

Comparing Two Definitions of ‘Welfare technology’ - An Ideal-type Analysis Using Industrial and Welfare Societies

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The Swedish government has recently invested millions in ‘welfare technologies’, which are aimed at both enhancing safety and solve the demographic problem of an increasing elderly population and a consequent lack of healthcare personnel. Studies have shown that when welfare technologies are implemented, core values are getting lost due to a lack of knowledge on how to transform the caregiving and care-taking relationship through the use of digital technology. This study investigates correspondences between values associated with two welfare technology definitions and the ideal-types of a welfare and an industrial society. The results show that the definition created by IT & Telecom Industries includes values that are similar to those of the industrial society ideal-type, while the definition created by the Swedish Auxiliary Institute includes values similar to those associated with the welfare society ideal-type. This shows a gap in value prioritization of the creators of these definitions, which leads to confusion regarding the purpose of welfare technologies.

Keywords

Definition, ideal-types, industrial society, welfare society, welfare technologies.

1. Introduction

‘Welfare technologies’ are technologies that aim to support vulnerable people, such as elderly and impaired people, their relatives and sometimes their caregivers, in their everyday lives and work. Alarms, planning systems, robots and applications used in the care sector are all examples of welfare technologies, together with assistive technologies and applied in the care sector. In 2018, the Swedish public sector invested 350 million SEK in increasing the implementation and use of welfare technologies within municipalities to support citizens and improve their safety. This demonstrates the public sector’s strong will to improve welfare in Sweden. But supporting the vulnerable in their everyday lives is not the only argument raised to advocate for welfare technologies. The demographic problem—that is the increasing number of people over 80 years of age and the lack of educated caregivers to take care of them—is also a pressing problem. This argument is raised from an economical perspective, where the aim is to replace caregivers with technologies, resulting in a more effective working process, enabling more patients to be taken care of with the same resources and within the same timeframe as before. This solution may provide a better working environment for caregivers but it may also make them more time-focused. According to Andersson and Kvist [1], elderly care in Sweden has recently become more and more influenced by neoliberal politics, which emphasize economic efficiency and cost reductions through market competition. This may be one of the reasons why Frennert’s study on municipalities’ implementation of welfare technologies finds that the core values of care are being lost in the quest for digitalization and that, currently, there is a lack of knowledge on how to transform the caregiving and care-taking relationship through the use of digital technology [2]. In other words, the values included in the creation of welfare technologies do not always correspond to the values of the caregiving and care-taking relationship. Critique has also been turned towards how new technology in care organizations can threaten the care workers own definition of what constitutes good care by focus too much on performance [3-8]. Regarding the existing definitions of welfare technology Brynn (2016) identifies them as multiple and vague and that there is a need for them to be set [9] in the quest for a common understanding of the purpose and aim of welfare technologies.

There exist two diverging perspectives on the purpose of welfare technologies. From one perspective, they are welfare-oriented technologies that provide safety and support for vulnerable people, while on the other, they are related to economic values, such as cost reduction. This means that there exists a confusion among the concept of 'welfare technologies' related to how it is expressed and what it is associated with. The purpose with this study is to investigate this confusion further and create a deeper knowledge about it. This by taking on two different definitions of 'welfare technology' one created by the private sector (The Swedish IT & Telecom industries) and another by the public sector (The Swedish auxiliary institute) representing the creators and the users of welfare technologies. As the private sector are associated with the private market and values within it such as financial efficiency, and the public sector are associated with 'public good', the logic or behind the two differentiate. Because of this difference this study has chosen to analyse the two definitions (table 1) one created by IT and Telecom Industries and the other by the Swedish Auxiliary Institute (Hjälpmedelinstitutet) by using societal ideal-types.

Table 1. Two definitions of 'Welfare technology'.

IT & Telecom industries	The Swedish Auxiliary Institute
<i>'Welfare technology includes technology and services that facilitate and streamline access to and use of welfare services such as services in healthcare, care, school, the environment and culture. Welfare technology, a concept that has been used in Denmark for several years, is necessary to ensure the welfare of society as demographics change, fewer people apply for jobs in the area, and the economic opportunities in society require rationalization and productivity improvements'.</i>	<i>'Welfare technology can contribute to increased security, activity and participation in society. Welfare technology includes knowledge and use of technology that can contribute to increased security, activity, participation and independence for people with disabilities of all ages and their families'.</i>

By using ideal-type analysis the values within the definitions are compared with values within the ideal-types of welfare and industrial society as they are assessed to be good representatives of the public and private logic. The aim then, is to identify the extent to which the creators of the definitions are influenced by values and driving forces within one or neither of the ideal-types. If the values within a definition correspond to some degree, with one of the values within the ideal-types, the creators may also have other corresponding fundamental values associated with the ideal-types. Depending on who the creators and users of the welfare technologies are, these fundamental values may play a big role due to their effects on the creation process.

