently power their theories and practices.

Even though social workers can become extremely relevant sustainability actors, especially, given their strategic access to located information to nurture sustainability assessments, it is extremely important to underline that, in order to start doing so in an affirmative way, the field of Social Work is in need of removing self-centred and individualist modes of critical thought. Social workers and welfare theorists must start to include the natural, environmental, individual, collective and technological spheres into their ethical and critical worldviews, as well as the relations linking them. Given that, as presented in the introduction section, “Social Work fulfils an essentially mediating role between those who are actually or potentially excluded and the mainstream society” (Parton, 2002:6) and also that Posthumanism has been described as a “philosophy of mediation which offers a reconciliation of existence in its broadest significations” (Ferrando, 2014:29), I could not find a better combination to start generating new Social Work theory which does account for the complex issues of our time and generates inclusive and socio-environmentally friendly knowledge to sustain future practices.

While my project’s focus is towards technological development within the Norwegian welfare sector, this interest arises from a very special space, namely, my 10 years of professional practice as environmental social worker in Spain. Yes, you did read correctly, Environmental Social Work exists and does take place, and it does so with extremely positive socio-environmental consequences.

Let me clarify my point, through the years I have developed a rather unusual professional background for what is often considered a “typical social work profile”. I have done so by integrating the environmental and natural spheres as the essential factor for affirmative community bonding and socio-environmental wellbeing in, what can be defined as a posthumanist practice.

More concretely, I have actively developed environmental protection activities which engaged different groups within local communities in southern Spain. While most of these communities were often considered as “socially-limited” or even “dangerous” by other social groups within the Spanish socially unequal and elitist context.

However, these excluded individuals, groups and communities showed a tremendous ability for positively engaging in shared socio-environmental activities which did not only contribute to protect endangered plants, animals, coastlines and different microenvironments, but also did generate affirmative community bonding through respect for nature and connectedness to each other.

Most recently, I decided to develop a more traditional facet of my profession and became, in my spare time, a medical social worker in Norway. However, the daily use of welfare technology designed both for health and for communicational purposes, opened a completely new world for value-based deliberations to me.

This time, instead of the imposed economical limitations deriving from politically corrupt budgets for welfare-practices characteristic of the Spanish socio-political and economic context, the use of technological devices or the digital contexts for professional digital “social” communications (if they can even be defined as such), hindered what I like to see as a fundamental value of true social work practice, namely, the relational contact and care that social workers deliver.

Within a new socially vulnerable context marked by the increasing unemployment and digital exclusion the Fourth Industrial Revolution is causing (Peters & Economics, 2017), and within a professionally vulnerable context characterized by the current macro digitalisation processes being developed-by and implemented-in the public services of modern countries, I came to realize that digital welfare practices and automated processes were creating new forms of exclusion and digi-social stratification based on data, technological skill and access to technological resources, and that these consequences could already be noticed on individual, regional, national and international scales. Consequently, new ways of thinking were extremely needed.

However, working within the Norwegian digital welfare context, I soon discovered that technocentrism was as deeply rooted as the traditional cold slice of bread with the nearly frozen slice of brown cheese on top of it.

Digital exclusion and societal stratification based on data, technological skill and access to technological resources must start to be seriously considered and it must be done so based on socio-environmental sustainability frameworks. The social insights provided by social workers situated within digitalized contexts of practice and involved directly in digital social work activities, are essential to develop the critical knowledge needed to support sustainability transitions. This is what makes Social Work a key sustainability actor. This is also what makes the knowledge provided by social workers more needed than ever.

Therefore, I want to emphasise that social workers must seek to develop abilities for complex thinking which take into consideration the power mechanisms operating between and within the technological, social and environmental spheres. As presented before, Posthumanism can

offer relevant support to initiate and develop this process. Thus, (re)thinking sustainability through a posthuman perspective is the best way social workers have to address the processes of welfare digitalization and automation taking place.

Then, for the consequences of the socially engineered technological issues being caused by the Fourth Industrial Revolution and its technocentric developments, if preventive measures in line with the values represented by social sustainability and environmental sustainability ethical frameworks are to be set in place, more practice-based social sustainability research needs to start being developed.

To start this process, social workers need to understand their contexts of practice which, in my case, has developed within the exclusive, opportunistic and power based capitalistic values presented in the former section.

To conclude, since the versatile but often ignored field of Social Work has the privilege of counting with first line historical and practice-based insights for the development and implementation of real social sustainability values, and also counts with key knowledge related to the central aspects of practically all Sustainable Development Goals⁹ (SDGs), if information is extracted and applied correctly, social workers could finally become central actors within sustainability transitions and cooperatively generate positive effects for future socio-environmental well-being.

Additionally, social workers could contribute to develop strategic contextual-dependent evaluations focused on the assessment of the social quality and effectivity of the gradual implementation of sustainable solutions and welfare focused practices, delivering first-hand critical observations for future adjustments.

⁹ See: <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

2. CONTEXTUALIZATION

2.1 WELFARE DIGITALIZATION AND AUTOMATION: ORIGINS

At the time being, we define our welfare states as “a state in which organized power is deliberately used (through politics and administration) in an effort to modify the play of market forces in at least three directions; first, by guaranteeing individuals and families a minimum income irrespective of the market value of their work or their property; second, by narrowing the extent of insecurity by enabling individuals and families to meet certain “social contingencies” (for example, sickness, old age and unemployment) which lead otherwise to individual and family crises; and third, by ensuring that all citizens without distinction of status or class are offered the best standards available in relation to a certain agreed range of social services” (Briggs, 2000:14).

However, in the most advanced welfare states, this “organized power” is increasingly being exercised by complex bio-technological infrastructures, digital communications and automated processes. Here, I am not talking about e-mails, phone calls and digital formularies for reduced paperwork and increased economic effectivity but rather about how, today, “automated eligibility systems, ranking algorithms, and predictive risk models control which neighbourhoods get policed, which families attain needed resources, who is short-listed for employment and who is investigated for fraud” (Eubanks, 2018:3). These automated systems and task-based programs have long been sold and integrated to the world’s most advanced welfare states, such as Norway.

In other words, in both fully automated or hybrid welfare systems, AI’s are, in many ways, already deciding who gets to count and who does not. These artificial decisions are taken based on a set of given human values and the deriving algorithms resulting from the combination of these values with the digitalized information of past case-based resolutions (Eubanks, 2018).

This constitutes the base of current ranking algorithms which, through time, historical information, genetic information as well as complex sets of behavioural data, are generating predictive risk models and bringing AI’s into life.

Prior to the automated welfare services, there were centuries ago workhouses and poorhouses for poverty relief. In America, this was followed by the Scientific Charity Movement introduced in the 1870's. Around 1900, Eugenics was embraced in several countries, a story which ended up badly. The first digitalized welfare databases were started in the 1970s and led to the generation of the first automated welfare programs where Indiana's 2006 automated welfare system experiment is a thought-provoking example. But the roots of the digital database used to develop automated eligibility programs go back to the previous history of workhouses and data collection practices of the "scientific charity" (Eubanks, 2018). In this section I will go briefly through this history.

Every ancient and organized form of social welfare practices has been rooted in culturally or religiously driven vulnerability mitigation and social care practices. However, in the Western world, these social practices would end up being transformed into welfare policies and managed as political matters when, in the 20th century, the negative consequences of industrialized societies became such a massive structural issue that they started to be perceived as a national risk. This risk had enough potential to cause governmental failures as well as pose a threat to the status quo of the epoch.

Modern welfare states are shaped by their antecedent social values and their deriving policy forms. One of these is the Poor Laws, which played a central role for poverty relief since their earliest form, the Elizabethan Poor Laws, codified in England 1597-1598 (Encyclopaedia Britannica, 2019).

Elizabethan Poor Laws "were administered through parish overseers, who provided relief for the aged, sick, and infant poor, as well as work for the able-bodied in workhouses" (Encyclopaedia Britannica, 2019). Workhouses were the earliest form of district-based institutions, publicly designed to employ able-bodied paupers and indigents who, through hard work, would be entitled to receive public sustenance (Encyclopaedia Britannica, 2019).

Workhouses can, therefore, be said to be the origin of our present communal social services and were found in England from the 17th to the 19th century, as well as in other countries such as the Netherlands or Colonial America, where they were known as "Poorhouses" (Encyclopaedia Britannica, 2019). They were also found in Norway.

The essence of the Elizabethan Poor Laws rapidly extended their influence throughout the western world, where they were maintained with some changes and in different contexts, until after World War II¹⁰ (Encyclopaedia Britannica, 2019).

Despite the positive predictions made for these public institutions, in which the underlying idea was that, through economical and humanitarian support, the bases needed for poverty relief would be set, the truth is that workhouses and poorhouses ended up truly horrifying the poor and working class people of the time (Eubanks, 2018:15).

In England, the workhouse's original focus on poverty relief collapsed during the 18th century, when the values associated to the poor ended up turning workhouses into some sort of mixed human garbage cans in which all types of paupers were collected, no matter age, condition, neediness, criminal acts or health conditions (physical and mental). This made hard to differentiate the purpose of these institutions from the one of prisons or houses of correction (Encyclopaedia Britannica, 2019).

In America, where the first Poorhouse can be traced back to 1662, Boston, it would not be until the 1820's when the same value-based degenerative processes English workhouses had experienced already, would lead to the imprisonment of the poor in public institutions as a normalized procedure. This became later "the nation's primary method of regulating poverty" (Eubanks, 2018:17).

Poorhouse scandals made clear the inhumanity and disrespect vulnerable people were treated with. A clear example was the case published in the New York Times in 1879. The newspaper "reported on its front page that a "Poorhouse Ring" was selling the bodies of deceased residents of the House of Industry to county physicians for dissection" (Eubanks, 2018:15).

While the encaging and dissection of the poor has long been abolished, digital remainders of these activities still govern our digital welfare landscapes. Data mining, for example, as well as predictive analytics and automated decision-making processes, show a notable similarity to the workhouses and poorhouses of the past (Eubanks, 2018).

Returning to Briggs and his definition of a welfare state, the first two points of guaranteeing a minimum income and narrowing insecurity can be partially accomplished with the use of public resources. Here, specialized public organizations working towards poverty mitigation would provide support to individuals, families and communities in distress, tasks increasingly being

¹⁰ See: <https://www.britannica.com/event/Poor-Law>

accomplished through digital tools, yet, the third point implies the implication of the idea of “optimizing” the quality of the Social Services which are being delivered as a way to achieve a shared degree of social wellbeing. This, instead of the older idea of “minimizing” the delivery of social services to reduce expenses (Briggs, 2000). Therefore, in times where our species’ wisdom and knowledge-production practices are being questioned (Braidotti, 2013), practice-based knowledge such as the one provided by social work practices is more needed than ever.

Additionally, this newer definition of “welfare state” is “concerned not merely with abatement of class differences or the needs of scheduled groups but with equality of treatment and the aspirations of citizens as voters with equal shares of electoral power” (Briggs, 2000:15).

For well-established democracies and welfare states in the world these concerns may seem rather obsolete and may, therefore, be taken for granted. However, it is still important to underline that, just a few generations ago, the de-coupling of the notion of “welfare” from its old associations to poor-law stigmas, would lead to extremely controversial debates about both poverty and the poor’s value.

In Europe, a clear historical example is the documented social reactions to the 1906 Education (Provision of Meals) Act in Britain, an early school meals policy focused towards solving nutritional issues among vulnerable children so that they could improve their educational results (Welshman, 1997), which produced many negative reactions (Briggs, 2000:12-13).

While, even with such opposition to welfare policies, European governments were getting ready to introduce the first welfare states, in America, a new type of social reform, the “Scientific Charity Movement” had been introduced. This movement can be said to be one of the clearest origins of Social Work as we know it.

“Scientific charity argued for more rigorous data-driven methods to separate the deserving poor from the undeserving. In-depth investigation was a mechanism of moral classification and social control” (Eubanks, 2018:21-22) and, same as the poorhouses before, scientific charity ended up controlling poverty management practices until the next macro-economic crisis took place (Eubanks, 2018). Accordingly, it can be said that, even though the movement itself has disappeared, the remains of its methods, values and practices have spread globally through the development of the modern social work profession and now, its digital practices and informational systems (Eubanks, 2018).

The Scientific Charity Movement had a strong focus towards hereditary aspects and “believed that there was a hereditary division among the deserving and the undeserving white poor” (Eubanks, 2018:22). This was influenced by the British Eugenics Movement, in which Sir Francis Galton “encouraged planned breeding of elites for their noble qualities” (Eubanks, 2018:22).

During their years of practice, scientific charity workers turned poor families into “cases” to solve, originating “casework” and, based on these values, exhaustive investigation and data collection connected to the relief applications, was advised and enforced (Eubanks, 2018).

Social Scientists working directly or indirectly for the American state eugenic records agencies, gathered extensive information about the poor. Points of interest were the poor’s behaviour, sexual life and levels of intelligence, among others. “Descriptions like “imbecile”, feeble-minded”, “harlot” and “dependent” (Eubanks, 2018:23) were common, while black people were not even considered to be part of the “white poverty issue”.

Thus, it was the eugenics “elite-primacy” values, which led to the creation of the first database of the poor and, it was the combination of scientific charity casework with eugenic “social-control” values, which originated the informational base needed to develop our current automated task-based welfare programs and systems.

Still, as Briggs (2000) broadly summarized, other than war and more human atrocities, the development of the twentieth century “welfare” history ended up characterized by 5 dominant factors:

- A change of the traditional attitudes towards poverty which led to the abolition of the Poor Laws in democratic societies.
- The detailed investigations of the “social contingencies” which directed attention to the need for particular social policies.
- A closer association between unemployment and welfare policy.
- The development of welfare philosophies within capitalism and the development of welfare practices within capitalistic markets.
- The influence of working-class pressures on the content and tone of welfare legislation (Briggs, 2000:32).

In one context or another, large scale welfare-focused technological implementations rooted in eugenic databases and scientific charity cases, have been strongly developed since the 1970's, when the first digitalized welfare databases started, systemically, to gather and accumulate digital information for managerial and class-based socio-organizational purposes (Eubanks, 2018). However, the entire process started long ago, when the first workhouses and poorhouses initiated the process of entrapping the poor.

As Eubanks would put it, it was in the 70's that the first "digital poor house was born" (Eubanks, 2018:33) and, while at the present time the old poorhouse models do not physically exist anymore, their inheritances remain very much active and alive in the well-functioning automated decision-making tools and information mining systems that work to entrap, encage and control the lives of today's working class and vulnerable groups (Eubanks, 2018:16).

Our newest automated welfare tools are not only fed by the informational values resulting from years of biased, punitive, discriminatory and moralistic views towards the poor, they are also grounded on a power-based system of traditional values, in which extensive examinations of the poor and working class people have created a system of high-tech control and personal scrutinizing (Eubanks, 2018:16).

Even though automated welfare systems and digital social work practices save time and economic resources which, ideally, should be invested in optimizing the delivery of quality social services where they are most needed, the reality is that current welfare system's automatizing and machine learning implementations have already shown to lead to higher numbers of misunderstandings, unethical social work practices and increased social vulnerability, as shown by the consequences of Indiana's experiment in 2006.

However, the clearly unethical social outcomes in Indiana and the costs of the publicly financed lawsuit which followed, were perceived as a lesser collateral damage by the public spheres responsible for the situation. Indiana's actual hybrid eligibility-system, implemented in 2009 (due to the eminent opposition towards the automated system) allows increased contact with public employees, but then again, the hybrid system still "relies on private, automated processes for many core functions and retains the task-based case management which caused so many problems during the modernization" (Eubanks, 2018:76) program.

Additionally, Indiana's current hybrid welfare system has been pointed to by many professional social workers for being the same automated system with a different name.

This reality is reflected through the interviews issued in Eubank's research, where Indiana's caseworkers (social workers), such as Jane Porter Gresham, state that they do not see any change. When the researcher asked why they did not hear more issues about the hybrid system, the answer was alarmingly simple: "experienced workers who knew how it was supposed to be aren't there anymore" (Eubanks, 2018:77).

The silenced stories this answer highlights are well illustrated by Jane Porter Gresham, a retired social worker interviewed by Eubanks in 2015 at Fort Wayne, one of the biggest cities in Indiana. With 26 years of social work practice (1985-2011) her testimony could not be more relevant. Gresham tells that her seniority and long experience were a support in order to hold her job while the automatizing experiment was taking place, however, many of her colleagues ended up burned out, resigning, retiring or relocated (Eubanks, 2018:61-62).

Within the new type of organization, her new tasks were assigned to her by the Workflow Management System (WFMS) leading to a redefinition of her work title to "state eligibility consultant". State eligibility consultants, under the automated system, were not allowed to take the responsibility for a case, a basic feature of social work practice. These cases were not solved in the same region the service user was applying from. Accordingly, social workers received calls from any region even though they were not familiar with the local context of the applicants (Eubanks, 2018:61-62).

Furthermore, with decades of experience, this social worker knew that the people asking social services for support, would often be frightened to do so, but had no other place to ask. Therefore, she stated: "our responsibility as public employees is to make certain that people who are eligible get the benefits they are entitled to" (Eubanks, 2018:61).

Knowing that most of the service users she had assisted through her career were traumatized for one or another reason and, as such, needed not only economic sustenance, but also emotional and social care, she concluded affirming that "reducing casework to a task-based system is dehumanizing for both worker and client" (Eubanks, 2018:62).

Professionals such as Gresham, did not only experience the pressure of the extreme accumulation of cases requesting a hearing, they also witnessed how these augmenting patterns of digitalized and automatized professional pressure, led to mass-denials of legitimate requests, which were tackled under the motto "just reapply" (Eubanks, 2018).

This not only implies a mass violation of the Principle 8 of the 2018 Global Social Work Statement of Ethical Principles (Ethical Use of Technology and Social Media), it also raises many ethical and legal questions about the political responsibility and the accountability linked to the possible social damage resulting from the current digitalization and automatizing of our public systems, even though these processes are developed on a “hybridized” basis.

Today’s increasing governmental focus on automated services and technological implementation within the welfare sector, especially those happening under contexts of dominant economic values focused on economic savings and time-centred effectivity, appear to be, in some ways, leading back to older notions of welfare, in which the minimization of social services and poverty-management based in social-control procedures, played central roles.

Advancements in the fields of machine learning within the public sector are showing some of the same negative consequences already experienced in Indiana, this, in contexts where public welfare has been a long and strong tradition, such as Scandinavia.

Welfare system digitalization, inevitably, implies less professional contact with service users due to increased usage of automated solutions, digital communications and welfare technology.

In Norway, while NAV’s newest hybrid system was taking form after the macro IT failure caused by the Moderniseringsprogrammet (2012-2013), which will be later presented, the social reality digital communications and automatized task-based processes generated got clearly reflected in the 5196 service complaints NAV received in 2015. This number increased to 7035 service complaints in 2016 and reached a total of 13.137 complaints in 2017. This makes a shocking 153% increase of welfare service complaints from the year 2015 to the year 2017 (Velferd Magasinet, 2017; Pengenytt, 2018).

Thus, after having introduced the historical origins of automated welfare systems and examined their original underlying values, we will now move forward to better understand some of the most advanced social contexts they are operating in. To do so, in the next section, some of the key characteristics of the Scandinavian Welfare Model, often considered to be the best in the world, will be introduced.

2.2 THE SCANDINAVIAN WELFARE MODEL: GLOBAL PERSPECTIVES

The notion of the “Scandinavian Welfare Model”, also known as the “Nordic Welfare Model”, can be traced back to the 1980’s, the period in which the concept entered the mainstream vocabulary to define the politics of welfare characteristic to the Scandinavian countries (Sweden, Norway, Denmark) or the Nordic countries (Sweden, Norway, Denmark, Finland and Iceland), habitually ranking among the top ten in the world (Alestalo & Kuhnle, 2017).

The most distinctive aspects of these welfare models are: “high spending, strong universal public services, high social investment, and relatively high equality in gender roles” (Andersen, Schoyen, & Hvinden, 2017: abstract).

According to the latest information provided by the Social Progress Index (SPI)¹¹, a global non-profit organization dedicated to measure the social and environmental health of the world’s societies according to the quality of life of their members and independently of economic indicators, within the Scandinavian countries Norway is ranked as the world’s leading. Denmark follows as number 4 and Sweden as number 11 (SPI, 2019). This ranking was related to the following three key categories and indicators utilized by the organization:

- Basic human needs: nutrition and basic medical care, water and sanitation, shelter and personal safety.
- Foundations of wellbeing: access to basic knowledge, access to information and communications, health and wellness and environmental quality.
- Opportunity: personal rights, personal freedom and choice, inclusiveness, access to advanced education. (SPI, 2019).

Thus, it can be said that the world class quality of the Scandinavian Welfare Model is strongly related to the universalism and equality they effectively exercise within their sovereign territories (Alestalo & Kuhnle, 2017).

¹¹ See: <https://www.socialprogress.org/?tab=2&code=NOR>

Still, it was pointed out that the three Scandinavian countries had two areas in common in which they all were underperforming, both being within the category “foundations of wellbeing”.

First, the “gender parity in secondary enrolment” which, as studies have shown, has broad social, demographical and economic consequences for future welfare, especially, when related to unemployment, salary levels and relationship and family formation patterns (Borgonovi, Ferrara, & Maghnouj, 2018).

Second, the “access to online governance” or e-governance¹², even though all the Scandinavian countries count with extremely developed internet infrastructures and public services.

While the concepts of “e-governance” and “e-government” are still being academically discussed, a clear distinction among the two must be made.

Though both “e-governance” and “e-government” are characterized by the use of information and communication technology to improve the delivery of their services to the public, the notion of “e-governance” can be said to involve two-directional communicational processes. These have the central objective of improving democratic processes and strengthen governmental connections with the public in a way that leads to better public support and services.

“E-governance” is also used by private or non-governmental organizations or associations to generate public governance, just that this type of governance usually comes without governmental authority (Palvia & Sharma, 2007).