This paper proceeds as follows. It begin by presenting of the analytical framework which consists of a presentation of the ideal-types methodology and how it can be used in qualitative data interpretation. Thereafter the two ideal-types of an industrial and a welfare society are presented followed by a method chapter explaining the value interpretation process of the ideal-types and the definitions, together with the comparative analysis. The results are presented in the form of values within the ideal-types followed by a comparison among them and the values within the two definitions. Further an analysis of the result is provided and later a discussion that relates the result to a bigger picture, finally ending with a summarizing conclusion.

2. Analytical framework

This section begins with an explanation of values followed by a presentation of ideology and ideal-types of an industrial society and a welfare society.

Driving forces are forces that make people or societies do certain things to reach certain goals, which often relates to values. When discussing what value means, several terms arise, including instrumental value, final value, subjective value and objective value. If something is instrumentally valuable, it can lead to something that is valuable but may not be especially valuable in itself, whereas if something is finally valuable, it is valuable for its own sake [10]. In this study values are used to enable comparison among definitions and ideal-types, this by identify values within them.

According to Fredden (2003), 'ideology' is one of the most controversial terms in the political vocabulary, and ideologies are ways of interpreting our political and social environments [11]. In a neutral sense, an ideology can be explained as a description of the organization of the beliefs of a

population or a culture. Today, the word often carries a negative connotation, as it divides people according to sets of distinct beliefs [12].

Weber explains the usage of an ideal-type as a way of understanding the characteristic features empirical data. Ideal-types are not a description of reality but it aims to give an unambiguous means of an expression such as a description and it is formed by one or more points of view into a unified analytical construct [13]. The methodology behind using ideal-types are often related to Max Weber as the creator and called ideal-type analysis. It can be explained as bringing particular case, full of messy particulars, under a heading of and ideal typical, resulting in that some of those particulars get eliminated. This means that when creating an ideal-type the selection depend on value-relevance. [14] This study is using ideal-type analysis to investigate the values within two definitions of welfare technology. By creating the ideal-types of a welfare and an industrial society the definitions are analysed by correlation among the values existing in the definition and the ideal-types.

One important note is that I am aware of the fact that the welfare society has developed from the effects of an industrial society and therefore separating of the two are not so simple. But in this study this separation of the industrial and welfare society are used to create very exaggerated and distinctive pictures of the two illustrating their extremes.

2.1 The ideal industrial society

The industrial society is a well-discussed subject, and many authors have made attempts to describe it [15] [16] [17]. This section attempts to create an image of the ideal industrial society and identify its values and the driving forces behind it to create an ideal-type. In the 1970s book *The Coming of Post-Industrial Society*, Bell [15] creates a picture of a future post-industrial society that has evolved over three eras, from pre-industrial to industrial to post-industrial society. In pre-industrial society, farming was the most common way of providing for a family. Raw materials were the output, and nature and climate played a significant role. When the Industrial Revolution began, we entered industrial society. Farmers were played out by mass production because of the rise of the steam engine. In this new industrial society, financial values were the focus and white-collar jobs were established. Production was racing against the clock with a focus on efficiency and increasing profit. This era is often associated with a positivistic philosophy. Currently, we have entered the post-industrial society in which knowledge, technology and innovation are key factors. The economy has become global because of developments in technology, which have resulted in increased communication capacities. Even though we have entered a new social order, the mind-set of industrialization is still strong. In this study, Bells account of an industrial society is used as a basis for creating an industrial society ideal-type.

The Industrial Revolution brought a shift towards mass production led by the private sector, which Bell calls the economizing mode. The economizing mode comprises the essential technique for waste reduction and is associated with words such as 'maximization', 'optimization' and 'least cost' – in short, the components of rationality. The value system of a production or industrial society is centred on economic growth and its cultural value, especially in Western society, which has seen an increase in the private consumption of economic goods [15].

The economizing mode also has a number of drawbacks. The first is the fact that it only measures economic goods. A lot of things that humans value are free, including clean air, pure water, satisfaction at work and meeting friends. The second drawback is the existence of 'spill overs', such as the increase in the social costs of air pollution as a result of the increase in automobiles. The third and last drawback that Bell mentions is an imbalance between public and private goods. In popular psychology, taxes are considered to be 'money taken away from me by them' instead of a necessary purchase of public services [15].