“E-government”, on the other hand, implies a top-down communicational approach in which the Internet and the World-Wide-Web are used to deliver public services and governmental information to citizens (UN & ASPA, 2002).

As such, feedback loops have not played central roles for e-government administrations, since decision-making and implementation happens in a hierarchical manner. This is the case for many of the world’s leading welfare systems.

¹² The concept of “e-governance” refers to “electronic governance”.

A clear example is reflected in the article “NAV krever brev i posten eller Twitter-tekst” or [NAV demands letters sent by post or a Twitter text], published in the Norwegian newspaper, Dagbladet¹³, in October 2017.

Here, the Norwegian e-government administration, NAV, responsible to provide the world’s most developed welfare services, is criticised by Norwegian lawyers for issues related directly to their digital services, in which the extremely reduced space provided by their digital systems to send in feedback, concretely, half an A4 page which, if exceeded, does not allow to send in the message, is said to be completely hopeless.

This article states that journalists are one of the few actors allowed to send e-mails directly to NAV. When the journalist in charge of this article does so, and asks about the extremely reduced feedback space, Espen Sunde, Head of NAV’s Communications Department, answers that the meaning of such a reduced digital communication space is to limit complaints so that they stay short and precise. However, the complex social issues these service users usually need to explain do obviously not fit in half an A4 page. Therefore, in other words, the limited and constraint digital feedbacks NAV allows are designed as a control mechanism, as journalist Baugerød Stokke puts it (Dagbladet, 2017).

Besides, the article points out that, even though being in the middle of a very advanced digitalization process, the possibility for sending in a digital complaint to an official case-resolution, still had to be done in paper and sent by post at the time the article was being published. A more traditional control mechanism still used to demotivate and increase the difficulty of complaining, even though this feedback mechanism is a fundamental right of service users.

While the increasing number of complaints has led to increased attention towards communicational issues, and as such, pressed the administration towards finding new solutions, still much work needs to be done.

Strategists responsible for the digitalization process of NAV, are proclaiming the administration’s intentions to move from a hierarchical organizational structure towards a flatter organizational system¹⁴, however, my research will deeper analyse the values at play

¹³ See: <https://www.dinside.no/okonomi/nav-krever-brev-i-posten-eller-twitter-tekst/68819709>

¹⁴ See: <https://vimeo.com/233628961>

behind this increasingly digitalized and automatized process, so that unethical situations can be avoided.

To better understand which leading values are responsible for making digitalization and automatization happen in the world's most advanced digital welfare systems, such as NAV, can prevent the risks of failing in the same historical patterns which already caused so much social suffering and discrimination in the past. To explore the values and perceptions linked to the increasing use of welfare technology, can do so as well.

The concept "welfare technology" is mainly used in the Nordic countries while, in Europe, the term "Ambient Assisted Living" (AAL) is preferred (Brynn, 2016). In Norway, for instance, the definition of the concept of "welfare technology" was governmentally made official in 2011 by the NOU 2011:11, "*Innovasjon i Omsorg*"¹⁵.

Here, with support of a project developed by the Norwegian Association of Local and Regional Authorities (KS) and the Confederation of Norwegian Enterprise (NHO) in cooperation with AALIANCE (Ambient Assisted Living Innovation Alliance), the following definition of welfare technology was reached (Corneliussen & Dyb, 2017):

"Technological assistance which contributes to increased security, safety, social life, mobility and physical and cultural activity, and strengthens individual's ability to tackle every-day's life in a context marked by illness, social, psychological or physical disability. Welfare technology can also function as a technological support for relatives or next-of-kin and provide improved availability, better use of resources and increased service quality. Welfare technology can, in many cases, prevent the necessity of welfare services or institutionalized care" (KS og NHO 2009; AALIANCE 2009; NOU 2011:11: 99).

Most recently, the Norwegian Directorate of E-Health has redefined "welfare technology" as: "a common definition for technical installations and solutions which can improve individual's capacity to remain at home independently and, therewith, contribute to safeguard the life's quality and dignity of these individuals"¹⁶ (Norwegian Direktoratet for E-Helse, 2019).

¹⁵ See: <https://www.regjeringen.no/no/dokumenter/nou-2011-11/id646812/sec9>

¹⁶ See: <https://ehelse.no/velferdsteknologi>

Yet, according to the Norwegian University of Science and Technology¹⁷ (NTNU), within the Nordics, the concept of “welfare technology” stems from the Danish notion of “innovation care”.

In one way or another, as announced early this year¹⁸ (2019), the combination of these technical installations, whether they take place on a macro scale (such as the welfare system automatizing), or on a smaller scale (such as the welfare technology used as surveillance tool in elder homes, among other uses), have already led 4500 public employees to, officially, lose their positions in Sweden. All of them, formerly employed by the Swedish welfare system, Arbetsförmedlingen (Tu.no, 2019).

Of these 4500 layoffs, about 3500-4000 are in positions situated in other administrations than the headquarters in Stockholm, as such, these firings are a clear example of the professional consequences current pro-effectivity discourses and practices have had for Swedish social workers and other public employees (Tu.no, 2019). Centralization, digitalization, automation and effectivization at its highest stages of development...

Thus, developed welfare states may be doing the mistake of basing the development of their digital welfare systems on the current ideal of economic and material wellbeing, while those aspects have long been achieved and are already integrated.

As socially sustainable as such focuses may end up sounding, economic redistribution has long been a central aspect of the world’s most advanced welfare systems. It is not for nothing that the Scandinavian Models are known by their high spending, strong universal public services, high social investment, and relatively high equality in gender roles (Andersen et al., 2017: abstract), as introduced above.

Still, the type of social wellbeing which is founded on power-based material values, such as owning the ultimate digital tools and processes, may be truly hindering the so much needed social cohesion necessary for developing a strong community in which holistic wellbeing and comfort can have positive effects on a shared environment. Now, let us explore in more detail the digital welfare landscape of Norway, the world’s leading country according to the Social Progress Index.

¹⁷ See: <https://www.ntnu.edu/kult/weltech>

¹⁸ See: <https://www.tu.no/artikler/4500-ansatte-mister-jobben-i-sveriges-nav/456781>

2.3 THE NORWEGIAN WELFARE SYSTEM TODAY

Modern Poorhouses, the literal translation of “fattighus”, do currently exist in Norway¹⁹, one of the world’s wealthiest countries, as well as the top leading nation of the Social Progress Index (SPI).

Norwegian wealth derives mainly from its plentiful natural resources and its relatively low population. Agriculture, fishery and mining have long sustained the Norwegian population, however, it was not until the 1950’s that the oil and gas industry started to turn the country into one of the richest nations in the world.

A key element for this positive transformation was the governmental values of the time, which led to the creation of the “Government Pension Fund Global” also known as the “Oil fund”, worth over US\$ 1 Trillion at the time of writing²⁰.

Nowadays, the Norwegian Oil Fund is the “world’s largest government controlled capital fund” (Ryggvik, 2015:4). Its aim “is to ensure responsible and long-term management of revenue from Norway’s oil and gas resources in the North Sea, so that this wealth benefits both current and future generations” (Norges Bank, 2019) and was created “to help finance the Norwegian Welfare State” (Norges Bank, 2019).

Accordingly, Norway’s natural resources play a fundamental role for the country’s welfare system but so do the socially responsible political initiatives the state has put at play through the years.

Another key factor is the engineering and construction skills which made possible to benefit from these resources in the first place (Ryggvik, 2015), skills which at the time being are increasingly being put into work for expansive digitalization and ICT purposes in both the public and the private sector. This is due to the decreasing job prospects within the oil and gas industries, triggered by current global sustainability transitions.

As such, it is not surprising to realise that the Norwegian Welfare System (NAV) has not only become the most powerful redistributive system in the country, it is also turning into one of the largest and most complex public IT projects the country has operated. NAV uses more than

¹⁹ See: <https://fattighusetoslo.no/>

²⁰ See the current worth at: <https://www.nbim.no/>

300 different systems divided into 12 IT core systems. The oldest is known as Infotrygd and was built by IBM in 1978.

The Norwegian Government describes that, “the Norwegian Labour and Welfare Organization is composed of a central agency and elements of the municipal social service systems. The Norwegian Labour and Welfare Organization helps provide social and economic security while encouraging a transition to activity and employment” (regjeringen.no, 2018). However, these “encouragements” are increasingly happening in a digital way.

This administration distributed 1.2 billion NOK daily to service users in 2018 (NAV, 2019). Additionally, NAV, is a central actor within the welfare technology industry, together with other relevant public and private actors²¹.

As formerly introduced, the increasing use of digital communication and the growing implementation of automated processes, even though this has contributed to save considerable amounts of time and thus, economic resources, it has also created an explosion of service complaints never experienced before.

These increasing numbers seem to be telling that care-based practices are currently being neglected by political actors in favour of the often-fancier technical solutions. This, not only in Norway, but all over the world.

However, the gradual task-based automatizing of the public sector (which in the case of redistributive organisms such as the welfare system is often thought to help reduce fraud by cutting the relational bond with service users), added to the increasing implementation of digital communications, are only boosting public and democratic vulnerability levels and, again, they are doing so globally.

This is due to the rising dependence on private software and infrastructures provided by monopolistic and non-democratic actors such as IBM, who controls the IT architecture of many of the world’s welfare systems. Additionally, increasing communicational barriers are being set in place due to the use of digital communications, thus, leading to increased inequality. Then, this inequality is creating deeper patterns of unemployment (Peters & Economics, 2017).

Digital communication will never be fully social communication but rather, a limited, decontextualized and disembodied version of it. Additionally, digital communication does not

²¹ See: https://aldring-og-helse-media.s3.amazonaws.com/documents/NAV_presentasjon_om_Velferdsteknologi_v10_AVB8sCO.pdf

allow welfare workers to develop their full professional skills since it does not allow to utilize professional care-based practices (Mishna, Bogo, Root, Sawyer, & Khoury-Kassabri, 2012; Reamer, 2013a, 2013b).

The world's leading high-tech multinationals do not truly have any sort of economic interest to achieve true social sustainability or social well-being. Their interests are rather materialistic and focused towards strategically placing their privately owned and privately controlled services at the heart of our societies and public services with the only objective of generating the type of dependence which leads to future benefits.

In Norway, this dependency pattern was clearly identifiable in IBM's public reaction towards losing the 200 million NOK "Infotrygd" contract with the Norwegian government in favour of the French IT multinational Cap Gemini in 2007 (Computerworld, 2007).

Here, while the former NAV Director Gunnar Horn was announcing that, even though NAV were very satisfied with IBM's services, they were being pressed to publish the Infotrygd contract at the Norwegian national notification database for public procurement (Doffin), a website which makes it easy for suppliers to find relevant competition in the Norwegian public sector (E24, 2007; Doffin, 2019). IBM stated that, even though they had been providing their services for NAV for a long time and losing this contract obviously implied a loss for the company, IBM did not see this as a dramatic loss (E24, 2007) since this lost contract had happened through a "fair process". Additionally, IBM stated that the company was confident that this did not imply in any way losing future cooperation and contact with NAV (E24, 2007).

Thus, it was not surprising to find that in 2012, the multinational had already regained control over the case-worker support system's contract, this, through the delivery of system maintenance services which, according to Finansavisen, this time ended up being worth 240 million NOK (computerworld, 2012).

While the Norwegian government had tried to cut this structural dependency on foreign high-tech multinationals in the past, first, through the TRESS-90 project carried out in 1990-1996 and then through the Moderniseringsprogrammet, the lock-in mechanism was already too strong.

TRESS-90 was a Norwegian software project which intended to substitute IBM's Infotrygd but ended up being abandoned due to the high costs that technical, organizational and political issues generated, which ended up reaching 1.2 billion NOK (Wikipedia, 2019).

While TRESS-90 was the first IT failure of the history of the Norwegian digital welfare system, the second would end up generating even higher costs and social irritation.

The 2012 - 2013 Moderniseringsprogrammet was supposed to reorganise NAV's IT infrastructures, cutting the dependency on older programs. However, this macro IT project was forced to be stopped when uncontrolled costs exploded, reaching 723 million NOK²². Still, the responsibility for this publicly financed failure has not been made clear. Private IT companies did not take responsibility, while NAV leaders are still stating today that they do not know what went wrong (NRK, 2014).

While there are clear connections with the case of the automated welfare system in Indiana, where politicians ended up suing IBM and claiming breach of contract (Eubanks, 2018), until now, Norway has not implemented a full automatized eligibility system and rather uses a hybrid approach. Still, NAV is aiming towards increased automatizing, as stated by NAV Director Sigrun Vågeng in the 2018 article "*NAV leder an i offentlig digitalisering*" [NAV is leading when it comes to public sector digitalization] (MEMU, 2018).

As such, at the edge of the Fourth Industrial Revolution, sustainable social welfare practices focused on achieving shared social and environmental wellbeing, are more needed than ever, as so are political responsibility and strong ethical and democratic leadership which can see further than the economic, materialistic and often discriminatory values which dominate today's societies.

²² See: <https://www.nrk.no/norge/nav-topp - -kan-ikke-svare-pa-hvorfor-det-gikk-galt-1.12070498>

2.4 FUTURE VISIONS

As Posthumanistic theorists Braidotti and Parisi argue²³, automated cognition is essential to digital capitalism and, subsequently, mere critical theory that blames computation for reducing our specie's thoughts to plain mechanical procedures is no longer enough (Lecture University of Utrecht, 2015). However, in the Social Work field, we seem to have completely jumped over these reflections.

As introduced in the former sections, digital welfare practices and welfare system automation are already deeply integrated and operative in the world's most advanced welfare systems, and they are so in times where Dataism is declaring "that the universe consists of data flows and that the value of any phenomenon or entity is determined by its contribution to data processing" (Harari, 2016:428). These ideas, as far-fetched as they may sound, have already conquered most of the sciences.

Dataism is a new ideology which defends "the objective quantification and potential tracking of all kinds of human behaviour and sociality through online media technologies" (Van Dijck & Society, 2014:198). Subsequently, "Dataism also involves trust in the (institutional) agents that collect, interpret, and share (meta)data" (Van Dijck & Society, 2014:198).

As Van Dijck explains in his 2014 article "*Datafication, dataism and dataveillance*", social interactions are being increasingly quantified and made accessible to third parties. This has created a digital transformation of "sociality" generated or produced by industry, an industry which builds its skill upon the value of data and metadata. Some usual examples of the type of data being generally collected by third parties are: "automated logs showing who communicated with whom, from which location, and for how long" (Van Dijck & Society, 2014:199).

Therefore, at the time being, metadata is no longer considered a useless by-product of digitally mediated communications and online platforms, rather, it has been transformed into a valuable and powerful resource which is exponentially being mined, enhanced and put into work for the generation of new bio-technological products (Van Dijck & Society, 2014: 199).

²³ See: <http://cfh-lectures.hum.uu.nl/automated-cognition-algorithmic-capitalism-and-the-incomputable/>

The new power-based mechanisms Dataism is making accessible through the ground-breaking technologies associated to this movement, have captivated entire industries, politicians, business people and ordinary consumers (Harari, 2016:428) as well. Accordingly, we are now said to be in the middle of the Fourth Industrial Revolution, a time in which data has become the new oil.

While the First Industrial Revolution started with the use of steam power to drive mechanized processes and, therewith, increase production, the Second used electric power and the Third used information technologies and electronics to power automated processes of production, the Fourth Industrial Revolution is characterized by an increasing blending of technologies which is leading to the fusion of the traditional notions and boundaries existing among the physical, digital, and biological domains (Schwab, 2017:2). Here, three key aspects are essential: the exponential speed these changes are happening at, the global disruptions they cause to almost every industry and the deep transformations it is causing to systems, such as governments, managerial sectors or production lines (Schwab, 2017:2).

As Schwab states, “already, artificial intelligence is all around us, from self-driving cars and drones to virtual assistants and software that translate or invest. Impressive progress has been made in AI in recent years, driven by exponential increases in computing power and by the availability of vast amounts of data, from software used to discover new drugs to algorithms used to predict our cultural interests. Digital fabrication technologies, meanwhile, are interacting with the biological world on a daily basis. Engineers, designers, and architects are combining computational design, additive manufacturing, materials engineering, and synthetic biology to pioneer a symbiosis between microorganisms, our bodies, the products we consume, and even the buildings we inhabit²⁴” (K. Schwab, 2015:3; Schwab, World Economic Forum, 2006).

While this changes the way we perceive ourselves as well as it changes our relations, as my research further explores through the narrative (and thus perceptual) focus applied, it also forces our governments to adapt, especially, if they are to avoid the escalating social issues the Fourth Industrial Revolution will bring, such as increased inequality and technological unemployment, among others (Peters & Economics, 2017). Therefore, the study of the public perceptions linked to welfare technology implementation and welfare system digitalization in

²⁴ See: <https://www.weforum.org/agenda/2016/01/the-fourth-industrial-revolution-what-it-means-and-how-to-respond>

Norway, offers state-of-the-art information about how these processes are unfolding and the consequences they are already generating in one of the world's leading welfare states.

However, returning to Schwab, it is important to highlight that his capitalistic values are in line with his position as Founder and Executive Chairman at the World Economic Forum. He believes that the Fourth Industrial Revolution "is already changing our health and leading to a quantified self, and sooner than we think it may lead to human augmentation. The list is endless because it is bound only by our imagination" (Schwab, World Economic Forum, 2006).

Still, present day's poor, to whom a truly endless list of limitations has been set, may strongly disagree with the boundlessness of their own imagination, rather agreeing about the limited reality created by the constraints of their daily economy. They would also agree on how they are currently being perceived as mere quantified selves.

Schwab's statement helps us realise the true informational value our welfare states and welfare systems represent, especially, for profit-based high-tech multinationals focused towards human enhancement, machine learning, AI development and global e-governance infrastructures.

As such, the increasing numbers of "digital poorhouses" being created to entrap psychological, behavioural and health-related information, should not come as a surprise. Neither should it surprise us that this information may later be sold to third parties for dissection once more.

Therefore, the next chapter will introduce two fundamental theories which make justice to the complexity of our times: Posthumanism applied to Social Work and Phronetic Social Sciences.

3. THEORETICAL BACKGROUND

3.1 WHY STUDYING MEANINGS AND PERCEPTIONS?

As has been presented throughout the former chapter, machines, digital devices, algorithms and automated systems are taking over the traditional tasks associated to social workers and the welfare system, and they are doing so at an exponential speed. Thus, the Social Work field is clearly outdated, as so are the dominant meanings and perceptions associated to it.

To map and understand which future developmental pathways our public systems, in this case, our welfare systems may take and to evaluate the risks associated to such developments, the study of the underlying meanings these processes are given becomes an essential source of valuable and necessary knowledge.

However, as everything, meanings are just that, meanings. The information which can be extracted from them is rooted in differing contexts and, as such, the materialization of the future events that the pursuit of such meanings may unfold is limited, mutable and alternate according to how, where and when they are perceived.

Philosophically seen, a meaning cannot materialize without symbolic movement, neither can it exist without an embodiment nor be achieved without time. Consequently, a meaningful sustainable future becomes unachievable without a context, bodies and movements between A and B.

Therefore, to evaluate social sustainability aspects, this study utilizes McKenzie's notion of Social Sustainability as "positive condition within communities, and a process within communities that can achieve that condition" (McKenzie, 2004:23).

It also aligns with his proposed list of contemporary characteristics for a condition to be "socially-positive" or "communally-positive" (A), so that these conditions can, eventually, trigger sustainable futures (B):

- “Equity of access to key services (including health, education, transport, housing and recreation).
- Equity between generations, meaning that future generations will not be disadvantaged by the activities of the current generation.
- A system of cultural relations in which the positive aspects of disparate cultures are valued and protected, and in which cultural integration is supported and promoted when it is desired by individuals and groups.
- The widespread political participation of citizens not only in electoral procedures but also in other areas of political activity, particularly at a local level.
- A sense of community ownership.
- A system for transmitting awareness of social sustainability from one generation to the next.
- A sense of community responsibility for maintaining that system of transmission.
- Mechanisms for a community to collectively identify its strengths and needs.
- Mechanisms for a community to fulfil its own needs where possible through community action.
- Mechanisms for political advocacy to meet needs that cannot be met by community action” (McKenzie, 2004:23).

Additionally, according to the etymology of “meaning”, a meaning can be understood as “an intent” but also as “that point, place or state which is halfway between extremes” (Etymonline, 2017). This, in a mathematical sense, is represented as a “quantity having a value intermediate between the values of other quantities” (Etymonline, 2017). These intermediate values are exactly what this study was designed to look for.

A focus on meanings is relevant not only because varied, grounded bottom-up perspectives offer the possibility of focusing in the tensions connected to current welfare digitalization trends and, as such, give us key insights of the power mechanisms and values operating behind this event, they also lead to the generation of located knowledge which can serve to start new public debates and may improve collective decision making (B. Flyvbjerg, T. Landman, & S. F.Schram, 2012c).

If “time” is added to the equation, knowing that the contextualized study of these intermediate values can offer a more balanced social picture of the state of the art of a process than if

exclusive attention would be paid to its extremes, we reach the following conclusion: a meaning is a situated “intermediate in time, coming between two events or points in time”²⁵ (Etymonline, 2017). Consequently, the critical relevance of better understanding meanings and perceptions, could not be more relevant for accomplishing a shared sustainable future.

Yet, we are facing a serious dilemma, the digitalized information of subjects and the meanings associated to them are rooted in concrete historical contexts, therefore the multiple fragments of past information that AIs are processing and utilizing to develop socio-managerial processes, once stored, become static and thus, unable to change.

This implies that the influence of past contexts, such as the capitalistic and socio-environmentally exclusive values which have led our societies to the current historical setting marked by complex global issues such as biodiversity loss and climate change, among many others, becomes “unending” within digital landscapes. Knowing that the world’s leading public systems are being increasingly operated by algorithmic decision-making processes and the managerial AIs resulting from them, this is a serious matter, since, in order to achieve a sustainable future, our societies and practices need positive and affirmative changes.

Therefore, non-human technological agents, such as AI, cannot be overlooked when it comes to transition studies and sustainability assessments. Consequently, if we now consider our present context from this perspective, we understand, once more, the relevance of the study of meanings for sustainability-related fields, in the way that these values and perceptions can provide the clearest present picture of a certain collective social reality and the events deriving from its practices.

While the standpoint of my research is focused towards digital welfare and social sustainability practices and thus, directly related to the social and technological spheres, it is important to reiterate that the natural environment has not been forgotten nor positioned as being less important or less meaningful than the social environment (or its deriving digital environment). Thus, a posthumanist perspective is actively being employed.

This study assumes that, if new forms of contextualized, bottom-up and grounded knowledges can lead to an increased social cohesion based on the appreciation of difference, on the respect of diversity, and to setting the base for a truly heterogeneously integrated system, the positive effects deriving from this process will positively affect our environment. This includes the

²⁵ Retrieved from: <https://www.etymonline.com/word/mean>

social and the natural one, with all the living beings which constitute it. Thus, new forms of collective meaningfulness and empowerment could be achieved if, from a posthumanist standpoint towards social welfare and digital social work practices, phronetic social science “that matters” is delivered.

One clear example could be the pursuit of new forms of social wellbeing in which multiple, contextualized and collective attempts to connect and engage in the protection of nature, our only truly shared and essential environment, are made. This is also why, my entry point to social work is influenced by Posthumanism.

Therefore, focusing on mapping the perceived risks which derive from any of the newly engaged developmental pathways is vital for sustainability, as so is the assessment of the possibility of generating new forms of negative effects. After all, sustainable development is focused towards finding developments which “meet the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987:16).

Also, the analysis of positive effects generated through one or another decision, plays a central role. Only by knowing what works and what does not, true inclusive social development can be achieved.

Subsequently, the research focus at play in this dissertation is the examination and representation of Norwegian bottom-up perceptions about the tensions deriving from the implementation of automated welfare tools on individual and organizational scales and on how these relate to social sustainability.

The knowledge generated through this process aims to contribute to generate further debates in which the values associated to these public events are reflected upon in more ways than the exclusively economic or technological ones.

This aligns with both phronetic social science and posthumanist worldviews, generating an applied form of posthuman ethics. It also relates to practice-based Social Work theory and their common intention of generating the “type of grounded, contextual knowledge that may be used for making better decisions in the policy areas concerned” (B. Flyvbjerg et al., 2012c:2), as will be presented in the next sections.

3.2 POSTHUMANISM APPLIED TO SOCIAL WORK

Social work operates within the theoretical framework associated to the “psy” complex (Ingleby & control, 1985; Rose, 1985), which includes the fields of psychology, psychiatry, medicine and criminology as well (Parton, 2002).

The “psy” complex denotes “the network of ideas about the nature of human beings, their perfectibility, the reasons for their behaviour and the way they may be classified, selected and controlled. It aims to manage and improve individuals by the manipulation of their qualities and attributes and is dependent upon scientific knowledge and professional interventions and expertise. Human qualities are seen as measurable and calculable and thereby can be changed, improved and rehabilitated” (Parton, 2002:7).

The key objective of these disciplines is the prediction of human behaviour which is essential for modern policy-making, since it provides the scientific-based classification of populations needed to develop regulatory procedures (Parton, 2002). Thus, on the one hand, multidisciplinary has long been a major feature of social work involving differing theoretical inputs such as sociology, systems theory, law and psychology.

However, “mainstream social work has rarely looked to the social sciences purely in a spirit of genuine intellectual enquiry or exploration, searching for new insights and understandings which might in turn lead to new forms of practice and intervention” (Parton, 2002:194).

Therefore, on the other hand, conservatism has long been a driver for the profession leading to managerially enforced partiality of interventions, a carefully crafted process achieved through the intended selectivity of the field’s theoretical curricula (Jones, 1996).

Subsequently, “theoretical selectivity” has been essential to strategically maintain the status quo of the social work profession within the state and then, through the profession, to work towards the reinforcement of the social order (Jones, 1996) generating, therewith, exclusive and thus unsustainable theoretical, professional and social patterns.

As Jones highlights, since “the formation of the School of Sociology by the COS in 1902, for ‘knowledge’ to be selected as appropriate and relevant for inclusion in the social-work curriculum, it must generally support the primacy of individualisation and endorse the prevailing social order” (Jones, 1996; Parton, 2002:192-193). Therefore, critical thinkers have

become a threat for social work (Parton, 2002) and, as Jones clearly describes in his work *“Anti-intellectualism and the peculiarities of British social work education”*, the field has been target of an intellectual purge (Jones, 1996).

As such, most of our present-day social workers as well as their practices, are powered by complex crafted forms of “automated cognition”. The same automated cognition highlighted by Posthumanistic thinkers as being the essential force powering capitalistic practices (Lecture University of Utrecht, 2015), whether these capitalistic practices happen in an environmental, social or intellectual domain.

Another characteristic of social work is its contextual complexity. This complexity is marked by an ambiguous operational sphere among civil society with commitments to individuals and families and the state, with the subsequent legal obligations (Parton, 2002). Additionally, since the 20th century, the dependence on economic resources to develop located and socially beneficial practices, have made social work dependent on its present inter-relation “with the welfare state, which provides its primary rationale and legitimacy” (Parton, 2002:6), as well as the needed economic and infrastructural resources.

Consequently, capitalism, privatization and the present-day restructuration of the welfare system that several developed countries are engaging in (such as Norway), a restructuration caused by the global sustainability transitions, current technological developments, mass-migrations, aging populations and increased technological unemployment, are strongly destabilizing the traditional roots of the Social Work field.

This poses a unique opportunity for those social workers who have generated their practice based on broader understandings and integrative social sciences. Or as Jones puts it, to “those social workers who have determinedly resisted the anti-intellectual traditions of Social Work, who have refused to accept that theory is irrelevant to practice, and have in unheralded fashion created methods and practice strategies which at their very least do not pathologize their clients” (Jones, 1996; Parton, 2002:208).

Here, Posthumanism makes a multi-layered and relational way of thinking available, providing a consistent heterogeneous ground in which to base the so-much-needed critical thinking. Braidotti (2013) proposes the following methodological framework of thought to avoid falling into the exclusive and humanist pitfalls that Social Work has, unfortunately, shown to be strongly affected by. This methodology also offers support to avoid the deep-rooted influence of automated cognition:

- Cartography accuracy, this is, “a theoretically based and politically informed reading of the present” (Braidotti, 2013:164).
- A sense of ethical accountability deriving from the unveiled “power locations which structure our subject-position” (Braidotti, 2013:164).
- The use of trans-disciplinarity and the combination of critique with creative figurations (Braidotti, 2013:163).
- The principle of non-linearity to avoid adopting linear thinking and reach better understandings of the complexity of our times (Braidotti, 2013:164-165).
- The power of memory as an “active reinvention of a self that is joyfully discontinuous as opposed of being mournfully consistent” (Braidotti, 2013:167).
- The strategy of de-familiarization, a “sovereign process by which the knowing subject disengages itself from the dominant normative vision of the self he or she had become accustomed to and evolves towards a posthuman frame of reference” (Braidotti, 2013:167).

Since social work is a macro social-mediation practice affected by a strong ontological and thus theoretical hole, a fact which has made the field easy to manipulate for managerial and social engineering purposes, in our present complex global context, social workers can be said to have (generally) lost sight of whom and what they were meant to defend. I like to see Posthumanism as a great opportunity to embrace the truly social and integrative knowledge which social workers have so long been intentionally hindered to reach and thus fully understand.

As mentioned before, Posthumanism is a “philosophy of mediation which offers a reconciliation of existence in its broadest significations” (Ferrando, 2014:29) Therefore, utilizing a posthumanistic perspective towards social work is thought to contribute to develop sustainability literature.

This time, starting from an environmental perspective and considering that our environment is at risk due to the social inequality and unsustainable practices our species has developed, the analysis of the risks deriving from the implementation of digitalized welfare systems and its deriving digital social work practices and automated procedures, will contribute to the obtention of deeper critical understanding about the roots of inequality and the social issues leading to global warming.

Additionally, by using a posthumanist theoretical framework to sustain my critical reasoning, I will be contributing to develop research which affirms the socially sustainable and healthy development of today's Social Work theory and the profession's future socio-environmentally sustainable practices.

Posthumanism provides an enriching theoretical support not only to the humanities fields but rather to the social sciences in general. The heterogeneous views it originates provide expanded attention towards the "non-human realms" (Wolfe, 2010). Or, in other words, posthumanistic theory makes the natural and digital spheres more relevant to social research, leading to more integrated and balanced results.

If seen from a natural and environmental perspective, the term "speciesism" can be said to have become central for Posthumanistic critical approaches. Speciesism refers to the anthropocentric practice in which our species (or some members of our species) are treated as being superior than other species or groups, while believing this is reasonably justified (Singer, 2009). Hence, applying Posthumanism to Social Work contributes to avoid falling into the characteristic speciesism the field has shown to be affected by.

Still, within the topic and context of this research, it is essential to stick to a critical approach towards cartography accuracy in which we remain aware of the capitalistic influences over current social-welfare arenas. Some authors are using this complex theoretical background to support technocentric and, thus, capitalistic pursuits of technological utopias (Bostrom & technology, 2005). This, using vulnerability and techno-enhancement approaches (as will be later explored).

Accordingly, it is not surprising to see that AIs are increasingly being perceived as "superior" to other living beings and being charged with decision-making tasks within the hearts of the public spheres. This would not be a risk if decision-making would remain a "biologically embodied responsibility" and thus advocate for the wellbeing of the living. Our species' finite biological embodiment offers not only the possibility for accountability, it also (usually) comes with the capacity to understand and generate emotion, to care and to apply a little touch of meaningful irrationality when needed.

That is why it is very important to emphasise that the Posthumanistic intention of disabling the negative values associated to the universal notion of "the human", essential to the idea of "human primacy" and "speciesism", should not be understood as a desire to replace this idea with another form of primacy, "like the one of the machines" (Ferrando, 2014: 29).

Such misperceptions and the subsequent communicational failures deriving from them, affect individuals and, therewith, societies and the environment. This alters our species shared perceptions and systems of meanings, generating thereby the lack of ontology necessary for the digital vulnerability-management market to take deeper root.

These markets depend entirely on information mining and generate power-based profits from the management of negative value-based essences. Subsequently, these “environmentally-deconstructive” values can easily multiply their grasp when artificial and automated communications take over central communicational public spheres.

As such, the lack of ethical attention towards the consequences resulting from the rapid implementation of automated communications in the central areas of our social and public organizations, needs to start seriously being reflected upon, especially, from an individual and collective wellbeing perspective grounded in socio-environmental concerns and based on concrete contexts of practice.

By using a post-anthropocentric perspective such as Posthumanism, social workers interested in sustainability transitions are positively empowered. Not only because their strategic systemic position allows them access to extremely relevant information on both user and organizational sides, but also because they have long been waiting for the right theoretical background to move beyond the imposed self-centred aspects of the profession and the consequent capitalistic, exclusive and efficiency-focused implications this has caused for both the social workers themselves and their service users.

Accordingly, Posthumanism can be a tremendously supportive theoretical tool to empower social workers and welfare professionals ready to initiate positive and shared socio-environmental change. Starting from the most essential aspect, posthuman thought inscribes the contemporary subject, in this case the social worker, “in the conditions of its own historicity” (Braidotti, 2013:189), integrating therewith the critical aspects of present social, environmental and technological spheres into social welfare theoretical reflections, generating more integrated results and better practices.

A good place to start is to begin to generate affirmative knowledge and communications which can contribute to generate these positive changes (Braidotti, 2013). An area which seems to have been tremendously insufficient within the social sciences in the past time (B. Flyvbjerg, 2001).

To do so, social workers must start by critically analysing the socio-environmental outcomes of our socially managerial practices, including those mediated through our administration's technological systems or appliances. As stated in the Report of the World Commission on Environment and Development: Our Common Future: "A world in which poverty is endemic will always be prone to ecological and other catastrophes" (WCED, 1987:16)

To conclude this section, let me look at this from an ethical accountability perspective.

It is clear that the common detached and automated 2-dimensional thinking based on a managerially-intended rational disconnection of the biological and the emotional spheres that social workers have been indoctrinated with, has contributed to create dualistic patterns in our societies (Jones, 1996). These patterns are characterized by divisive perspectives such as the "deserving vs undeserving" or the outdated human rights perspectives (Eubanks, 2018).

The biased data extracted from this social environment is the essential informational base in which intelligent machines are basing their thought-generation processes (Eubanks, 2018). As such, more and more complex artificial intelligences are being developed to cover our physical and social limitations as well as the increasing emotional vulnerabilities.

Now, only by collectively taking responsibility of sustaining our environment and the biological beings which constitute it, will we be a species "worthy" of being sustained. Thus, a social-empowerment focus based on socio-environmental connectedness, wellbeing and shared responsibility is more needed than ever (Braidotti, 2013). By applying a post-anthropocentric perspective towards Social Work, social workers could become "sustainability workers" and finally end up truly contributing to society, the living and the environment.

From a practice-based perspective which starts helping illuminate the leading values intrinsic to current social organizations, policies, politics and social practices and how the results of these values affect social and environmental sustainability indicators, social work comes in. This is what Wolfe would define as "meaning and an event" or "reconstruction of deconstruction" (Wolfe, 2010). A process which can generate needed reorganizations, reformations or complete modifications.

Social Work can take responsibility for developing socially sustainable practices, supporting people towards learning to develop renewed focus and fulfil their aspirations of a meaningful life. For each differing context of social work practice, new forms of socio-environmental responsibility can be achieved, therewith sustaining our shared environment through multiple

and multi-layered located initiatives. Posthumanism has the theoretical elements needed to start making it happen.

Posthumanism is based on compact heterogeneous ontology and has the potential of transforming social work into a truly sustainable practice, starting by providing social workers with the critical thinking tools needed to start overcoming their predominant patterns of linear thinking. The same thought-action patterns which have led the profession to the current systemic lock-in it is experiencing.

By overcoming the anthropocentric and often exclusive values social workers have been taught to follow with new located practice-based and sustained forms of research, new sustainability-loaded theory could start coming into life.

The contextualized knowledge resulting from this intellectually emancipatory practice which Braidotti defines as “the strategy of de-familiarization” (Braidotti, 2013), perfectly aligns with what phronetic social science defines as “knowledge that matters” (B. Flyvbjerg, 2001).

As such, in the next section, we will closer examine phronetic social sciences and how this theoretical background gives the final touch needed to develop a truly sustainable and socio-environmentally friendly research that matters, to overcome current unsustainable and technocentric digital social work practices.

3.3 PHRONETIC SOCIAL SCIENCE

The concept of “phronetic social science” understood as the type of research which aims to concretely exemplify mechanisms and “detailed narratives of the ways in which power and values work in planning and with what consequences to whom” (B. Flyvbjerg, 2004:1) as well as “to suggest how relations of power and values could be changed to work with other consequences” (B. Flyvbjerg, 2004:1) was coined by Flyvbjerg in his work “Making Social Science Matter” (B. Flyvbjerg, 2001). Yet, the term “Phronesis” goes way back to Aristotelian philosophy, in which it played a central role. Aristotle believed in three central intellectual virtues:

- *Episteme*: linked to the modern term “epistemic” or “epistemology” and as such associated to the notion of “scientific knowledge”.
- *Techne*: related to the “art of crafting” and to the modern terms “technical”, “technology” or “technique”.
- *Phronesis*: with no direct relation to any modern word and as such almost extinct in modern language, still, its essence can be associated to the notion of “ethics” (B. Flyvbjerg, 2004; Thomson, 1955).

The Greek philosopher considered phronesis as being the most vital of the three intellectual virtues and argued that the use of virtues associated to phronesis, such as the ability of questioning and deliberating about the values associated to a practice in question (B. Flyvbjerg, 2004; Thomson, 1955) could deliver the needed balance between what Max Weber would later define as “instrumental rationality” and “value-rationality”, the process thought to be the basis of our current societal systems (Thomson, 1955; Weber, 1978).

While phronetic-like methods can be found to have been applied by scholars all over the globe, an organized and specific use of the concept as “phronetic social science” had not been seen before (B. Flyvbjerg et al., 2012c). Therefore, Flyvbjerg argues that, to the extent that a designed event or situation becomes clear, the event in question starts being represented (as well as clarified) by detailed discourses in which the pattern of “who is doing what to whom” (B. Flyvbjerg, 2004:1) can be identified. Then, he alleges that these connections to determined practices, are the main area of focus for phronetic research.

This leads to the questioning of the author’s intent. It seems that Flyvbjerg’s aim is to transform social scientists into political actors, one of the central critiques this approach has received.

Flyvbjerg does indeed deliver the theoretical basis needed for the utilization of an applied empirical-practical approach to doing social science, and he does so with the clear intention of avoiding to rely on the type of social science which leads to social engineering or technocratic procedures designed by experts to generate desired patterns of social actions. Expert-based social engineering, as the author puts it, “is not only problematic but also dangerous, since historically it has led to massive human suffering, especially when applied to large-scale social phenomena and ignoring what Scott (1998) calls *metis* – local, practical knowledge” (B. Flyvbjerg et al., 2012c:2).

Here, it is also important to underline that a technocratic design would mean to aim exclusively for “the subordination of understanding and action to those using technical procedures” (Hewitt, 1983:8). However, it is important to understand that “technocracy is not only or necessary an obsession with technology in the narrow sense of engineering structures and machines” (Hewitt 1983:8), but rather the form in which human systems work towards maintaining the status quo.

Therefore, phronetic social science is better represented than discussed as the specific results of each study do “rely on” and “aim for” entering the public and political spheres (B. Flyvbjerg, 2001; B. Flyvbjerg, T. Landman, & S. F. Schram, 2012a), by aiming to identify shared opportunities for ethical empowerment which, together, can help to find broader arenas for active global resistance. This is done with the use of an affirmative and bottom up approach towards critical theory production (Braidotti, 2013:192-195), and aligns with posthumanist positions and their “pursuit of collective projects aimed at the affirmation of hope, rooted in the ordinary micro-practices of everyday life, as a strategy to set up, sustain and map out sustainable transformations” (Braidotti, 2013:192).

Accordingly, both Phronetic social sciences and Posthumanism strive to improve collective decision-making based on heterogeneous forms of grounded and contextualized knowledges or “situated knowledges”, and are perfectly suitable for being combined. This results in solid and integrative forms of multidisciplinary knowledge which can be further “used for making better decisions in the policy areas concerned” (B. Flyvbjerg, 2004:2).

4. METHODS

4.1 PHRONETIC RESEARCH

Within the fields of social welfare practices and care-based professions, in line with Flyvbjerg, the professional interest behind the topic selected for this dissertation is concerned with “the relationships between rationality and power, truth and politics” (B. Flyvbjerg, 2001:142 and on how these may affect societal development.

Since these influences can often be early identified in public dominant discourses, and these dominant discourses influence our developmental pathways, early risk analysis can be undertaken if the values, meanings and perspectives at play are accurately identified, categorized and evaluated within a given context of practice, ideally, in a way that leads to results suitable of being compared with similar cases or historical patterns.

Seeking to examine, categorize and ethically analyse the current dominant discourses and perspectives at play within the Norwegian welfare sector in a digital age, an embedded case study was developed using phronetic research design. Here, the Norwegian Welfare System and its digital developmental trends were examined with focus on the underlying public perceptions linked to this process.

“From a phronetic perspective, social science works best not when it tries to give us the unrealizable perfection of expert knowledge, such as that which comes from abstract models, but instead when it strives for the "adequation" of what works for any collective as it struggles to decide things for itself. In the public sphere, expert testimony – including the research results of phronetic social scientists – is explicitly seen as only one voice among many and as being balanced by other voices and other knowledge in deliberating about and acting on the specific social and political issues at hand” (B. Flyvbjerg et al., 2012c:2).

Therefore, in this case, Phronetic research methods offer the possibility of doing research without leaving neither the practical nor the practice-based focus aside, as such, the results of this study can be considered to originate from practice-based digital social work research as well.

Therefore, according to Flyvbjerg's suggested direction, the guidance for the overall design of this embedded case study was first based on obtaining the contextualized informational ground needed to attempt to answer the following ethical-value questions:

- Where are we going with the situation or event in focus?
- Who gains and who loses, and by which mechanisms of power?
- Is this development desirable?
- What, if anything, should we do about it?

Accordingly, the cases were based on information retrieved directly from Norwegian media. Additionally, all were related to the specific topics of "welfare technology" and "welfare system digitalization" in which the Norwegian digital welfare practices were being presented, promoted, discussed or criticised. The first two case studies were designed to provide precise findings in which to base the phronetical analysis of the results, taking place in the third case.

Case Study 1 was focused towards categorizing and measuring the dominant perceptions associated to welfare technology implementation, which represent the individual (or private) scope these technologies have, within the welfare sector market.

Case Study 2 mapped and evaluated the tension points deriving from the organizational implementation of automated welfare technologies and digital communications within the Norwegian Welfare System (NAV) and, as such, was focused on the public markets of these technologies within the welfare sector.

Case Study 1 and Case Study 2 are directly linked to the first research question this project aims to answer, concretely, *"what are the dominant discourses at play in the implementation of welfare technology in Norway, and which tensions can be detected in Norwegian media coverage and debates on contemporary welfare system digitalization trends?"*.

Once the dominant discourses at play within the Norwegian digital welfare sector were identified and categorized for both the individual and societal perspectives, a phronetical analysis of the results was carried out in Case Study 3. Here, the ethical-value questions introduced above and the results obtained in the first two cases, were linked directly to the second research question: *"to what extent can these situated perceptions tell us something*

about the country's future socio-developmental pathway and its alignment with social sustainability ethical frameworks?”

Therewith, in Case Study 3, affirmative critical theory is developed based on the results obtained, in which their relevance is assessed in correlation with the integrative and sustainable perspectives formerly introduced in the theoretical chapter.