According to Bell's comparative schema, the industrial mode of society can be described by ten factors: mode of production, economic sector, transforming resources, strategic resources, technology, skill base, methodology, time perspective, design and the axial principle [18]. The industrial society, according to Bell, can be described as a goods-producing, manufacturing society, which mainly uses machine technology. In the industrial society, ways of transforming the resources of oil, gas and coal were constantly being improved by engineers and semi-skilled workers. Using the strategic resource of financial capital, the industrial society constantly strove towards economic growth.

2.2 The ideal welfare society

According to Pierson, the word 'welfare' is related to 'well-being' or 'the material and social preconditions for well-being'. It can be separated into the following three concepts [19].

1. Social welfare: the collective and sometimes sociable provision or receipt of welfare.
2. Economic welfare: those forms of welfare secured through the market or the formal economy, such as through the church, voluntary organizations and the family.
3. State welfare: the social welfare provision provided through an agency of the state, such as governmentally financed health care, education and the state pension.

There has been confusion about where to draw the line between social and state welfare or whether they are interchangeable. State welfare is referred to as state operations that meet key welfare needs, such as health care, education and social services, and is often based on the logic of economy, whereas social welfare refers to the actual welfare movement among citizens, such as demonstrations of solidarity, helpfulness and other welfare values. Daily argues that the concept of welfare has a strong moral content, meaning that it not only involves how we live ourselves but also how we believe others should live. [20]

In this study, the welfare society ideal-type is based on the concept of social welfare because of its focus on core welfare values for citizens and not economic values, such as state budgets and operationalization. The state welfare perspective is not an optimal basis for creating an ideal-type of a welfare society as it involves economic values.

In relation to the previously mentioned economizing mode, Bell also discusses a socializing mode [18]. This involves a more conscious way of judging a society's need from a 'public interest' perspective. His explanation has two fundamental aspects. The first is social justice, which he defines as the inclusion of all people in society, and the second is a distinction between individual and social goods. Individual goods are the goods an individual can buy for him- or herself, such as clothes, electronics and cars, and social goods are communal services such as public parks, water resources and highways. This means that the socializing mode is more focused on social justice and collective thinking aimed at creating a society that includes everyone. As this explanation is still to some extent too operational to explain the ideal-type of a welfare society, a more political image will be used.

In the book *On the Other Side of the Welfare State*, Lagergren discusses the ideology of the welfare that has been a foundation for the creation of the Swedish welfare state. Metaphorically, the ideology is termed the 'peoples home' ('folkhemmet' in Swedish), which creates an idealized cognitive model of a safe society built on solidarity. The word is derived from the industrial era when patriarchal rules within families, which ruled the labour market at the time, were destroyed. Market competition meant that people were individually judged, and the traditional family roles within the labour market were destroyed. To preserve the family feeling, a political parent community called 'the people' was borne, which was later related to a society called the 'people's home' [21].

Lagergren also described the ideology of the 'peoples home' as collectivism, according to which individuals are created by communities. The moral ground of this politics relates to solidarity and societal motherhood, where citizen's attitudes are based on obeying the communal demands of society. The nature of ethical properties is that they are built on moral premises where norms are separated from a historical context [21].

Two of the most obvious characteristics of an ideal welfare society are fairness and equality. These words are often used to describe the notion of a welfare society. The main building block to create this society is the assumption of human morality. If humans in a welfare society do not have morals, meaning the motivation to make the 'right' choice instead of the 'easiest' one, the whole society will fall apart. For example, Penelope Hall argued in a text from the 1950s that the basis of a welfare state rests on 'the obligation a person feels to help another in distress, which derives from the recognition that they are in some sense members one of another' [22].

Lagergren interprets various political metaphors connected to the 'peoples home' and identifies a number of core values from political statements: free rights, the provision of safety and care, order and organization, common solutions in everyone's best interest, solidarity, thoughtfulness, cooperation, helpfulness, trust, community and togetherness, a society built on two genders, functionalism, equality and no privileged or revoked.

3. Methodology

Using a comparative methodology [23] this study investigates the similarities among the values contained within two definitions of welfare technology and the values and driving forces behind the ideal-types of a welfare society and an industrial society. The purpose is to investigate the extent to which the creator of a definition affects the values behind the definition. The methodology of this study can be divided into three steps, which are explained below.

First, an analytical framework is constructed by creating two ideal-types [14], one of a welfare society and one of an industrial society. For the ideal-type of an industrial society, Bell's account of the development of a post-industrial society derived from an industrial society is used [15]. The ideal-type of a welfare society is based mainly on Lagergren's political vision of the 'peoples home' [21], which is an account of an ideal of the society and not the existing reality.