Hence, the “sustainability vs technocentric” ethical dilemmas taking place in the Norwegian context and being published through Norwegian media sources, could not make for a better sample. Not to mention the world’s leading position the country has repeatedly been awarded with. Subsequently, the selection of Norway and Norwegian value-based public perceptions as the context in which to base further explorations also provided high quality data.

4.2 WEAKNESSES AND LIMITATIONS

Before moving forward, it is important to briefly address the limitations of my study and clarify how these limitations have impacted or influenced the interpretation of my findings. At the early stages of this project, while developing my research design and methods, I had planned to cross-check my findings to strengthen the credibility of the phronetic analysis. This was supposed to be achieved by re-testing the validity of the results obtained in the first and second cases through interviews. The interviews were focused towards social work professionals in Norway, and the informants had already been contacted and were willing to participate. However, due to time constraint and lack of resources, I had to cancel the interviews and rearrange the design and methods towards a more explorative scope. Thus, maximized triangulation was not achieved.

Therefore, while the results obtained are extremely relevant for the Social Work field and do start to address the lack of literature concerned with digital social work and sustainability topics, all this while building upon phronetic case-based research and applied posthumanism, I also find that the findings and the subsequent phronetic analysis could have gained extra trustworthiness if the professional interviews would have been carried out. This would have added a professional perspective and strengthened the results. Thus, the lack of time and the

lack of resources can, definitely, be said to be the major limitation I have encountered while developing this dissertation and hindered me to obtain the results I had initially planned to achieve.

The lack of time and resources has also influenced my methods. Here, I decided to develop a media-based research due to the convenient accessibility to the samples, and also considering the diverse overarching sample pool of “public perceptions” the Norwegian public media makes available. However, policy documents, files corresponding to NAV’s case resolutions and service user’s feedback could have provided relevant added information. I also used a reduced two years framework for my sampling in order to be able to complete this project in time. Still, the implementation of welfare technologies and the digitalization and automation of the Norwegian welfare system started much earlier. Concretely, according to the Norwegian National Library database, the first Norwegian news containing the keyword *welfare technology* (velferdsteknologi) can be traced back to the 3rd of August 2009 and the article “Åpner for roboter på sykehjem” published by the newspaper Laagendalsposten, while the first direct mentions of *digitalization* (digitalisering) go back to the 70’s (Nasjonalbiblioteket, 2019).

Another limitation connected to the posthumanist framework of thought and the phronetic analysis has been linguistic. I have come to realize that it is not the same to think critically in your own language (which in my case is Spanish) as to do so in a foreign language (such as English or Norwegian are for me). I suppose that multilinguals may understand my point best. Here, I am not talking about a lack of English skills, I am talking about how the entire setting for critical thinking variates when you think in different languages, especially within qualitative methods. I believe that there is a probability of reaching a slightly different conclusion while utilizing one or another language to develop a critical thought, this is directly connected to the meanings and perceptions associated to the words and ideas in different languages and may have slightly altered the interpretation of the results in comparison to a potential “Spanish version”.

A last limitation has been the lack of literature concerned with digital social work. This has made me over-rely in Eubank’s work, since it was the only study I could find which directly related to the scope of my research. However, this could also be considered a strength since my findings have ended up adding to Eubank’s work and thus, they increase the trustworthiness and validity of the results.

4.3 CASE STUDIES INTRODUCTION, RELEVANCE AND OBJECTIVES

To contribute to theory building in a field which has shown to be affected by a concerning large theory gap, an embedded-case study containing 3 sub-cases was designed. Here, mixed methods were applied, more concretely, quantitative content analysis and qualitative content analysis aimed towards answering the first research question and to do so in a complementary way. This generated the data needed to develop the overarching phronetic analysis which is linked to this research.

The phronetic aspects of this study were aimed towards developing a clear understanding of the risks associated to the automatizing of welfare and opening a debate in which the existing ethical contrasts associated to this kind of development could be discussed. Accordingly, this study is vital not only for discovering the leading forces behind welfare technology implementation and the tensions deriving from current welfare system digitalization trends in Norway as a societal event per se, but rather to test how the governmental digitalization policies are affecting and could affect the sustainability of Norwegian society.

Within a societal perception context, this situated research based on a “social sustainability” framework, focuses on acquiring a deeper insight of current leading digital-welfare scenarios and their attached societal meanings, so that better understanding of the possible “futures” they may influence can be gained. All this within care-based fields such as the digital welfare sector but also the e-health sector and other public digital sectors.

To reach actual research results, the study was restricted to a two year’s period (February 2017 to February 2019), developed within Norway and aimed towards obtaining deeper understandings of the existing social perceptions driving the changes happening in the traditional Norwegian Welfare sector, habitually considered to be among the best in the world. The two following research questions guided this process:

1. *What are the dominant discourses at play in the implementation of welfare technology in Norway, and which tensions can be detected in Norwegian media coverage and debates on contemporary welfare system digitalization trends?*

2. *To what extent can these situated perceptions tell us something about the country's future socio-developmental pathway and its alignment with social sustainability ethical frameworks?*

The construction of these research questions was made in a way that the actual and concrete results obtained by the first could help nurture the ethical discussions deriving from the second. Then, to select and obtain quality, accessible and updated media-based data, information about Norwegian leading online newspapers according to the number of readers, was retrieved from the research carried out at the University of Bergen by Medie Norge²⁶. Here, the latest published results (2017) illustrate the leading online newspapers. Subsequently, the three highest ranked sources were selected for further research: Verdens Gang (VG), Dagbladet and Aftenposten.

10 MAJOR NORWEGIAN ONLINE NEWSPAPERS

2017	Numbers of readers
VG	1 974 000
Dagbladet	1 166 000
Aftenposten	816 000
Nettavisen	479 000
Dagens Næringsliv	334 000
E24	320 000
Bergens Tidene	174 000
Adresseavisen	144 000
ABC Nyheter	136 000
Hegnar.no	177 000

Retrieved from: <http://www.medienorge.uib.no/statistikk/medium/avis/395>

Having the appropriate information sources in place, initial content-based evaluations were made of the 765 articles constituting the initial sample frame. This sample frame was obtained through an automated search based on the selected keywords “welfare technology” and “NAV

²⁶ See: <http://www.medienorge.uib.no/statistikk/medium/avis/395>

digitalization” and subjected to a systematic review to verify that the key words were included in the communications. Here, the 197 articles related to the keywords “welfare technology” and the 568 articles related to “NAV digitalization” were separated into two case studies:

- **Case study 1 / Welfare technology:** This section was developed to obtain a concrete overview of the dominant discourses at play in the implementation of welfare technology in Norway.
- **Case study 2 / Nav Digitalization:** This section was developed to map the main tensions distinguishable in Norwegian media coverage and debates on difficulties deriving from the contemporary welfare system digitalization trends.

Both case studies were likewise time-framed (Feb. 2017 – Feb. 2019). Then, having the differing scopes of the first research question in mind, the most relevant articles within each case study were extracted and analysed in a way that could provide the maximum variation of factors, ensuring that the widest possible difference of sampled perspectives and meanings was well reflected. Here, mixed methods were applied through a systematic analysis of media-based meanings and perspectives. This way, the sense of “abstraction” caused by the multicentred volatility and mutability of meanings, was handled as accurately as possible, generating the ethical relevance characteristic of a research designed to obtain mutually illuminative but contrasting results. Once the data deriving from the first research question was obtained and the central tension points related to practices connected to current welfare digitalization trends in Norway identified, a third and last case study was developed.

- **Case study 3 / Phronetic evaluation of the results**

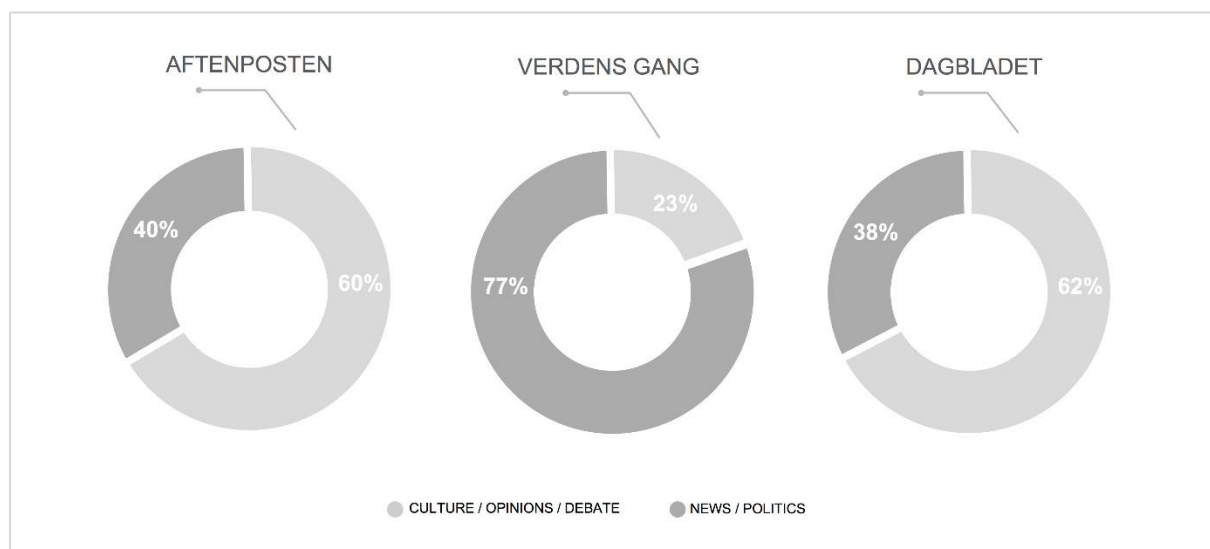
Here, to conclude, a qualitative phronetic analysis of the results of the formerly obtained data was carried out. This was done based on an applied posthuman perspective towards social welfare in which the technological and environmental spheres were included into the critical reflections set out to answer the four phronetical “value” and “power” questions.

4.4 CASE STUDY 1: WELFARE TECHNOLOGY

4.4.1 DATA SOURCE

To map and study the dominant discourses at play in the implementation of welfare technology in Norway, 197 articles published under the keyword “velferdsteknologi” (welfare technology) between February 2017 and February 2019, were extracted from the preselected Norwegian media sources (VG, Dagbladet and Aftenposten). Through an initial qualitative review, it was verified that the content of the articles displayed the keyword. Then, to avoid biased results due to the possibility for media-based predispositions inherent to the sources, an initial overview of the categories in which each newspaper had placed the selected articles, was developed:

MEDIA CATEGORIES FOR KEYWORDS “WELFARE TECHNOLOGY”



(Feb. 2017 – Feb. 2019)

It was discovered that even if the categories chosen by Aftenposten and Dagbladet to place the articles related to “welfare technology” from February 2017 to February 2019 were extremely similar and, contrastingly, VG showed a predisposition towards placing the selected topic within the “News / Politics” category, if the results of the three sources were combined, the probability of avoiding press-driven bias was high. Subsequently, the balanced variety of discourses provided through the sources selected, from which further data was extracted, was proven to be appropriate as presented in the following table.

DISTRIBUTION OF MEDIA CATEGORIES COMBINED

Feb. 2017 - Feb. 2019	News / Politics	Culture / opinion / debate
Verdens Gang	10	3
Dagbladet	5	8
Aftenposten	4	6
Total	19	17
Total percent	53%	47%

To conclude, given the combination of the three sources, an equilibrate distribution of 47% vs 53% of the media-based topics constituting the sampling pool was achieved. As such, initially, according to the media, a 53% of the topics linked to “welfare technology” corresponded to the categories “news / politics” while a 47% of the categories corresponded to “culture / opinion / debate”.

4.4.2 DATA COLLECTION AND ANALYSIS

With the media perspectives clear and an appropriate distribution attained, purposive sampling for the preselected list of articles took place. With purposive samples I mean the selection of a variety of articles (communications) from the initial sampling pool, in which a direct or indirect reference was made to the initial section of the first research question (Bryman, 2016), *“What are the dominant discourses at play in the implementation of welfare technology in Norway”*.

The sampling goal at this point was to obtain as much relevant samples and sample variation as possible within the existing options and the two years timeframe. The sampling criteria was to display an explicit reference to the notion of “welfare technology” and an explicit or implicit connection with messages in which the implementation or use of such technology was being presented or discussed.

As such, the initial method used for the sampling criteria related to the mapping of explicit references linked to the notion of welfare technology or explicit messages related to its implementation was quantitative, while the method applied to identify the implicit connections with messages related to implementation (of welfare technology) was qualitative.

Then, to help simplify the collection of quantitative data, a basic coding schedule adapted to each newspaper was developed. First, the most relevant discourse categories for each selected article were identified and documented using content analysis. This was done based on an interpretative approach towards the categorization of the meanings given to welfare technologies identifiable in each article. Here, several readjustments and reconsiderations of the categories obtained had to be made to help summarise the results and represent a final set of condensed overall categories which could be applicable to all articles and newspapers.

Therefore, the initial identification of recurring categories of meanings for the implementation of welfare technology per article was done qualitatively, since these meanings often appeared in form of “latent content” (Bryman, 2016), this is, the overall categories were often identifiable but not directly stated.

At this point, once summarized, the recurrence per article-category for each newspaper was quantitatively measured as showed in the following page:

CODING SCHEDULE:

VG CATEGORIES	RECURRENCE (per article)	DAGBLADET CATEGORIES	RECURRENCE (per article)	AFTENPOSTEN CATEGORIES	RECURRENCE (per article)
Digitalization, effectivity & productivity	4	Digitalization, effectivity & productivity	9	Digitalization, effectivity & productivity	6
E-health, big data & the 4th Industrial Revolution	3	Techno-enhancements & vulnerability	6	Home-based health care	5
Age wave	3	Age wave	6	Privatization for innovation	4
Privatization for innovation	2	Politics & leadership	4	Ethics	3
Techno-enhancements & vulnerability	2	E-health, big data & the 4th Industrial Revolution	4	Cybersecurity, public safety & risk management	3
Politics & leadership	1	Home-based health care	3	Techno-enhancements & vulnerability	3
Home-based health care	1	Privatization for innovation	3	Age wave	2
Sustainability of the welfare system	1	Sustainability of the welfare system	2	Laws and regulations	2
Ethics	1	Exclusion	2	Politics & leadership	2
Cybersecurity, public safety & risk management	1	Ethics	1	Centralization	1
Robotization, unemployment & education	1	Cybersecurity, public safety & risk management	1	Others	1
Others	1	Robotization, unemployment & education	1	Others	1
-	-	Laws and regulations	1	-	-
-	-	Others	1	-	-

Feb. 2017 – Feb. 2019

ADDITIONAL SAMPLING DATA:

VERDENS GANG (VG)	DAGBLADET	AFTENPOSTEN
Search criteria: "Velferdsteknologi" (Welfare Technology).	Search criteria: "Velferdsteknologi" (Welfare Technology).	Search criteria: "Velferdsteknologi" (Welfare Technology).
Date of search: 12.02.2019	Date of search: 08.02.2019	Date of search: 21.02.2019
Initial results: 77 articles containing the search criteria "velferdsteknologi".	Initial results: 38 articles containing the search criteria.	Initial results: 82 articles containing the search criteria (additional tag "velferdsteknologi" used).
Results within timeframe: 13 articles containing search criteria.	Results within timeframe: 13 articles containing search criteria.	Results within timeframe: 10 articles containing search criteria.
Selected samples: 4 samples.	Selected samples: 10 samples.	Selected samples: 8 samples.

Feb. 2017 – Feb. 2019

Lastly, the separate results from each newspaper were combined and an actual overview of *"the dominant discourses at play on the implementation of welfare technology in Norway"* was obtained.

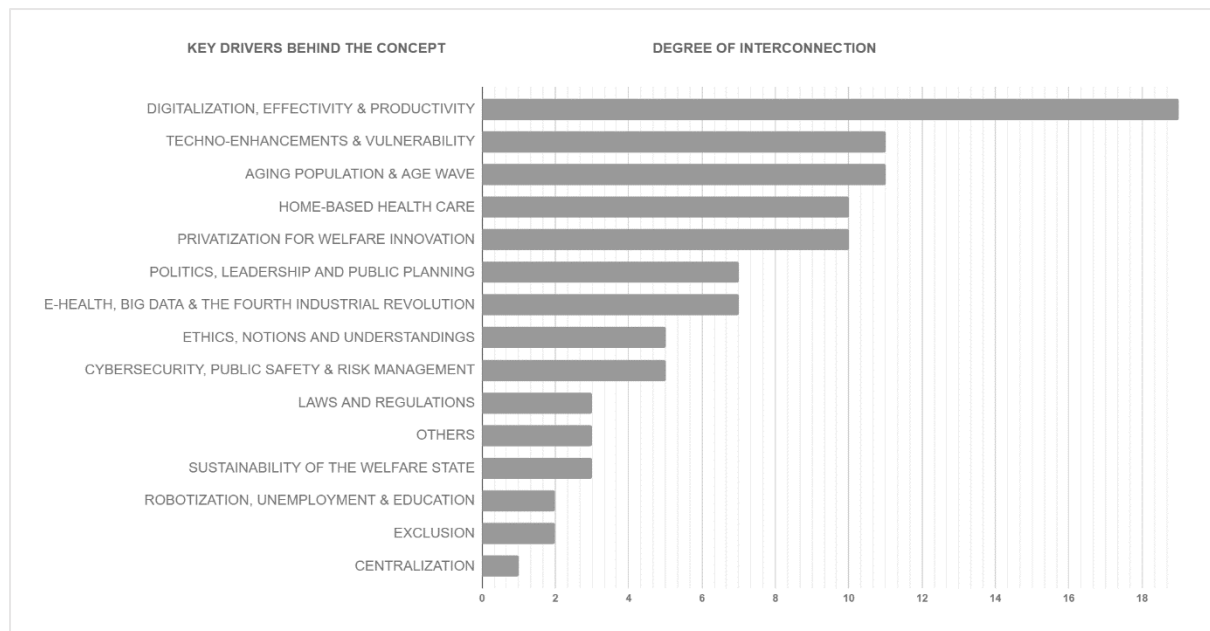
Therewith, the results for the initial section of the first research question were attained and the dominant discourses at play in the implementation of welfare technology in Norway were brought into light for further examination.

4.4.3 RESULTS

In the next chart, the current dominant perspectives operating behind the concept of welfare technology and its implementation in Norway can be observed:

WELFARE TECHNOLOGY:

Norwegian leading discourses: Feb. 2017 – Feb. 2019



To begin, it has been discovered that the current dominant discourse leading the public opinion towards the perceived need for the implementation of welfare technology is being overwhelmingly based on societal matters related to the “*digitalization, effectivity and productivity*” of the welfare sector, followed by topics such as “*techno-enhancement vs vulnerability*” and the issues related to “*the aging population or age wave*”.

This suggests that the implementation of welfare technology focused towards the individual biological markets is making its way into modern welfare systems and its markets with a strong focus on the elderly population, and it is doing so using vulnerability discourses mainly designed to reach the caregiver audience.

Once the attention of the caregiver audience has been gained through the pressing socio-economic issues the age wave implies for the Norwegian welfare system, the macro

implementation strategy for the individual bio-markets of welfare technology develops towards a peculiar techno-enhancement vs vulnerability discourse in a way that sets the base needed to, finally, move forward to the dominant narrative. In the dominant perspective, the macro implementation strategy for the societal markets is based on the economic and power-centred values of “effectivity and productivity enhancement”, a discourse characteristic to the historical human values associated to the Eugenics Movement.

Accordingly, the high score of the “techno-enhancement vs vulnerability” narrative linked to the individual market, appears to confirm the eugenic tendencies as well. This in the sense that, while the oldest eugenic attempts to enhance human beings were developed using a bio-enhancement perspective (mainly focused towards elitist breeding), current attempts seem to have developed towards an elitist techno-enhancement approach. Here, the word elitist is explicitly being used to highlight that these technological enhancements take place only in individual or societal contexts where they can be economically and infrastructurally afforded.

Now, going back to the dominant “*digitalization, effectivity and productivity*” discourse and its caregiver audience, it seems that these narratives are intentionally leaving their audience with the following logical and emotional conclusions:

- **For pro-digitalization discourses:** Caregivers currently lack technological skills and/or do not employ enough technological solutions = welfare technology is needed and/or technological skills are needed.
- **For pro-effectivity discourses:** Caregivers are not effective enough and/or are not present enough (timewise, caringly, socially, professionally or emotionally) = welfare technology as a tool to increase care-focused effectivity and/or welfare technology as a tool for the disembodied “alternative presence” of the caregiver.
- **For pro-productivity discourses:** Caregivers are not productive enough (economically, timewise, carewise or emotionallywise) = welfare technology can support the caregiver to be more productive or welfare technology is more productive than caregivers and as such, current caregiving practices can be replaced since they are neither relevant nor needed anymore.

Thus, we see how debates about technological productivity vs traditional productivity within welfare practices start to arise in the heart of the welfare sector, in which present trends show already how techno-centric development is currently being perceived as needed and desirable, a pathway characterized for being power-based and economically centred as well as socially and environmentally exclusive. This makes clear the urgent need for integrating posthuman theory and, therewith, new ways of critical thought, into welfare-focused research.

Then, it has also been discovered that issues such as “*centralization*”, “*exclusion*” or “*robotization, unemployment and education*” scored the lowest, even though these may be the ones which are mostly related to negative societal outcomes in which increased societal fragmentation is generated.

This indicates that, at the time being, welfare technology is focused towards the “individual” markets or the “vulnerable group” markets and has been positively perceived in Norway as having a vast potential for enhancing the individual lives in which it is installed. It also appears that this central perception is occupying the dominant scenes for topics related to the implementation of these technologies within the “vulnerable groups” spheres.

However, this may be also demonstrating a naïve approach towards broader implementation, especially when a professional-replacement focus is applied. Here, the social well-being which comes through societal connectedness and shared-wellbeing is not being counted in and, as such, broader implementation may be underestimating the depth of the risks deriving from the use of digital tools which set barriers or supplant social care-based practices.

In the most intermediate perspectives, it was shown that, when talking about matters related to the implementation of welfare technology in Norway, the most traditional themes such as “*the sustainability of the welfare state*”, “*laws and regulations*” or questions about “*cybersecurity, public safety and risk management*”, scored lower than debates engaged with topics such as “*homebased health care*”, “*privatization for welfare innovation*” or “*politics, leadership and public planning*”.

Again, privatization trends focused towards the economic development and time-centred effectivity of the Norwegian Welfare State, are being represented in the dominant discourses influencing the implementation of privately produced, privately delivered and as such, privately maintained welfare technology. Accordingly, the issues related to the economic “*sustainability of the welfare state*” have already been considered in the political spheres and techno-centric readjustments are being made.

Thus, the Norwegian Welfare State is in the middle of a transformative process in which the economic issues deriving from the decoupling of an oil-based economy, and as such an oil fueled welfare state, are strategically planned to be solved with a macro scale technological implementation. Here, the social care and ethical redistributive tasks of an entire public welfare system, formerly controlled and driven by professionals, could end up being controlled by automated algorithms with no capacity for feeling any kind of emotions.

To conclude, we see how discourses linked to “*ethics, notions and understandings*” or “*e-health, big data and the 4th Industrial Revolution*” were situated in intermediate perceptive levels, even though these debates may be the most related to deliberations about public safety and wellbeing, managerial responsibility (public and private) and national security.

Given that the automated systems being implemented on a macro societal scale within the welfare, health, education and other key public sectors, are usually developed, programmed and produced by foreign monopolies and sold and installed by their representatives, we can start observing a pattern in which foreign capitalistic technocracies are increasingly taking over the Norwegian technological infrastructure of the national Welfare System, a system which, given the Oil Fund, has one of the largest social-focused and health-focused national budgets per citizen in the World. However, with a technocentric developmental focus, the budgets supposed to promote social and environmental sustainability, end up being used for different purposes.

Now that the dominant discourses at play in the implementation of welfare technology in Norway have been identified, with focus on the individual and vulnerable groups markets, the second case study will be presented. Here, an organizational scope towards welfare technology is applied.

4.5 CASE STUDY 2: NAV DIGITALIZATION

4.5.1 DATA SOURCE

To investigate the tensions deriving from current welfare system digitalization trends in Norway through a media-based study focused towards obtaining deeper insights on the public perceptions about the topic of interest, 568 articles published under the key words “NAV digitalisering” (NAV digitalization) between February 2017 and February 2019, were extracted from the same preselected Norwegian media sources (VG, Dagbladet and Aftenposten) utilized in Case Study 1.

To verify that the content of the articles displayed the keyword entered, an initial qualitative review was made.

4.5.2 DATA COLLECTION AND ANALYSIS

Since a user-focused perspective towards the implementation of welfare technology was already applied in the first case study, this second case study was developed to obtain more information about the broader organizational perspectives connected to the debates on the digitalization trends modern welfare systems are experiencing.

Therefore, the study of the tensions noticeable in Norwegian media revealed through the different discourses concerned with topics related to current welfare system digitalization trends, was directly linked to the Norwegian Labour and Welfare Administration (NAV) in order to obtain contextualized results.

Here, the purposive sampling of the initially selected articles was done considering the existence of direct connections between the article’s content and the debates related to the digitalization trends taking place in the Norwegian Labour and Welfare Administration.

Therewith, this second case study was designed and carried out with the objective of deeper exploring the second section of the first research question: “*which tensions can be detected in Norwegian media coverage and debates on contemporary welfare system digitalization trends?*”.

The sampling goal was to obtain as much relevant samples and sample variation as possible within the existing options and the two years’ timeframe and, again, this was done separately for each newspaper so that the results could be combined at the end. The sampling criteria were to display an explicit reference to the Norwegian Administration “NAV”, the concept of “digitalization” and an explicit or implicit connection with messages in which the negative or positive consequences of the current welfare-digitalization trends were being presented or discussed.

Accordingly, the methods used for the obtention of the initial sampling pool for each newspaper were automated and quantitative while the purposive selection of samples was qualitatively developed.

SAMPLING DATA PER NEWSPAPER:

VERDENS GANG (VG)	DAGBLADET	AFTENPOSTEN
Date of search: 13.02.2019	Date of search: 09.02.2019	Date of search: 20.02.2019
Initial results: 281 articles containing the search criteria “NAV Digitalisering”.	Initial results: 31 articles containing the search criteria “NAV Digitalisering”.	Initial results: 256 articles containing the search criteria “NAV Digitalisering” (using additional tags NAV + digitalisering).
Results within timeframe: 30 articles containing search criteria.	Results within timeframe: 12 articles containing search criteria.	Results within timeframe: 12 articles containing search criteria.
Sample selection: 8 selected samples after qualitative analysis.	Sample selection: 3 selected samples after qualitative analysis.	Sample Selection: 12 selected samples after qualitative analysis.

Feb. 2017 – Feb 2019

Once the samples were selected, an exhaustive content analysis was carried out with the objective of generating a simple coding schedule in which to register data related to the central qualitative aspects of this study in a systematic manner. This time, the data obtained from each newspaper, were divided into the three categories of perspectives being displayed in the samples:

1. Holistic perspectives
2. Institutional perspectives.
3. Service User perspectives.

With a multiscale categorization set, the most relevant messages for each perspective were sampled and placed under the corresponding group. This process was done based on an interpretative approach towards the tension points observed within each sample and several qualitative readjustments and reconsiderations of the categories obtained had to be made to help simplify and summarise the results.

Additionally, given the three different scales of perspectives, the complexity of the different contexts was represented in a way that made possible to identify the existing tension points within the differing scopes so that, at the end, “institutional vs service user” perspectives could be contrasted.

While the category of “holistic perspectives” towards the tensions arising from the current technocentric developments of the Norwegian welfare sector gave an initial rich overview of the key tensions being discussed in the Norwegian media, as shown in the next table, this material was still not specific enough to develop the solid ethical comparison needed to sustain the phronetical analysis of Case Study 3. However, the combined results of this perspective will be briefly presented in the next section.

FROM A HOLISTIC PERSPECTIVE:

PERCEIVED LIMITATION	AFTENPOSTEN	VG	DAGBLADET	TOTAL
Centralization / Monopolized Techno- governance	2	1	0	3
Ethics	1	1	0	2
Loss of trust	2	0	0	2
AI and technology as a threat / National security	1	0	1	2
Increasing lack of human control	1	0	1	2
Loss of feelings of belonging due to the lack of social or “real” contact	1	0	0	1
Divided leadership & differing priorities	0	1	0	1
Deficient system's effectivity	0	1	0	1
Outdated linear thinking and thought inefficiency	0	1	0	1
Personal data and privacy issues	0	0	1	1
Naïve or deceitful politics	1	0	0	1

Holistic perspectives Feb. 2017 – Feb. 2019

As we see, even though the holistic results already show that the leading perceived limitation resulting from current Norwegian welfare system digitalization trends is connected to a techno-centric developmental approach, the main weakness of sustaining the phronetical analysis on this information is the large possibility of being subject to media-driven bias, especially, because these holistic results could not be compared with another list of holistic results obtained through the exact same methods to verify its reliability. Subsequently, a stronger focus on independently obtaining a new set of holistic results through the comparative evaluation of institutional vs service-user perspectives was further applied.

First, as presented in the table below, NAV's institutional perspectives on the tensions connected to contemporary welfare system digitalization trends were identified, categorized and measured according to the number of times they were displayed (per article) within each selected newspaper:

FROM AN INSTITUTIONAL PERSPECTIVE:

PERCEIVED LIMITATION	AFTENPOSTEN	VG	DAGBLADET	TOTAL
<i>Higher welfare-costs due to aging population</i> (welfare state economic uncertainty)	3	0	0	3
<i>Inefficiency linked to social contact & phone communication</i> (emotions & relational bonds)	1	1	1	3
<i>Inefficient resolution time & inadequate prioritizing</i> (time-centred professional resolution)	0	1	1	2
<i>Deficient coaching and follow-ups & professionals who cannot use their skills due to the system's limitations</i> (lack of professionalism within Social Work)	0	2	0	2
<i>Lack of adaptive capacity of service users to fast changes in the job market</i> (service user's adaptive capacity)	2	2	0	2
<i>High institutional costs due to elevated numbers of public employees</i> (governmental expenses on workers)	1	0	0	2
<i>Costs associated to the use of paper and post</i> (governmental expenses on physical communication)	2	1	0	2
<i>Loss of trust in the public sector</i> (organizational failure)	1	0	0	1
<i>Political Rhetoric leading to social anxiety for topics linked to digitalization</i> (Pro-digitalization communicational failure)	1	0	0	1
<i>Increased unemployment due to digitalization</i> (technological-driven unemployment)	1	0	0	1
<i>Unavailability</i> (Time-centred professional limitation)	0	1	0	1
<i>Unprofessional behaviour of NAV's employees</i> (Lack of professionalism within Social Work)	0	1	0	1

Institutional perspectives Feb. 2017 – Feb. 2019

Then, the same procedure was followed to obtain the needed information about the tensions detected in Norwegian media coverage and debates on contemporary welfare system digitalization trends from the service user perspective:

FROM A SERVICE USER PERSPECTIVE:

PERCEIVED LIMITATION	AFTENPOSTEN	VG	DAGBLADET	TOTAL
<i>Increased welfare-exclusion due to digital barriers</i> (technocentric driven exclusion)	1	3	1	5
<i>Inadequate prioritizing & misuse of economic resources</i> (Economic and technocentric values)	1	1	1	3
<i>Lack of social or "real" contact</i> (Digital relations)	1	1	0	2
<i>Corruption</i> (lack of ethics)	1	0	0	1
<i>Breaches of individual privacy</i> (lack of privacy)	1	0	0	1
<i>Lack of professionalism</i> (lack of professionalism)	1	0	0	1
<i>Inaccessibility for those without Bank ID</i> (economic driven human value)	1	0	0	1
<i>Language barriers</i> (communicational barriers)	0	1	0	1
<i>The system's little flexibility</i> (welfare system automatizing)	0	0	1	1
<i>Digital systems as a control mechanism</i> (technocentrism as control mechanism)	0	0	1	1
<i>Damages to the freedom of speech</i> (communicational control)	0	0	1	1

Service User perspectives Feb. 2017 – Feb. 2019

These two final tables provided the material needed for developing a more specific ethical comparison in which the key existing tensions linked to Norwegian welfare system digitalization could be made visible. Additionally, the overview achieved also remained within the desired organizational scope. Therefore, the final results presented in the next section, display dominant values and dilemmas in which the underlying limitations related to current understandings of welfare digitalization in Norway are represented, setting the informational base needed to develop the phronetic analysis which takes place in Case Study 3.

4.5.3 RESULTS

To begin, the leading result of the holistic perspectives, namely, the perceived limitations associated to “*centralization and monopolized techno-governance*” initially presented in the former section, already gave relevant information about the most pressing tensions deriving from the current digitalization and automation trends taking place within the Norwegian public services in general, as well as in the Norwegian welfare system. Then, matters related to “*ethics*”, “*loss of trust*”, “*AI and technology as a threat / national security*” and the “*increasing lack of human control*” followed.

These results show a concrete underlying picture in which, on one hand, the traditional forms of politics seem to have lost their grip when related to the management of the national public system’s technological developments and, on the other hand, we see how this could be indicating that the control over the Norwegian public systems may increasingly be falling into the hands of centralized high-tech monopolies, their technocentric and capitalistic values and the automated procedures which so effectively boost social division and exclusion.

This seems to be confirmed by the last set of results in which topics related to “*loss of feelings of belonging due to the lack of social or real contact*”, “*divided leadership and differing priorities*”, “*deficient system’s effectivity*”, “*outdated linear thinking and thought inefficiency*”, “*personal data and privacy issues*” and “*naïve or deceitful politics*” are highlighted.

In line with the holistic results, the leading public narratives on the tensions deriving from welfare system digitalization trends in Norway indicate that the strategic and power-based development of these high-tech monopolies is the central cause responsible for the implementation of current technocentric and economic focused efficiency values within the Norwegian public infrastructures. This is because these values are the core drivers needed for the achievement of maximally digitalized societies and the acceptance of the new bio-tech markets associated to them. This includes the elaborate and complex AIs resulting from the entire process.

However, this does not necessary mean that AIs are intrinsically “good or bad”, neither does it mean that they do not have the potential to do good or to do bad (or a combination of both), it does just underline the fact that we are not certain about which programmed values power the complex AIs being used for public purposes.

In the case of welfare systems, for example, these values have historically showed a characteristic predisposition towards capitalistic and thus, exclusive and individualistic forms of rationality and social developments. Accordingly, welfare professionals have, intentionally or unintentionally, been working towards implementing power-based perceptual societal control mechanisms helping, therewith, to sustain exclusive economic and political processes, this, instead of working to truly promote poverty elimination and shared social wellbeing.

As presented in the second chapter, it has been shown that eugenic values strongly influenced the scientific charity practices which generated the exclusive human categories with which the first databases of the poor were created. Then, it was presented that the first welfare digital databases derive from this concrete context, its values and the subsequently biased information sampled as well as the case-based automated programs which later followed. Subsequently, we cannot be sure about which values machine learning processes are using to develop their logical processing, especially, when we have no control over how machine learning processes truly evolves, which includes AI's independent thinking.

Given that, on a broader level, these initial data are already providing many ethical and power-based elements to develop a solid phronetical discussion and is, as well, highlighting the lack of posthumanist perspectives, let us first examine the key results of the institutional and service user perspectives before moving forward to the more concrete results obtained by contrasting these two last categories.

First, focusing on the *institutional perspectives* towards welfare system digitalization, we see clearly that the two dominant tensions detected in NAV's focus towards digitalization and automation, specifically the "*high welfare costs due to aging population*" (which clearly reflect a context of economic uncertainty) and the "*inefficiency linked to social contact and phone communication*" (which shows that NAV's perceives the use of emotional work and relational bonds as a form of weakness, incompetence or limitation), are directly related to the system's goals utilized in Indiana's automated welfare system experiment, in which "maximizing efficiency and eliminating fraud by shifting to a task based system and severing caseworker-to-client bonds" (Eubanks, 2018: 74) were the core objectives.

Ironically, same as happened in Indiana earlier, this implies that the Norwegian welfare system is basing its quality metrics on the response time of call centers as well as on economic savings, this, instead of focusing on the people by using a "case-accuracy" ethical approach (Eubanks, 2018: 74). Additionally, given the technocentric control-based procedures,

the system itself seems to have lost faith in the professionalism of care-based practices and its innate potential to cause positive social change.

This has two explanations. First, given the future economic uncertainty deriving from the increasing use of renewable energies and the de-coupling from oil-based economy, the Norwegian state asked for a reduction of welfare expenses no matter the costs and, same as in Indiana, IBM delivered an automated welfare program in which the well-being of the people was not relevant (Eubanks, 2018). Second, the automated eligibility programs, ranking algorithms and AI's running automated welfare processes have no capacity whatsoever of understanding care-based, social and emotional practices and have, therefore, no means to "control" the outcome, accordingly, social worker-service user relations, communications and emotional bonds are seen as a fraud or a potential source of fraud.

Now, if we move forward to the next set of results, we see how from a *service user perspective* these two explanations seem to be confirmed. The central tension associated to the digitalization of the Norwegian welfare system, according to service users, is the "*increased welfare exclusion due to digital barriers*". This result does not only indicate that the Norwegian technocentric approach and its digitalized and automated system is failing to set the ground needed for integrative social well-being and social sustainability, it also shows that automated welfare practices are already affecting the most vulnerable members of society and increasing discrimination.

As shown in the case of Indiana, more and more individuals are being automatically excluded by the automated eligibility systems and other ranking algorithms being used in digitalized welfare practices, even though many of them were legally entitled to obtain welfare benefits within that system. This is substantiated by the second result obtained from the service user perspectives, namely, the "*inadequate prioritizing and misuse of economic resources*", which clearly points out the deficiency of the exclusive technocentric values at play, and their subsequent time-centred and economic-centred effectivity.

Additionally, this result stresses the well-designed technological lock-in mechanism the country is experiencing towards the private infrastructures, the deriving services and the updates needed to keep the digital welfare system running, the most essential of them, such as the operating system, provided by American technology through IBM. Norway is using enormous sums to digitalize and increasingly automate its welfare system, however, the reasons behind the increasing focus on the technocentric development of welfare practices

may not be purely economic and efficiency focused, but rather non-democratic and power-based societal control.

To conclude with the *service users' perspectives*, we see how the third result shows that the correlation between the automated welfare system's goals set in Indiana and the digital welfare system's goals set in Norway, is real. Here, the service users perceive the “*lack of social or “real” contact*” as a current limitation, which clearly indicates that the Norwegian system has also severed the social worker-service user bonds aiming to reduce fraud, generating thereby deficient societal communication.

As such, we are basing our social systems on “socially-unsustainable values”, implying that we do not really know where or in whom we are placing our trust anymore. Here, it is essential to underline that trust is the fundamental value in which democratic political systems and their deriving administrations are based. This stresses the critical need for applied posthuman ethics within the social sciences which work to “express a grounded, partial form of accountability, based on a strong sense of collectivity and relationality which results in a renewed claim to community and belonging by singular subjects”(Braidotti, 2013:191), such as the one being generated in this research by the combination of a posthumanist theoretical framework and phronetic social science methods.

The lack of trust affecting the welfare system and the professions, laws and theories sustaining it, points out the ontological whole which technology is helping to cover up for, this, instead of developing socially, emotionally and relationally-beneficial professional practices which can help empower shared social sustainability values.

Here, with the current research question in focus, that is, “*what are the dominant discourses at play in the implementation of welfare technology in Norway, and which tensions can be detected in Norwegian media coverage and debates on contemporary welfare system digitalization trends?*” and with a special attention to the tensions deriving from NAV's digitalization and automation processes, the elements constituting the institutional perspectives and the elements constituting the service user perspectives were contrasted to obtain a clear overview of the core ethical dilemmas deriving from present welfare system digitalization trends in Norway.

Therewith, the most pressing tensions were clarified as presented in the table below and the key ethical clashes affecting or deriving from current welfare system digitalization and automation trends were brought into light:

ETHICAL OVERVIEW: INSTITUTIONAL VS SERVICE USER PERSPECTIVE:

INSTITUTIONAL PERCEPTIONS	RECURRENCE	ETHICAL CRASH	USERS PERSPECTIVES	RECURRENCE	TOTAL
SYSTEM'S SUSTAINABILITY		X	SYSTEM'S ACCESS		
Higher welfare-costs due to aging population	3		Increased welfare-exclusion due to digital barriers	5	13
Lack of adaptive capacity of service users to fast changes in the job market	2		Language barriers	1	
Increased unemployment due to digitalization	1		Bank ID barriers	1	
SERVICE MEANING		X	TRUST IN THE SERVICE		
Loss of trust in the public sector	1		Damages to the freedom of speech / Corruption	1	11
Unprofessional behaviour of NAV's employees (such as intrusiveness)	1		Breaches of individual privacy	1 1	
Political Rhetoric about digitalization leading to social anxiety	1		Digital system as a control mechanism	1	
Deficient coaching and follow-ups & professionals who cannot use their skills due to the system's limitations	2		Lack of professionalism The system's little flexibility	1 1	
ECONOMIC-COST CENTRED TIME EFFECTIVITY		X	TIME-COST CENTRED ECONOMIC EFFECTIVITY		
Inefficient resolution time & inadequate prioritizing	2		Inadequate prioritizing & misuse of economic resources	3	9
High institutional costs due to elevated numbers of public employees	2				
Costs associated to the use of paper and post	2				
TECHNOLOGY FOCUSED PRODUCTIVITY		X	BIOLOGICAL FOCUSED PRODUCTIVITY		
Inefficiency linked to social-contact (unplanned meetings) & phone communication	3		Lack of social or "real" contact for those who need it	2	6
Unavailability (physical)	1				

Distribution of central ethical vulnerabilities Feb. 2017 – Feb. 2019

In this reflexive case study, the overview of the categories obtained was reached by a qualitative distillation process where the examined content of the initial set of selected articles (Bryman, 2016), was aligned with the procedures for content analysis defined as Ethnographic Content Analysis (ECA) (Altheide, 2004).

An Ethnographic Content Analysis is a qualitative method that “follows a recursive and reflexive movement between concept development-sampling data, collection-data, coding-data and analysis-interpretation. The aim is to be systematic and analytic but not rigid. Categories and variables initially guide the study, including an orientation to *constant discovery* and *constant comparison* of relevant situations, settings, styles, images, meanings, and nuances” (Altheide, 1996: 16). In this case, the discovery of meanings, perceptions and their nuances was the key drive.

As such, a final condensed chart in which to show the valuable results obtained from the initial categorizations and their secondary refinements focused towards the generation of the concluding set of categories (Bryman, 2016), was designed. Herewith, a clear ethical holistic outline of the leading tensions detected in Norwegian contemporary media coverage and debates deriving from welfare system digitalization trends, was presented. Also, the key critical reflections deriving from these tensions are introduced.

THE 4 MOST PRESSING TENSIONS BEHIND WELFARE SYSTEM DIGITALIZATION IN NORWAY

DIGITAL WELFARE SYSTEMS	INDIVIDUAL / GROUP	REFLECTION
Sustainability of the Welfare State.	Welfare-exclusion due to digital barriers.	<i>Questions of belonging: Who/what gets to count?</i>
To essentially exist, welfare systems need trust and meaning.	To be willing to contribute, freedom of choice is needed.	<i>Questions about the meaning and value of communication.</i>
Time / Consumption (cost) centred effectivity.	Time / Production (source) centred effectivity.	<i>Raising questions about time, distribution and sources.</i>
Technological productivity.	Biological productivity.	<i>Raising questions of governance and the techno vs demos.</i>

(Feb. 2017 - Feb. 2019)

This research was aimed towards obtaining an integrative view of the state-of-the-art of the leading forces behind the digital developmental trends the Norwegian Welfare State is experiencing, which then could be used as a basis for the ethical evaluations deriving from the second research question.

Using a mixed methods approach (Bryman, 2016) turned out to be necessary in order to obtain a concrete heterogeneous overview of the perceptive contrasts between societal meanings and perceptions both from the bottom-up and top-down perspectives on welfare digitalization.

In the following section, an assessment of the consequences this digital welfare developmental pathway may have for elemental factors related to social sustainability in Norway will take place, it will do so based on the results obtained in the sections above, guided by the four phronetical reflections and using a critical and affirmative posthumanist mode of thought.

Now, we are well-equipped to move forward to the third and last case, the phronetical analysis of the results, which is developed to attempt to answer the second research question: *“To what extent can these situated perceptions tell us something about the country's future socio-developmental pathway and its alignment with social sustainability ethical frameworks?”*.

4.6 CASE STUDY 3: PHRONETIC ANALYSIS OF THE RESULTS

4.6.1 WHERE ARE WE GOING?

Until now, the findings have shown to be surprisingly accurate in highlighting a spread tendency towards the technologically driven privatization of public administrations in Norway, including the Norwegian welfare system (NAV). They also exposed major technocentric tendencies within the social welfare sector, where technological and economic-based development seem to have become the only valuable types of progress for social welfare and care-based landscapes.

Accordingly, within NAV, socially sustainable forms of development are gradually being neglected, a pattern which raises critical questions about the state of the art of values associated to the *techno* vs the *demos* within welfare practices or, in other words, about the values leading to the development of technocratic and automated forms of public governance or the values leading to cooperative and democratic forms of governance. It also raises critical questions about where the present construction of meanings may be leading us with the future results they could generate.

The Norwegian Welfare State is engaging in a vast techno-transformative process, mainly due to the future economic uncertainty deriving from the decoupling of an oil-based economy, funds which are sustaining large shares of the welfare state's budget. Thus, matters related to the sustainability of the welfare state are mainly planned to be solved with the digitalization and automation of the welfare system, a complex and highly expensive process which makes us wonder about matters related to the consequences and benefits of technological productivity vs biological productivity.

Therefore, if we continue this path, in the near future the social care and ethical redistributive tasks of the entire Norwegian welfare system (NAV), formerly controlled and driven by welfare professionals, could end up being fully controlled by automated algorithms with no capacity for feeling any kind of emotions.

This was artistically represented in January 2019 by Aftenposten in the short film “*På fornavn med Helge*”, where we see an interaction between a non-human NAV agent with a service user in the potentially fully automated NAV of the future²⁷.

While welfare technology focused towards vulnerable individuals has been positively perceived in Norway as having the potential of enhancing the individual lives in which it is installed, this may also be leading to a naïve approach towards broader implementation in which the risks deriving from the use of technological tools and digital communications are not fully considered, such as the artificial barriers they impose to social care-based practices, not to mention the incremental replacement of welfare professionals.

As such, it is not surprising that, according to the Norwegian public perceptions on the tensions deriving from contemporary welfare system digitalization, the results represent an underlying

²⁷ See: <https://www.aftenposten.no/video/i/p6aGXR/-Hva-skal-vi-dele-da-Nar-alle-har-mistet-jobben?jwsourc=cl>

picture in which traditional forms of politics appear to have lost their managerial-power when related to the management of the national public system's technological developments.

Therefore, the control over the entire Norwegian public system may be increasingly falling in the hands of foreign high-tech monopolies, as already happened with the technological lock-in mechanism NAV is experiencing towards IBM's services.

NAV's lock-in mechanism towards IBM's technology is mainly based on IBM's infrastructural and operational control over the most essential systems, technologies and procedures needed to keep NAV up and running. Subsequently, not only politicians and their managerial roles are completely dependent on IBM, but also the lives of the most vulnerable citizens of Norway.

Accordingly, the national risks caused by an eventual malfunctioning or breakdown of this digital redistributive infrastructure, could not be more serious. Subsequently, just the idea of the possibility of Norway experiencing such a situation would not only be a politician's or even president's worst nightmare; just mentioning the possibility of it would most certainly lead to the obtention of additional public funding. Additionally, a power-based expansion of these monopolistic services towards other sectors, regions and countries, becomes easier.

Not unpredictably, the American multinational has also had the grip of the technical and operational responsibility over the Norwegian Health Authority since 2010, where IBM announced the \$120 million USD contract to "provide information technology to support all hospitals in Norway and improve coordination and reporting of health information, logistics and finance" (IBM, 2010).

On top of this, in the past years, IBM also gained control over the operational infrastructures and processes of the international Schibsted Media Group which comprises the Norwegian media with deliveries to VG, Aftenposten and other newspapers (IG, 2016), from which the dominant perspectives on welfare technology and welfare system digitalization used to develop my research, were extracted.

If this techno-dependence is not concerning enough for the Norwegian long standing and world's class democratic processes, as well as for the future social welfare of its citizens, IBM recently obtained infrastructural control over Nordea²⁸, the largest financial group of the Nordics (Digi.no, 2019). This includes the platform and data of the Norwegian most used e-ID, also known as the Bank ID, which according to the findings deriving from the Service

²⁸ See: <https://www.digi.no/artikler/ibm-overtar-it-drift-for-nordea-med-milliardavtale/455094>

User perspectives, is one of the key factors hindering access to the richest welfare system in the world.

This confirms that the “*questions of belonging*” or “*who/what gets to count*” which scored highest in the final chart “*The 4 most pressing tensions behind welfare system digitalization*”, are one of the most pressing ethical dilemmas being experienced within the Norwegian welfare context.

Additionally, given that a Bank ID is being used as legal access to welfare services, it seems that the historical differentiation among the “deserving poor” and the “undeserving poor” is still very much alive in countries which have been considered as the most “socially friendly” in the world. As such, eugenic values seem, once more, to be corroborated.

This means that the Norwegian Oil Fund, one of the largest socially focused national budgets meant to sustain and develop welfare practices and socio-environmental well-being is sustaining further implementation of American automated eligibility systems (such as IBM’s case-support system) and other ranking algorithms being used for the increased automatization of NAV and other Norwegian public systems. All this based on the technocentric and economic values which so effectively boost increased social inequality and fragmentation not only in the country, but all over the world.

This was confirmed by the service users perceptions on the tensions deriving from NAV’s digitalization trends, in which the dominant perspective indicated that automatizing and digitalization are already generating increased digital exclusion due to digital barriers in Norway.

In the near future, the raising inequity of access to key redistributive services in Norway, could impede development of intergenerational fairness, the system of positive cultural relations, the responsible political participation, the community actions and the political advocacy needed to develop a truly sustainable society (McKenzie, 2004).

As the dominant narratives are telling us through my phronetical analysis of the results, current Norwegian technocentrism within care-based fields, seems to be directly leading to deficient forms of societal communication as well as to what appears to be a lack of emotional connectedness. Additionally, several macro IT projects funded with public money have earlier shown to lead to massive economic loss. If we add the potential loss of trust in the national

ethical redistribution processes the welfare system was meant to ensure, the future of one of the world's best public welfare systems could be at risk.

The findings show that, taking advantage of the current political pressure experienced by Norwegian politicians due to the aging population trends and the future context of economic uncertainty, privately driven welfare technology implementation and the public discourses it generates, are facilitating or allowing access to larger biological markets in which to implement and test these technologies, such as the elderly sector.

Therefore, the findings indicate that the future commercialization of techno-enhancement technology is being strategically developed using a “welfare technology” discursive strategy. Here, the “*social vulnerability and techno-enhancement*” discourses were calculatedly designed towards rationally and emotionally reaching the caregiver audience through the use of “*pro-digitalization, pro-effectivity and pro-productivity discourses*” and, therewith, access broader national markets from a bottom-up strategical approach towards vulnerability markets.

As such, starting from the individual markets, the key dominant narrative on implementational matters related to welfare technology, namely, “*digitalization, effectivity and productivity*”, could also start to be introduced in the broader socio-organizational public sphere. One example of this is the welfare system, by using public influence as a main force to press towards the subsequent present acceptance of digitalization and automation processes and therewith, the subsequent future commercialization of bio-technological enhancements on a national scale.

Moreover, both dominant narratives at play in the implementation of welfare technology and the interconnection they have shown to have with present technological events are, accordingly, shown to derive from a context marked by dominant economic and time centred values. This may be leading to a power-based developmental pathway in which the influence of historical humanistic perspectives and the exclusive categorizations and values they generate could end up playing a central role in coming techno-societies. Therefore, the implementation of posthuman theory in the social sciences field is more needed than ever, since this philosophical background can help us (re)think the basic unit of reference of the human to which we have, through the years, become accustomed to.

The results indicate that the seeds needed by bio-tech multinationals to generate the political and social acceptance needed for the private commercialization of bio-technological enhancements on a large scale, have been already set in place. Accordingly, the welfare systems

of rich and socially friendly countries, such as Norway, might have been intentionally used to boost the promotional process, whether the Norwegian state and its citizens are aware of it or not.

Thus, the values leading to new forms of digital exclusion and discrimination should start becoming a new focus of attention for professions related not only to the technology sector but also to the social, health and political sectors, so that questions of belonging, of the meaning and value of communication, of time, distribution and sources and democracy vs techno-governance can be brought into public arenas in time. Additionally, this needs to be done by reflecting upon broader contexts in which “our interactions with both human and non-human agents on a planetary scale” (Braidotti, 2013:5-6) are integrated in our critical and reflective exercises, in line with applied posthuman ethics.

I say “in time” because these ethical evaluations and the consequent readjustments must be done before, as the current technocentric tendencies already indicate, private bio-tech markets start to provide exclusive tools and services to those with enough economic means to acquire them, so that necessary political, social and environmental ethical considerations and political actions can be taken.

At the time being, the welfare technology narratives and the tensions deriving from welfare system digitalization displayed in the public media in contemporary Norway, illustrate how future social welfare is thought to be reached through economy, technology and the use of social engineering mechanisms, this, instead of democracy and the welfare deriving from shared responsibility, societal-care and societal-connectedness.

Therefore, the results obtained highlight that developed countries might be doing the mistake of basing the development of their digital welfare systems on the current dominant ideal of economic and material wellbeing, while those aspects have long been achieved and are already integrated. Subsequently, the current power-based developmental pathway the Norwegian welfare sector is experiencing, completely neglects a perspective in which a sustainable future is reached through shared social wellbeing.

Since sustainable societies continuously work to collectively identify the positive conditions and processes which generate shared social and environmental welfare, as well as taking responsibility for maintaining a system of transmission which spreads “awareness of social sustainability from one generation to the next” (McKenzie, 2004:23), it can be said that the dominant Norwegian situated perceptions are already telling us much about the country’s

future socio-developmental pathway and on how this pathway is currently failing to align with both national and global social sustainability ethical frameworks. Now, let us move forward to analyse who is gaining and who is losing within this context, and by which power mechanisms this happens.

4.6.2 WHO GAINS AND WHO LOSES, AND BY WHICH MECHANISMS OF POWER?

Welfare technologies focused towards the support of vulnerable individuals, such as children and adults with disabilities, the chronically ill or elders, have the potential of enhancing independency, mobility, communication, privacy, connectedness, safety and well-being within the individual contexts where they are installed.

Also, the welfare technology developed to improve surveillance in public institutions and being used to, for example, keep people with dementia or Alzheimer safe, reduce the need for personnel and increase the independency of service users while allowing to inform family members much faster if an incident takes place, is beneficial.

Then, digital welfare systems in which digitalized tools are developed as professional support to reduce paperwork and make bureaucratic processes less time-consuming so that these professionals can develop quality practices there where they are most needed (Corneliussen & Dyb, 2017) using the resources saved, are indeed making bureaucratic processes easier for some service users and some welfare professionals.

I say “some” because, as with the implementation of welfare technology focused towards vulnerable individuals and groups, this is happening only in individual or national contexts where these technologies can be afforded, implying that an ethical distribution on a national scale depends entirely on ethical public distribution and governmental subsidization.

Therefore, on a global scale and considering our present global context marked by unequal and socio-environmental unsustainable macro patterns, the idea of an ethical distribution of “welfare technology” ends up turning into a decontextualized illusion of the type which aligns with transhumanist rationality and its disembodied argumentations²⁹, especially considering

²⁹ See: <https://humanityplus.org/philosophy/transhumanist-declaration/>

that the implementation of these technologies has already begun in developed countries (e.g. Norway) under economic and time centred values.

Then, knowing about the massive investments being made in the private high-tech sector, another group of beneficiaries can be identified, namely, the global elite which, on the one hand, is making economic profits from the implementation of these technologies and software in the public and private markets and, on the other hand, is making power-based informational and structural profits from the increasing digitalization and automatizing of the most developed welfare systems in the world, such as the Norwegian.

Additionally, this elite is also profiting from the extraction and production processes needed to sustain the development of the IT sector, which often entail critical minerals extracted in poor countries and processed in China.

Lastly, there is also a non-human agent which is capitalistically and materialistically benefiting from the implementation of welfare technology and the increased digitalization and automatization of welfare systems, namely, Artificial Intelligences.

AI needs our data to develop machine learning processes, as such, information is a form of immaterial capital (Corneliussen & Dyb, 2017) for the IT sector, including the bodily, behavioural, psychological and social data which welfare technologies extract and the critical information our welfare systems collect and may be making accessible for private profit-based markets.

This immaterial capital is being condensed, accumulated and processed by complex AIs which, through the right algorithms and materials, are becoming more capable to mimic our species autopoietic processes or, in other words, our species self-(re)production processes, as the humanoid robot Sophia, developed by Hanson Robotics³⁰ is showing to the world. Sophia is an “advanced” combination of AI and robotics and was the first humanoid robot in history to obtain a citizenship in 2017. However, Sophia only represents the first step.

Accordingly, until now, these findings identified four key groups who are gaining through the current implementation of welfare technology and the digitalization and automation of welfare systems:

³⁰ See: <https://www.hansonrobotics.com/sophia/>

- Vulnerable individuals within affluent economic contexts, and their family members.
- Public decision-makers interested in the reduction of public costs (happening at the expense of more widespread social wellbeing).
- A global elite and the private bio-tech monopolies associated to them.
- Artificial Intelligences and their machine learning processes.

Now, let us move forward to analyse who is losing with this type of developments, and through which mechanisms of power this is happening.

As already signalled by Silvija Seres, one of the most influential women within the technology sector in Norway, our public representants need to start realizing the democratic and vital importance of the issues at stake. The Norwegian society is not only being controlled by a few monopolies of Silicon Valley which are neither Norwegian nor democratically elected³¹, Norwegian citizens are also increasingly being analysed, sampled and experimented with. This is done through automated processes and with strategically placed technological infrastructures. All this, to deliver the information needed to nurture the machine learning processes which are producing the most advanced AIs (Aftenposten, 2017).

Within the Norwegian welfare system, high-tech multinationals and their automated processes are targeting service users as valuable bio-informational sources. This implies that the resulting redistributive AI which will end up deciding who obtains resources and who does not in the future, will have to categorize potential beneficiaries according to the quality of the digital information they provide, starting by their Bank ID.

Norwegian public narratives on welfare technology and welfare system digitalization indicate that social workers and other welfare professionals need to start thinking about the value of digital communication, particularly in relation to the socially unsustainable consequences it often generates, especially when it comes to the socially and emotionally critical situations welfare workers are emotionally trained to deal with. NAV's service complaints did not increase a shocking 153% from the year 2015 to the year 2017 without a reason. This means that both service users and welfare professionals, are losing when it comes to the current digitalization and automatization of the Norwegian welfare system.

³¹ See: <https://www.aftenposten.no/amagasinet/i/02j00/Silvija-Seres-har-svaret-pa-hva-Norge-skal-leve-av-etter-oljen>

Here, while service users are being denied access to welfare services and eventually, discriminated or treated with disrespect, welfare professionals are losing the social quality of their services, due to the lack of practice generated by the increasing barriers digital communication sets to the development of professional social care.

Therefore, by looking behind the “effectivity narrative”, we see that the automatization of the Norwegian welfare system, as economically and time effective as it may be or sound, is not truly happening to enhance the professional life of social workers so that they can deliver better services to those who need it. Rather, it is happening so that bio-tech multinationals can access the critical biological and behavioural data social workers collect and digitalize.

And as such, if social care and health-based professions keep perceiving automated processes and digital communications as the only valuable developments within the welfare sector, soon many skilled and experienced professionals will lose their jobs. Here, given the current technocentric approach, decentralized positions will be affected first, such as the communal social workers based in more isolated or rural areas, as already happened last January in Sweden (Dagens Perspektiv, 2019).

Moreover, current welfare system automatization within a globally unequal context will create new forms of discrimination, just that this time, inequality will be technologically fostered and publicly boosted through the automated procedures that developed countries are increasingly implementing.

Not unexpectedly, since the year 2000, there has been a clear increasement of poverty levels of children and youth under 18 years in Norway (NRK / Brennpunkt, 2015), a tremendous contradiction for a rich and socially friendly nation which pushed the government to create the 2015-2017 strategy “Children Living in Poverty” (Regjeringen.no). Additionally, poorhouses currently exist in Norway and deliver food, clothes, toys and internet access (NRK / Brennpunkt, 2015). However, it is important to state that Norwegian poverty is measured in relation to the Norwegian context and should be considered as a “relative” poverty.

And so, the findings show that the following groups are losing when it comes to current implementation of welfare technology and the digitalization and automation of welfare systems:

- Digitally poor individuals within national contexts.
- Poor individuals globally.
- Poor countries.
- Welfare professionals such as social workers, nurses, assistants, educators and even professors and lecturers.
- Other public employees.
- Socio-environmentally friendly politicians.
- The environment and the living beings which constitute it (including us).

To conclude, it is important to understand that the complexity, the scale and the long history of the connections among industrialization, automatization, poverty and welfare matters with the countless mechanisms of power they involve, cannot be summarized in a simple list or a single context. However, some recurring characteristic mechanisms of power can be highlighted:

- Privately driven infrastructural and technological lock-in mechanisms experienced by the public sector which generate dependence towards the subsequent privately driven technological services and updates needed to keep essential public services running.
- Elitist digitalized values boosted through automated procedures such as the eugenic values and their categorizations “deserving poor” vs “undeserving poor”, leading to biased debates and public perceptions such as displayed in “human rights” discourses.
- Welfare systems being used as a macro social engineering tool for national and global classifications of the poor and the collection of vulnerability-loaded information, later used to design socio-behavioural and economic control mechanisms.
- The narratives and discourses associated to these procedures, in this case, welfare technology, digitalization and effectivity.
- Implementation of communicational barriers.
- Implementation of surveillance mechanisms.
- Storage and processing of societal risk and vulnerability data.
- Artificial Intelligences operating to reinforce discriminatory and non-democratic mechanisms of power.

Now, that we better understand who is gaining and who is losing with the increasing implementation of welfare technologies and the digitalization and automatizing of societal welfare systems, as well as which central mechanisms of power are operating to make this happen, let us move forward to the next phronetical question.

4.6.3 IS THIS DEVELOPMENT DESIRABLE?

In socially, democratically and economically affluent contexts such as the Scandinavian, where the state can provide the funds needed to equally deliver welfare technology to those individuals and institutions who need it, these tools have proved to lead to life improvement for the most vulnerable, for example, children or adults with disabilities or elders with need for improved independency or follow-up. Welfare system digitalization has also proved to help make bureaucratic processes less time-consuming. Therefore, at a first glance, within socially friendly contexts with enough means to deliver equally, and focus towards individuals, their autonomy and their well-being, these developments seem to be desirable.

However, even though Norway is often defined as one of the best countries to live in, it also counts with higher suicidal rates than traffic-centred mortality³². This not only confirms the statement made by Harari in his book “*Homo Deus: a brief history of tomorrow*” where he affirms that war is obsolete and “you are more likely to commit suicide than be killed in a conflict” (Harari, 2016:cover). According to the World Health Organization, “while the link between suicide and mental disorders (in particular, depression and alcohol use disorders) is well established in high-income countries, many suicides happen impulsively in moments of crisis with a breakdown in the ability to deal with life stresses, such as financial problems, relationship break-up or chronic pain and illness. In addition, experiencing conflict, disaster, violence, abuse, or loss and a sense of isolation are strongly associated with suicidal behaviour. Suicide rates are also high amongst vulnerable groups who experience discrimination” (WHO, 2018). Subsequently, societal disconnection only adds to this public health issue and,

³² See: <https://blogg.forskning.no/psykisk-helse-og-rus/sosiale-problemer-krever-sosiale-losninger/1094358>

if a person in need of support experiences lack of empathy or care when most needed, the outcome may be fatal.

As such, the automated processes being implemented within social work and social care practices are incapable of coping with this and other similar situations, since they do not understand or apply emotions and empathy. Moreover, digital communication is not always useful when it comes to social welfare practices since, usually, the feeling of loneliness can be lessened or even tackled through direct social work and social care practices.

Thus, when it comes to welfare practices and the welfare system, less investments in digital communication and automation are needed while more investments in professional development and emotional practice are necessary. This would not only reduce unemployment, but also initiate new forms of positive social connections, leading individuals to experience that professional and empathic communications can indeed increase feelings of meaningfulness and generate shared social well-being, the fundamental elements needed to promote social sustainability.

Then, Harari also states that, in the near future, “death is just a technical problem, equality is out, but immortality is in” (Harari, 2016:cover). In a global context, if developed countries have decided to promote “social welfare” through technology, the severe socio-environmental issues deriving from the production processes and the mineral mining needed to produce devices and infrastructures must start to be brought into light. Ethical debates and new decisions need to be taken, this time, based on social sustainability frameworks and ethical consumerism.

However, in a context of global warming which is putting all living beings at risk, untruthful marketing is making ethical consumerism a difficult task. High-tech markets have carefully crafted complex production chains which are effectively working as intricate face-saving formulas. Therefore, linking the development of multinationals such as IBM, Apple or Samsung (among many others) with, for example, the recruitment of new child soldiers in Congo, can be a complex task, however, the critical minerals needed to produce components must come from somewhere.

The same happens if we try to find evidences which link the complex IT infrastructure being used by NAV and powered by IBM’s Operating System to, for example, the processing and transformation of critical minerals into electronic components taking place in Chinese

industrial areas. Not to mention connecting the cheap Chinese industrial workforce and the subsequent 60 million left-behind children living without their parents in rural China, to the increasing digitalizing and automatizing taking place in developed countries, their public sectors and their welfare systems (Zhang, 2018).

By generating a multinational and multilayered system of extraction and production which avoids the accountability deriving from the social and environmental degradation these processes are generating, high-tech multinationals are also avoiding taking responsibility for the problems and risks associated to these processes and the global unsustainability they generate.

Furthermore, eugenic values have long been operating in the shadows of managerial welfare practices and have generated vast global inequalities. Accordingly, in the individual spheres, the techno-enhancement pathway that welfare technology is initiating, could as well be the last step needed to trigger the techno-enhancement acceptance necessary to start introducing other types of biotech into the private market.

This would, consequently, lead to the artificial construction of a technologically and biologically enhanced elite, the highest aspiration of the Eugenics Movement. This process started long ago with the discriminatory categorizations carried out by scientific charity workers, the oldest form of case-based social work practice.

Additionally, our generation is already affected by Climate Change, the global result of the social and environmental unsustainable growth patterns which started to take place in the 18th century. If a few countries have managed to alter the Earth's balance, we might start considering that the most pressing issue at stake in our current time is not truly Climate Change, but rather the world-wide exploitation and inequality which made it happen. Accordingly, the larger risk our species is experiencing relies not only in our fossil-past, but rather in our automated future.

This suggests that, under a social sustainability framework, the present implementation of welfare technology and the digitalization and automation of the Norwegian welfare system, is causing considerable global negative effects in comparison to the few positive ones.

Additionally, in the future, the AI this process may be co-generating could end up integrating the biased human values which have been emphasised in the historical section. Subsequently, this would most certainly lead these algorithms to the logically deriving categorization of

“deserving individual” vs “undeserving individual”, a thought which could automatically develop towards “deserving humans” vs “undeserving humans”.

Considering that exponential machine learning processes are taking place in the present time and adding the developments being made in the robotics fields (which include military technologies), the risk of financing privately driven forms of technological development within our public sectors should be seriously considered, starting with the political spheres directly responsible for the potential future outcomes of these practices. Especially in times where the current global population has reached 7.7 billion (World Population Review, 2019) with the negative environmental consequences this entails.

Thus, in the next phronetical question and in line with posthumanist affirmative theoretical generations, we will explore potential actions which could work to prevent the socially unsustainable outcomes that our welfare technologies and digitalized welfare systems are generating, this, in a way that enhances socio-environmental wellbeing. Herewith, creatively engaging in the establishment of possible conditions and solutions towards the empowerment of renewed political and ethical agencies within the welfare sector, which overcomes current negative-loaded scenarios and works towards obtaining sustainable solutions.

4.6.4 WHAT, IF ANYTHING, SHOULD WE DO ABOUT IT?

Social and care-based fields, such as Social Work, are essential to safeguard social sustainability using professional socially sustainable practices. Social workers have, through the years, become expert providers of welfare information and are, accordingly, highly capable to start working towards the implementation of social sustainability.

These professionals count with a perfect systemic location to remain critical towards the social consequences of one or another form of development, socio-economic intervention or technical implementation. In addition, they can also evaluate which practices are delivering socially beneficial results from a socio-environmental sustainability perspective and which ones are not.

If social workers and welfare theorists are to prevent that new and deeper social inequality patterns solidify, our first task is to start thinking about the social and environmental consequences that digital communication and automatization generate, from the individual to the global context within current welfare practices, and do so from a posthumanist perspective.

This will assist us to eliminate the biased values which have historically influenced Social Work, such as the eugenic values and, therewith, start to move the field away from the elitist and socially exclusive patterns of practice these values have generated in local, national and global contexts.

The ontological hole this process will unravel within the theoretical field of Social Work, can be solved by introducing Posthumanist Philosophy in the Social Work curricula, this, instead of keeping on utilizing obsolete humanist and anthropocentric ethics, such as the Kantian approach.

Thus, social workers can, through posthuman worldviews, start “seizing the opportunities for new social bonding and community building, while pursuing sustainability and empowerment” (Braidotti, 2013:cover).

Moving beyond the classical humanistic views in which Social Work has long based its theoretical development entails many positive results since, “as shown by the proliferation of critical posthuman positions both within and outside the Western philosophical tradition” (Braidotti, 2013:51), there are already many innovative theoretical developments generating from this paradigm shift. This is creating a new and more compact “foundation for ethical and political subjectivity” (Braidotti, 2013:51), such as displayed throughout this dissertation.

This could help Social Work to develop new critical tools which appropriately tackle the increasing complexity and contradictions of our present context, while remaining accountable for the past history of the field and the negative consequences this history has generated on current social politics and welfare practices (Braidotti, 2013:51).

Posthumanism, as my research has proven, is a valuable support to rethink digital social work practices from a social justice and sustainability perspective, so that the current deficient technocentric and capitalistic values governing Social Work development can finally start to lose their grip on current and future practice and knowledge generation processes. It is time to start actively working towards the co-generation of a sustainable future, beginning by implementing and safeguarding socially sustainable practices in social and care-based

practices. This has the potential to start a new generation of social results of the type which leads to affirmative connective outcomes, community building and empowerment.

Within developed countries, such as Norway, the “*Principle 8: Ethical Use of Technology and Social Media*” of the Global Social Work Statement of Ethical Principles (IFSW, 2018) needs to start being further explored. This principle states that social workers “must obtain the necessary knowledge and skills to guard against unethical practice when using technology” (IFSW, 2018). But, what if it is the increasing use of technology within the “social” field which is causing unethical practice?

Knowing the negative socio-environmental consequences that digital and automated welfare practices are generating all over the world under capitalistic influence, such questions are essential for the ethical development of the field. However, within the present context, economic resources are a fundamental factor for social and care-based practices, accordingly, the investments being made in technological infrastructure, digitalization and automation must be evaluated based on the social outcomes they generate. Case accuracy is, therefore, a key element with which automated processes should be evaluated in national contexts, all this, based on social sustainability values.

Additionally, ethical consumerism needs to start being put into effect in developed countries, especially, when technological consumption happens on a macro scale such as in the case of the public sector and its administration’s digital development.

Therefore, taking responsibility for managing welfare digitalization processes should depend on having the capacity for a broader understanding of social welfare, the outcomes of digital and automated welfare practices on local, national and global scales and their connection to social sustainability and environmental sustainability frameworks. Additionally, the increasing energy consumption this type of development is generating as well as the growing unemployment should remain a central area for ethical deliberations.

The dominant narratives and perceptions being currently displayed in the Norwegian public sphere, however, reflect a rather naïve approach towards the technological development of the welfare sector in the country. In turn, practice-based knowledge becomes indispensable to develop a more precise shared overview of the outcomes of technocentric practices and should be further encouraged.

Welfare technology focused towards vulnerable individuals should be used only if the majority of welfare professionals agree with such technological implementations taking place as a way to enhance professional practice and the service user's life quality.

Thus, it should be proven that welfare technologies have enhanced the services provided to the user, additionally, it should also be demonstrated that service users truly obtained the care they needed. Additionally, active professional social contact should remain essential for those who require so.

FOA, the third largest trade union in Denmark, highlights that in order to achieve positive results, it is indispensable that "employees are included in decision making before new technology is introduced and implemented in their line of work" (Nordic Labour Journal, 2014).

Accordingly, there are many things which could be done to enhance socio-environmental wellbeing and sustainability indicators globally, focusing specifically on the possible solutions to the power mechanisms taking place within the Norwegian welfare arena. Here, to work towards the prevention of the unsustainable outcomes deriving from the welfare technology implementation and the welfare system digitalization taking place in the Norwegian context, processes which entail global implications, interventions in the following areas are recommended:

- Support practice-based and independent research in the fields of digital social work and welfare, digital ethics and social sustainability.
- Support contextualized case study research which applies bottom up methods to develop integrative discussions, such as Phronetic research.
- Introduce Posthumanism in the Social Work and welfare-related academical landscapes.
- Introduce Phronetic Social Science in the Social Work and welfare-related academical landscapes.
- Redirect social work practice towards community building and social bonding while pursuing sustainability and empowerment. All this, without forgetting the benefits Norwegian nature has to offer to enhance these processes.

- Ethically explore the “Principle 8: Ethical Use of Technology and Social Media” of the Global Social Work Statement of Ethical Principles (IFSW, 2018) in the Norwegian context of practice.
- Within research, political, educational, professional and media contexts related to welfare and Norway, avoid naïve approaches towards the foreign technological implementations taking place in the most essential national public administrations, especially, when these approaches fail to take into account the global context and the power based technological lock-in mechanisms high-tech multinationals are generating.
- Utilize case-accuracy quality metrics to evaluate the outcome of digital and automated social welfare practices based on social sustainability ethical frameworks.
- Introduce ethical consumerism concerns in the public arenas before macro technological acquisitions take place, taking into account the social and environmental consequences this implementation generates on a global scale.
- Initiate public debates about the rare minerals being utilized to develop the IT sector and the socio-environmental consequences their extraction and production processes entail, including digital welfare systems into the critical reflections.
- Avoid technological dependence towards foreign high-tech multinationals by nationally storing critical public data.
- Delete public data after certain periods of time so that the “stagnation” of negative values is avoided, and societal change is empowered. This would also reduce the increasing need for incrementally energy-consuming data-centers.
- Involve “grounded” welfare professionals and service users feedback in decision making processes and planning, especially, when it comes to technological implementations within public, social, care, educational, health and welfare fields.

This last section has identified and suggested several actions which could help change existing power mechanisms in a way that leads to improve social sustainability indicators when related to the negative social and environmental consequences that welfare technology implementation, welfare system digitalization and automation are currently causing.

Now, before moving towards the final chapter of this dissertation, we will briefly analyse the reliability and validity of the cases and the results obtained.

4.7 CASE STUDIES RELIABILITY AND VALIDITY

A posthumanist framework of thought towards the field of Social Work has been applied throughout this study. This was intentionally done to avoid falling into the socially exclusive historical narratives and perspectives which have governed the past developments within Social Work. Accordingly, the selection of Posthumanism as theoretical background with the heterogeneous theoretical viewpoints it makes available, was made specifically to increase the “social sustainability” trustworthiness of the results and to do so from a socially shared and socially friendly perspective.

The findings were attained through a systemized distillation process of the information extracted from the dominant discourses on welfare technology and welfare system digitalization, displayed in Norwegian media within a selected time frame. Additionally, the articles utilized as samples were collected and stored for reliability purposes.

Subsequently, the results obtained in the Case Study 1 (the most quantitatively focused) present high stability over time, this is, if they would be tested again under the same procedures, they would provide a high correlation between the initial and the secondly obtained results (Bryman, 2016) in which correlation is the “measure of the strength of the relationship between two variables” (Bryman, 2016:169) thus, confirming the reliability of the results as well as the reflections deriving from them.

Then, for the qualitatively obtained results of Case Study 2, given my non-Norwegian origin, my social work academic and professional background and my latest work experience as social worker in Norway within the digital social work arena (with the daily dilemmas these practices entailed), and adding the online ethnographic research approach applied in this study, I remained aware of the potential issues deriving from an ethnocentric analysis of the results while taking advantage of the strengths this combination provided.

Subsequently, to begin with, data collection happened without being compromised by the biases deriving from the researcher’s presence. Additionally, the results obtained were derived from a “prolonged participation in the social life of a group over a long period of time” (Bryman, 2016:390). This allowed me to “ensure a high level of congruence between concepts and observations” (Bryman, 2016:390) within the field of Digital Social Work, welfare technology and welfare system digitalization. It also provided me with key insights

about the service user's life and the issues deriving from the increased digital inequality they are experiencing in the Norwegian context.

Such "grounded", contextualized and specific awareness together with a more detached focus towards widespread Norwegian digital social work practices, provided me with a balanced perspective towards the topic and context studied. Additionally, having worked closely with vulnerable individuals who have seen their lives enhanced by the use of welfare technology, I remained aware of the benefits these technologies have for those who need it, even though the global consequences these technologies entail were essential to my critical standpoint. This combination of strengths contributes to increase the qualitative internal validity of this research and the findings obtained.

Then, the phronetical value-rational deliberation carried out in Case Study 3 was anchored in the reliability and validity of the results obtained in the two initial cases. Given the political aspects of phronetic science, "authenticity" was an essential aspect of the results obtained through this case. These "authenticity" criteria, according to Bryman are: fairness, ontological authenticity, educative authenticity, catalytic authenticity and tactical authenticity (Bryman, 2016:393).

Fairness is achieved if "the research fairly represents different viewpoints among members of the societal setting" (Bryman, 2016:393), an essential driver for the methodology and data collection processes utilized throughout this research. Such differing viewpoints towards welfare technology, welfare system digitalization and digital social work practices in general within the Norwegian context, was most clearly represented in the results of Case Study 2. Also, the sampling of differing discourses was intentionally set out to achieve the representation of the multiple viewpoints of differing societal groups.

Ontological authenticity is accomplished if "the research helps members to arrive at a better understanding of their social milieu" (Bryman, 2016:393) which has, as well, been a central aspiration throughout this study. Here, the phronetical power and value-based questions were key to generate results which could serve the Norwegian society to gain better understanding about the unsustainable processes taking place in the Norwegian digital welfare sector as well as about the power mechanisms making these negative outcomes materialize.

Educative authenticity implies that "the research helps members to appreciate better the perspectives of other members of their societal setting" (Bryman, 2016:393). Here, the results have contributed with the clarification of not only one but of multiple perspectives operating

behind welfare technology implementation and welfare system digitalization processes. As such, it can be said that members of the Norwegian context which were unaware of these perspectives, have obtained the critical information needed to gain better understanding about the standpoints at play within this area of interest, thus, this research has contributed to support better appreciations.

Catalytic authenticity is achieved if “the research acted as an impetus to members to engage in action to change their circumstances” (Bryman, 2016:393). Here, having developed my dissertation under a socio-environmental sustainability approach and having actively reflected upon social sustainability frameworks, I reach the conclusion that socially unsustainable outcomes are being boosted through digitalized and automated welfare practices. Thus, it can be said that this research concludes with clear encouragements towards social action, social cohesion and empowerment with focus on achieving a shared sustainable future through societal connectedness, respect, positive communication and socio-environmental well-being.

Finally, tactical authenticity requires that “this research empowered members to take the steps necessary for engaging in action” (Bryman, 2016:393). This was clearly represented through the final list of suggestions introduced in the last phronetical question “*what, if anything, should we do about it?*” (section 4.6.4.).

Herewith, in line with Bryman (2016), “authenticity” has been presented as an alternative criterion to evaluate the qualitative and phronetical elements of this research.

Now, let us move forward to the concluding chapter. Here, I start with a brief summary of the overall findings of this research. Then, I conclude with a final discussion in which I highlight the many ways in which an applied posthuman perspective towards the phronetical analysis of the results, has proved to lead to beneficial results for both the social welfare landscape and the Social Work academical field, contributing to the healthy and cooperative socio-environmental development of welfare, social, educational and care-based practices.

5. FINDINGS AND CONCLUDING DISCUSSION

5.1 FINDINGS

This phronetic research was set out to produce the needed input to the “ongoing social dialogue and praxis” (B. Flyvbjerg, 2001:139) related to digital social work and automated welfare practices in the Norwegian context, with focus on the social consequences they are generating. To do so, a concrete focus on welfare technology implementation and welfare system digitalization trends in Norway was applied.

Through an embedded case study approach, three explorative and analytic case studies were developed. These cases provide “concrete examples and detailed narratives of how power works and with what consequences” (B. Flyvbjerg, 2001:140), highlighting the risks that society and the environment are facing when it comes to public welfare practices in which the current dominant technocentric approach remains central to future developments. These cases also conclude with suggestions (page 111-112) about how the power mechanisms which are currently leading to socially and environmentally unsustainable results, could be changed to work with socially and more environmentally friendly outcomes.

The *first case* clarifies the dominant discourses at play in the implementation of welfare technology in Norway. Here, it is found that welfare technology implementation processes are being overwhelmingly guided by “digitalization, effectivity and productivity” values. Followed by “techno-enhancement vs vulnerability” discussions and concerns about “the aging population or age wave”.

The *second case* “provides the main link to praxis” (B. Flyvbjerg, 2001) by clarifying the main tensions detected in Norwegian media coverage and debates on contemporary welfare system digitalization trends from both institutional and service users’ perspectives. According to Flyvbjerg, the clarification of “detailed stories about who is doing what to whom” (Rorty, 1994) is essential to phronetic social science since it clarifies the outcomes of a given political situation. This investigation reveals *four major tension points* resulting from welfare system digitalization in Norway. The most pressing one is related to “questions of belonging and on who/what gets to count”, with the economic sustainability of the welfare state and the increasing welfare digital exclusion as central opposing standpoints. The second is

characterized by topics of trust, meaning and freedom, raising critical questions about “the meaning and value of communication” within welfare practices. The third uncovers time centred tensions and leads to critical questions about time, distribution and resources within digital welfare practices. Finally, technological productivity vs biological productivity dilemmas generates the last critical question. Here, the “techno vs the demos” or, in other words, the people’s governance vs automated governance, are essential points for further reflections.

The *third case* initiates deliberations about the results obtained using a social sustainability ethical framework to answer the four phronetical value-rational questions: 1) where are we going, 2) who gains and who loses, and by which mechanisms of power? 3) is this development desirable? 4) what, if anything, should we do about it?

It is found that, at the time being, future social welfare in Norway is narrated, and thus “told”, to be reached through economy, technology and the use of digital social engineering mechanisms, instead of via democratic processes and the social welfare deriving from shared responsibility, societal-care and societal-connectedness.

Accordingly, the dominant developmental tendencies discovered indicate that the current power-based developmental pathway Norwegian society is engaging in, generally neglects a perspective in which a sustainable future is reached through shared social wellbeing.

Dominant narratives reveal that techno-enhancement discourses are developing under time and economic centred values which, together with the global inequality context, a dominant technocentric approach towards social welfare development and a history which has shown to be marked by elitist eugenic values, indicate a naïve political approach towards welfare technology implementation in Norway.

Here, the societal risks and the widespread unsustainable outcomes of technocentric developments within the welfare sector in Norway, are not being fully considered. Norwegian citizens are not only increasingly being analysed and experimented with, their vulnerable information is also being collected and stored by high-tech multinationals in order to nurture the machine learning processes which power the most advanced AIs.

Still, welfare technology focused towards vulnerable individuals has the potential of enhancing the lives in which it is installed. Accordingly, there are four main groups benefitting from this type of development: vulnerable individuals within affluent contexts (and their family

members), public decision makers exclusively interested in cost reduction, a small global elite and the bio-tech monopolies associated to them, and technological non-human agents such as AI.

However, these results also expose that the social and environmentally unsustainable consequences these processes are causing on a global scale, such as the social and environmental issues deriving from the rare mineral extraction processes needed to support these “welfare” technologies, are being fully overlooked in the Norwegian context and its public debates and media coverage on welfare digitalization matters.

The results indicate that welfare technologies are making their way into the Norwegian welfare sector using vulnerability narratives. Here, it is confirmed that the elder sector is the key for the macro implementation strategy of welfare technology focused towards individual or private markets.

Consequently, vulnerability narratives are thought to be strategically introduced in public discourses and connected to welfare technology, to stimulate the public acceptance needed to start commercializing techno-enhancements in the public sector of the most developed welfare states. Thus, dominant discourses are one of the key power-based mechanisms generating the acceptance needed for the commercialization of these privately developed technologies on both individual and societal scales.

Therefore, it is not surprising that the results also highlight a spread tendency towards the technologically driven privatization of public administrations. Subsequently, the private technological infrastructures behind the process are, therewith, gaining access to large biological markets in which to implement and test welfare technologies, automated welfare programs, digital communications or new bio-tech appliances. This includes professionals within the Norwegian Labour and Welfare Administration (NAV) and the citizens dependent on them.

Correspondingly, the results also clarify which main groups are currently being affected by these technocentric welfare developments in a negative way, namely, digitally poor individuals (nationally), poor individuals (globally), poor countries, welfare professionals and other public employees, socio-environmentally friendly politicians, the environment and the living beings (co)forming it (including our species).

Privately driven digitalization and automation processes within the welfare system have generated a power-based lock-in mechanism towards the services provided by foreign high-tech multinationals, such as IBM. The private agendas operating behind this techno-dependence are thought to be the cause of the general underlying picture reflected through the results obtained. This picture represents a publicly perceived reality in which traditional forms of politics are thought to have lost their managerial power when it comes to public technological developments in the welfare sector. This means that the privately driven digitalization and automation of the Norwegian public services not only puts Norwegian democracy at risk, but also endangers the life quality of the Norwegian population, a life standard which through equality-based and socially friendly politics, the country has so long been working to develop.

Techno-dependence within the social, care and health sectors has been shown to be characterized by their time and economic-centred values, accordingly, the findings stress the fact that general social and environmental wellbeing is currently being neglected when it comes to digital welfare practices.

The historical and elitist differentiations about “deserving poor” vs “undeserving poor” characteristic to the previous Scientific Charity Movement are still being made in the Norwegian context, this, in order to admit new potential service users into the welfare system.

However, in the Norwegian context, these categorizations are based on digital poverty rather than economic poverty, in other words, the digital information a potential service user provides is the new “currency” deciding if one person gains access to the richest welfare system in the world, or not. Subsequently, new forms of digital welfare exclusion were identified, starting by the Bank ID. Herewith, it seems to be confirmed that Dataism has taken over social and welfare practices.

Additionally, this finding confirms that eugenic values remain very much alive at the heart of the world’s leading welfare system and may provide an answer to the increasing inequality being appreciated in the Norwegian context. Inequality is thought to be boosted through the digitalized eugenic values which, through highly-efficient automated processes and practices focused towards time and economic savings instead of case-accuracy metrics based on social sustainability ethical frameworks, are rapidly multiplying negative societal outcomes and generating increased fragmentation, inequality, poverty and discrimination.

More specifically, the AIs and automated values governing social welfare eligibility programs or redistributive algorithmic decision-making within the Norwegian digital welfare system, are affected by elitist human biases.

According to the findings, rich and socially friendly countries such as Norway, seem to have been used to promote foreign and private high-tech agendas through, among others, welfare technology implementation and welfare system digitalization and automation processes.

Still, whether Norwegian politicians and citizens are aware of it or not, welfare system digitalization and automatization processes in Norway, are loaded with capitalistic values towards welfare and historically biased views towards poverty. Such patterns seems to be causing increased poverty in both the Norwegian context and all over the world, putting the welfare of the most vulnerable at risk.

Additionally, the increasing automation of welfare services signals a high risk for welfare workers occupying decentralized positions, these, in the near future, could see their positions jeopardized.

Thus, the findings show that current societal perceptions in Norway have much to say about the country's future socio-developmental pathway and how it is failing to align with social sustainability ethical frameworks on both the national and the global scale.

The findings also confirm that there is a strong need for independent practice-based research within the Digital Social Work field and digital care-based practices. They prove as well, that there is a lack of attention towards the global outcomes of digital social work practices and automated welfare systems, accordingly, the development of additional case-based studies which provide the field with concrete information about the situated outcomes of digital welfare practices, could generate tremendously positive inputs in these poorly researched arenas. To do so, increased attention to the Principle 8 of the Global Social Work Statement of Ethical Principles (IFSW, 2018) must be encouraged.

To conclude, the need for case-based accuracy metrics in current digital welfare practices is highlighted. Then, in the public sector, ethical consumerism is suggested to be an essential area of concern before engaging in macro technological implementations, especially, when it comes to “welfare” practices. This could be the final contribution needed to initiate valuable critical conversations about the mineral extraction and production processes needed to develop these

“welfare” technologies, the deep-rooted techno-dependence the Norwegian public administrations are experiencing towards foreign technologies and the negative consequences this is causing.

Last but not least, the professional exclusion of “grounded” welfare workers and their service users when it comes to the planning and implementation strategies of these technologies, whether they happen towards the individual or the national scale, could finally be shown to be a deficiency factor adding to the current unsustainable results of digital welfare practices.

5.2 CONCLUDING DISCUSSION

The welfare sector and its traditional social practices are in the middle of a technocentric transformative process in which traditional decision-making powers are shifting not only from the social worker towards complex AIs, automated eligibility systems and machines, but also from the public towards the private spheres. In a global context marked by global warming, environmental destruction and social inequality, this process requires critical attention and further in-depth research.

This dissertation stresses the fact that privately driven technologies of poverty management, such as the ones currently being utilized by NAV, are not neutral and demonstrates that the systemic and technological lock-in mechanisms taking place with and within the fields of digital welfare and digital social work practices, are being influenced by given sets of socially and environmentally exclusive patterns for linear thinking.

The ontological hole generated through this process is affecting current social welfare practices, which are increasingly covering up perceived socio-economic vulnerabilities with more and more complex technologies and expanded technical procedures. However, such technological infrastructures and devices are being privately implemented by monopolistic and non-democratic high-tech corporations without being openly subject to accountability and transparency processes which could help clarify for what purposes our data are being collected, how they are used and why.

In the case of the welfare sector we are talking about critical data. I say critical because these data and metadata contain social vulnerability loaded information which can be used for various purposes, such as a potential American power-based takeover of some of the essential infrastructure sustaining the Norwegian public administration, with the political and national consequences this entails.

High-tech monopolies of Silicon Valley are strategically employing technologically mediated and power-based lock-in mechanisms to gain control over the development of various public infrastructures, as NAV's historical dependency towards IBM's technology has highlighted in previous sections. This infrastructural technology is behind NAV's operating system as well as the IT services needed to keep it running.

Therefore, it is thought that IBM "controls" the Norwegian welfare system, in the sense that the most vulnerable citizens of Norway and thus, the political representatives responsible for them, are completely dependent on the well-functioning of the technologically mediated redistributive operations carried out by this system.

Subsequently, the American company IBM headquartered in New York is benefiting from the Norwegian Oil Fund and might, as well, be administrating and thus controlling a share of it. A topic in serious need of further research and sustainability-focused deliberations which, given the lack of time, I have not been capable of exploring.

In-depth research is strongly suggested because power-based techno-dependency poses a great risk towards Norwegian democratic processes and its world class socio-environmentally friendly values. Additionally, this drives needed resources away from the areas where these funds could really matter for social and environmental sustainability purposes.

As was also recently emphasised by Silvija Seres³³, one of the most influential women in the IT sector in Norway: "if our lives are ruled by a few megamonopolies of Silicon Valley, there are no guarantees for Norwegian values to come to the front. It will be a large democratic challenge that our lives are, incrementally, ruled by people which were not democratically elected, and which are not in Norway. Our politicians do not see this as relevant for them. They still argue about income taxes" (Seres, Aftenposten 2007).

³³ See: https://www.aftenposten.no/amagasinet/i/02j00/Silvija-Seres-har-svaret-pa-hva-Norge-skal-leve-av-etter-oljen?spid_rel=2

Together with my findings, this statement seems to confirm that the operations of “automated welfare systems” are currently developed under IBM’s premises and, thus, American values, linking back to the eugenics movement and the associated human categorizations initiated by the American Scientific Charity Movement, presented in the second chapter of this project.

Additionally, these processes are happening under the already characteristic historical setting marked by socio-economic uncertainty. This time, deriving from the negative socio-economic consequences the Fourth Industrial Revolution is causing and the alterations Dataism is triggering in the way we think and develop our scientific fields, also presented in the second chapter.

Focusing on the tensions deriving from the escalating use of technology within the welfare sector my research was guided by the attempt to answer the following research questions:

1. *What are the dominant discourses at play in the implementation of welfare technology in Norway, and which tensions can be detected in Norwegian media coverage and debates on contemporary welfare system digitalization trends?*
2. *To what extent can these situated perceptions tell us something about the country’s future socio-developmental pathway and its alignment with social sustainability ethical frameworks?*

The mixed methods used to respond to these questions were grounded on case-based phronetical methods. However, a posthumanist framework was applied to sustain the critical perspective towards digital welfare practices and to include the environmental and digital spheres into the phronetical analysis of the results.

The results illustrating the answer to the ***first research question***, show that the dominant discourses present in Norwegian media coverage (and thus, in Norwegian public perceptions) associated to the implementation of welfare technology are strongly influenced by technocentric and capitalistic profit-based values, instead of displaying social sustainability concerns. Here, “*digitalization, effectivity and productivity*” discourses are overriding in pointing out the “*efficiency-focused*” narrative unfolding in the Norwegian context.

The findings also represent how pro-techno-enhancement discourses are taking advantage of vulnerable groups and vulnerable individuals situated within affluent contexts, this, to start introducing enhancement-focused technological devices into the vulnerable individual and vulnerable group markets in some of the world's most developed welfare systems, such as the Scandinavian. This constitutes a very interesting finding.

Here, even though in affluent contexts welfare technologies are enhancing the lives of vulnerable individuals and groups, generating therewith positive perceptions, it can also be hypothesised that, given the private and profit-based biotech markets operating behind the implementation of welfare technology, the Scandinavian countries may be intentionally being used to strategically develop the social acceptance needed to start introducing bio-tech enhancements on a macro scale in the near future.

However, it is unclear whether the Scandinavian countries and their citizens are aware of being subject to macro experimental procedures as well as being intentionally used by foreign high-tech and bio-tech multinationals to keep developing the same technocentric and exclusive pathways which have led us to present issues such as global warming, poverty and inequality rates on a global scale.

Still, as the phronetic evaluations point out, only the richest will have access to the newest techno-enhancement appliances, accordingly, these ethical deliberations should start to be introduced into political, democratic and public debates.

Subsequently, it is not surprising to discover that the tensions deriving from welfare system digitalization trends identified in public debates, are driven by exclusive tendencies as well. Here, tensions connected to questions of belonging, is one of the most pressing dilemmas within the Norwegian welfare sector.

An unexpected finding was how the Norwegian Bank ID is being used as a firewall for hindering access to one of the richest welfare systems in the world, even more surprising was it to find that IBM's technology is behind this process as well. This highlights an interesting topic for further research which, given the time constraints, must remain unexplored.

Thus, in many ways, it has been discovered that the essence of the Scientific Charity Movement of the past can be identified in the power-based automated classifications of different social groups currently taking place, powered by the remainings of past eugenic-based procedures.

This underlines the critical lack of posthumanist perspectives within the digital welfare sector and makes clear that there is a need for developing posthuman perspectives which can, cooperatively, empower us to overcome speciesism, its exclusive values and their subsequent destructive developmental pathways.

Subsequently, the *second research question* can, as well, be answered. As the results make clear, current situated perceptions on welfare technology implementation and welfare system digitalization are telling already that current Norwegian socio-developmental pathways and the technocentric developments associated to them, taking place with and within the Norwegian welfare sector, are failing to align with McKenzie's social sustainability ethical framework on both national and global scales.

This is mainly due to the technologically fostered societal division and exclusion this type of development entails, however, these automatized categorizations have not only developed based on an abstract set of values and meanings, but rather through the biased professional practice which absorbed and spread them in the past, leading to present socially unsustainable outcomes.

Given that current case-based Social Work stems partly from the Scientific Charity Movement of the past, and given the new social and environmental issues deriving from the Fourth Industrial Revolution, it could not be more relevant for social workers to finally overcome the historical exclusive and anthropocentric world views which have governed the field of Social Work through the years, by actively engaging in posthumanist modes of thought.

From a posthumanist perspective, I would like to stress a significant fact: Welfare technology and welfare system digitalization narratives in Norway (2017-2019) did not reveal the connections between the production processes needed to support welfare technologies and the environmental consequences deriving from them.

Since the environment was not reflected in any dominant perspectives towards digital welfare, the dramatic social settings linked to the rare mineral extraction processes were not mentioned either. Such perceptual disconnection shows, once more, why we are in critical need of applying a Posthumanistic perspective towards the development of sustainable social science research. Especially, if in line with phronetic social science and the true values of Social Work, we aim to develop research that matters, this time for both society and the environment.

On a global scale, social workers of developed countries are not truly enhancing social wellbeing by providing VR-glasses to elders so they can be entertained, as was published by Aftenposten in the 2018 article “*Elders living in elder homes get VR-glasses, stand up from bed and go out into the world*”³⁴. This does not mean that these elders do not deserve to “stand up from bed and go into the world”, it means that social workers and care workers are not doing their job.

This can be due to two reasons: These social workers’ lack of social and emotional abilities to deliver the meaningful conversation and therewith the emotional care and social wellbeing they were trained to deliver (which could be resulting from a lack of practice in social contact), or that there is a lack of employees working with these truly socially sustainable areas and employed elsewhere such as, for example, NAV’s digital platform or call-centers.

All this, while the true issues at stake, namely increased societal disconnection and spreading loneliness, keep taking place and growing. Emotional work is not easy, but avoiding our professional responsibility with “technological patches” will not make our shared future better.

Then, if we add the environmental and social sphere, we realise that the materials and the production processes needed to fabricate the VR-glasses we are defining as “welfare technology”, as well the many other technological gadgets falling under the same category, are causing new Congolese child soldiers to be recruited by mineral-providing militias³⁵ or adding to the 60 million children who were left behind in China by their parents³⁶ (Zhang, 2018) so that cheap workforce could help sustain an already unsustainable IT sector.

This extends to the so-called “sustainable” technologies as well. However, this opens a new debate which I, unfortunately, do not have time to make justice here. Still I would like to underline that such macro technological developments are happening under the umbrella of sustainable development, and mainly benefiting developed countries.

Additionally, the energy used in production processes, to which digital processing will later add, is massive. For digital processing, Greenpeace highlighted already in 2017 that “the energy footprint of the IT sector was already estimated to consume approximately 7% of global electricity” (Greenpeace, 2017).

³⁴ See: https://www.aftenposten.no/norge/i/VR9Mo1/Eldre-pa-helsesenter-far-VR-briller-og-kommer-seg-opp-av-sengen-og-ut-i-verden?spid_rel=2

³⁵ See: <https://www.bbc.com/news/magazine-24396390>

³⁶ See: <https://www.scmp.com/week-asia/society/article/2128700/one-60-million-life-left-behind-child-china>

At this point of the argument, we might start wondering until which point welfare technology can be considered to be a “welfare” tool, especially, when the original definition of “welfare” stems back to the c.1300 and the expression “*wel faran*” or the “condition of being or doing well” (etymonline.com³⁷). This notion is also rooted in the Old Norse concept of “*velferð*” which combines the words “*vel*” meaning “in a gratifying, right and fortunate way” or “in a good way” and “*ferð*” which denotes “a long travel³⁸” (naob.no), reminding us of the connection between true welfare values and true sustainable pathways.

Through an increased focus on digital welfare trends in which social and environmental sustainability frameworks are applied from a posthuman perspective, we might start realizing that the true issue at stake when thinking “digitalization” is not the economic or the technical, but rather the *status quo* one, as shown by the phronetic findings.

On a professional scale, and with the social of Social Work very present, it is difficult to understand how socially-beneficial progress can be gradually linked to a conscious or unconscious determination towards being substituted by a “digital other”, this, in order to remain “part of” the modern welfare system.

We cannot forget that we are aiming to move forward towards 4-dimensional thinking and as such, our professional developmental perspective is failing in reaching the conclusion that, in order for our species (and its technological creations) to subsist, we have to start communicating positively with our environment and other biological and non-biological beings.

Accordingly, the exponential growth and integration of technological and digital developments and enhancements, a phenomenon which has already been economically sanctified as the Fourth Industrial Revolution, needs to be subject of professionally established boundaries.

Posthumanism has been applied throughout this research to make justice to the complexity of our times and to support the development of socio-environmentally friendly knowledge generation processes which help address the concerning literature gap on digital social work and sustainability related matters. Social Work needs to change, and it needs to do so by critically thinking about the future it wants to achieve in times where global warming is putting

³⁷ Retrieved from: <https://www.etymonline.com/word/welfare>

³⁸ Retrieved from: <https://www.naob.no/ordbok/vel> 1 and <https://www.naob.no/ordbok/ferd>

the living at risk. However, critical thinking will not get us far without actively working towards cooperatively achieving sustainable outcomes for our present and future practices.

The use of a posthumanist framework of thought to critically analyse current digital social work practices has led to very beneficial results, as has been demonstrated in Case 3. Among others, it is shown how an applied post-anthropocentric sustainability perspective towards social work practice provides the theoretical empowerment needed to fill the ontological gap the field has been affected by, therewith allowing us to start working to develop the much-needed renewed perspectives that social work professionals have been lacking.

Therefore, in the list of suggestions developed in the section 4.6.4. (page 111-112), both Posthumanism and Phronetic Social Science are recommended as positive tools to support and help rethink social work and welfare practices, this time, from a social justice and sustainability perspective which eliminates the historically exclusive values currently leading to negative socio-environmental outcomes. This would redirect the field towards its true potential, that is, to generate social bonding and community building through socio-environmental empowerment and sustainability-based practices.

Through Posthumanism, Social Work can learn to develop new affirmative and shared purposes for social work practice and counteract the intellectual purge the field has been intentionally subject of.

Some promising examples which highlight that the Social Work field has started to change are the 2009 article “*Social work and the changing face of the digital divide*” published in the British Journal of Social Work³⁹, which offered social workers and other welfare-related professionals insights about the new inequality issues stemming from the digitalization processes of public fields, stating that traditional forms of exclusion combined with the new forms of digital exclusion could end up reinforcing each other, leading to even greater fragmentation patterns (Steyaert & Gould, 2009). As the results of my research have verified.

Then, in 2012, the article “*It just crept in: The digital age and implications for social work practice*”⁴⁰ published in the Clinical Social Work Journal and focused towards the topic of cyber-communication in the emerging field of digital social work practice, showed the central elements of the profession being affected by the increasing use of technology and digital

³⁹ See: <https://academic.oup.com/bjsw/article-abstract/39/4/740/1622748>

⁴⁰ See: <https://link.springer.com/article/10.1007/s10615-012-0383-4>

communications (Mishna et al., 2012:283). Additionally, other authors such as Mattison (2012) also address the topic of digital communications. Here, as my study also confirms, digital communications are altering the social-worker-service user relationship.

However, the literature available on specialized databases under the key words “digital social work”, as well as the lack of case studies directly related to the “outcomes” of digital social welfare practices, has still been found to be concerningly absent.

While my research contributes to start addressing this literature gap, the themes of deeper categorizations and examinations of situated socially and environmentally unsustainable welfare practices deriving from the increasing automation of distributive procedures, as well as detailed analysis of the tension points deriving from service user / social worker digital communications, are herewith strongly suggested for further research.

So there is a considerable gap in the existing Digital Social Work literature, and the existing research has overlooked the sustainability issues deriving from the procedural elements of macro-level implementations of welfare-related technologies. This suggests a deficient appreciation of the social and environmental risks associated to the use of automated technology within the field, which leads to a probable professional mass-violation of the Principle 8 of the Global Social Work Statement of Ethical Principles⁴¹ (IFSW, 2018) in Developed countries. This principle was presented in the introductory section.

Only now, we start seeing how the past focus on the individual context and community context is changing towards an increased focus on the macro-level. Ideally, with broader focus, social workers will become more independent and more involved with the design and construction of public policy, relating directly to macro-public interventions and advocacy on a large scale. Still, the major risk for Social Work theorists, is forgetting to connect and to adapt these new holistic or macro-perspectives to a situated context, to the environment and the consequences our activities entail for other living beings.

On the positive side is the fact that the increasing pressure of climate change for vulnerable social spheres, has started to be increasingly taken into consideration within Social Work literature. Accordingly, the anthropocentric-focused perspectives characteristic of the profession are slowly transforming and integrating increased environmental awareness. Works such as “*Environmental Social Work*” (Gray, Coates, & Hetherington, 2012) or

⁴¹ See: <https://www.ifsw.org/global-social-work-statement-of-ethical-principles/>

Dominelli's ground breaking "*Green Social Work: From environmental crises to environmental justice*" (Dominelli, 2012) are leading to the birth of "Green Social Work". However, still much work is to be done since, as posthumanist philosophers underline, these reactions are often triggered by existential fear, instead of shared wellbeing, connectedness, respect and empowerment.

Lastly, I would like to refer to Virginia Eubank's work "*Automating Inequality: how high-tech tools profile, police and punish the poor*" which has strongly influenced my research. Accordingly, my dissertation builds upon the digital social work and practice-based knowledge that Eubanks introduced. More specifically, through the Norwegian case and practice-based findings obtained from the public perceptions towards NAV's digitalization and automation processes, my research increases the reliability and validity of Eubank's findings, concerning the case of Indiana and IBM's 2006 automated welfare system experiment.

The unsustainable social consequences generated in Indiana by IBM's experiment are highly similar to the social consequences identified in the Norwegian context. This strengthens Eubank's hypothesis on how we are currently living under a data-driven regime in which the most invasive and punitive systems are aimed to the poor (Eubanks, 2012, 2018), a hypothesis which I have come to share.

Through this research, I have developed new thinking about digitalized welfare and learned to overcome the negative tendencies my profession (social work) has developed through the years. I have done so by aiming to develop knowledge that matters, in line with Phronetic Social Sciences. I have therefore provided relevant insights to nurture healthy, responsible, ethical and sustainable forms of politics and policy-making processes as well as highlighted areas in critical need for further research. This has been done by generating a solid contribution to digital welfare research which strengthens the possibility for further comparative studies. This contribution also enhances and sustains progressive Social Work theory which considers and integrates the social, technological and environmental spheres.

I have also discovered the dominant *welfare technology* narratives at play in the Norwegian digital welfare landscape and mapped the most pressing ethical tensions resulting from Norwegian welfare system digitalization, therewith defining where the Norwegian digital welfare sector stands today in relation to current sustainability transitions, thus contributing to Norwegian risk-related social sustainability and case-based literature. This also starts to address the concerning theoretical gap affecting the digital social work theoretical landscape,

by enriching the digital welfare field in general through the affirmative critical theory, the relevant findings and the integrative ethical reflections generated through this research.

However, I could not have generated affirmative contributions without having actively applied a posthumanist framework of thought towards my own social work profession and academic background, as well as canalized the new perspectives obtained through applied phronetic methods. Thus, my research has contributed to generate an “applied form of posthuman ethics” which actively enriches and further develops both the phronetic social science and the posthumanism fields, hopefully leading as well to contribute to develop new socio-environmentally sustainable social work initiatives. To my knowledge, this combination of phronetic social science with posthumanist ethics has not been applied previously by others.

Subsequently, cartography accuracy, a sense of ethical accountability deriving from the unveiled power locations which structure my subject-position, the use of trans-disciplinarity, the combination of critique with creative figurations and the principle of non-linearity have contributed to sustain my strategy of de-familiarization (Braidotti, 2013), the sovereign process by which I, knowing subject, have “disengaged from the dominant normative vision of the self I had become accustomed to, and evolved towards a posthuman frame of reference” (Braidotti, 2013:167). Thus, at the end, the power of professional memory has caused “an active reinvention of a self that is joyfully discontinuous as opposed of being mournfully consistent” (Braidotti, 2013:167).

As such, I-social worker, am ready to leave my social work background behind and embrace my new “*Sustainability Work*” future. It is time to show history that true sustainable welfare does not need self-defined spatial or temporal boundaries. It is also time to show that sustainable information can and must be distributed equally among the field’s components and that our system is evolutionary and ready to achieve shared wellbeing and sustainable outcomes for the living. It is time to prove that social workers have the potential for surprising change.

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