Second, after the two ideal-types have been established, an interpretative methodology, consisting of text reading and analysis, is performed. The purpose of this is to identify the values and driving forces behind the two ideal-types, resulting in a summarized list. This list is later used as a framework for the analysis of the two definitions of welfare technology.

In the third and final step, the values found in the definitions to the list of values and driving forces behind the two ideal-types. The identified similarities are presented in the results chapter and then analysed and discussed from the perspectives of both the creators and the users of the technologies.

4. Values in welfare technology

This chapter presents the results of this study, beginning with a list of values and driving forces that is summarized from the ideal-type of a welfare society and an industrial society. This is followed by a comparison of the values listed for each ideal-type and two different definitions of welfare technology. The results of the comparison present the similarities between the definitions and the ideal-types of a welfare and an industrial society.

4.1 Values and driving forces

By reading and analyzing the two above texts in chapter 3, table 2 could be created from summarizing the idea-type values and diving forces that appeared one time or more in the text. The values and driving forces are from now on called values for the benefit for the reader. Table 2 presents the values without mutual order.

Table 2 Summary of values and driving forces behind the ideal-types of a welfare society and an industrial society.

SUMMARY OF VALUES AND DRIVING FORCES	
<i>Welfare ideal-type</i>	<i>Industrial ideal-type</i>
Moral	
Public interest	Mass production
Justice	Clock
Inclusion of all people	Effectivity
Social goods	Increase profit
Free rights	Maximization
The provision of safety and care	Optimization
Order and organization	Least cost
Common solutions in everyone's best interest	Rationality
Solidarity	Increase private consumption of economic goods
Thoughtfulness, cooperation, helpfulness and trust	Goods producing
Community and togetherness	Manufacturing
Functionalism	Engineer
Equality	Empiricism and experimentation
No privileged or revoked and a society built on two genders	Financial capital
	Economic growth

4.2 Value comparison

According to the Cambridge Dictionary (www.dictionary.cambridge.org. Date: 2020-01-20), a definition is a statement that explains the meaning of a word or phrase, describing the features and limits of it. The two definitions (table 1) used in this study are gathered from a pilot study carried out by the Swedish Association of Local Authorities and Regions (SKL) together with Swedish IT and Telecom Industries (IT&Telekomföretagen) [24]. The two definitions have different creators: one was created by IT and Telecom Industries and the other by the Swedish Auxiliary Institute (Hjälpmedelinstitutet). Table 2 presents the two definitions translated from Swedish into English. The values identified in the definitions are marked in bold text in Table 3.

Table 3. Identified values within 'welfare technology' definitions.

IT & Telecom industries	The Swedish Auxiliary Institute
'Welfare technology includes technology and services that facilitate and streamline access to and use of welfare services such as services in healthcare, care, school, the environment and culture. Welfare technology, a concept that has been used in Denmark for several years, is necessary to ensure the welfare of society as demographics change, fewer people apply for jobs in the area, and the economic opportunities in society require rationalization and productivity improvements '.	'Welfare technology can contribute to increased security , activity and participation in society. Welfare technology includes knowledge and use of technology that can contribute to increased security, activity, participation and independence for people with disabilities of all ages and their families'.

The definition from the Swedish IT & Telecom Industries shows values that are similar to those of the ideal industrial society. Values such as *productivity*, *rationalization* and *economic opportunities* correspond to *increase of profit*, *least cost*, *goods-producing*, *financial capital* and *economic growth*, all of which are listed as values of the industrial society ideal-type in table 2. The definition is focused on solving the demographics problem—the fact that the elderly are getting older, creating a shortage of educated caregivers—from an economic perspective. According to this view, the purpose of welfare technologies is to fill the gaps created by the shortage of personnel in welfare organizations, resulting in reduced costs and productivity improvements. Even though many of the values correspond to the values of the ideal-type of the industrial society, some of them, such as *rationalization* and *facilitation*, also corresponds to the welfare value of *functionalism*.

The definition created by the Swedish Auxiliary Institute in which values such as *security*, *activity*, *participation* and *independence* can be found, relates to the following welfare ideal-type values found in table 2. *Security* corresponds to the welfare society ideal-type values of *providing safety and care*, *activity*, *common solutions in everyone's best interest*, *participation*, *solidarity*, *thoughtfulness*, *cooperation*, *the inclusion of all people*, *helpfulness*, *independence* and *free rights*. The definition does not focus on any of the economic values found in the account of the industrial society ideal-type, such as *economic growth*, *consumption of economic goods* or *least cost*.

To summarize the results show that the values found in the definition by Swedish IT & Telecom Industries correspond significantly with the values found in the account of the industrial society ideal-type, while the values found in the definition by the Swedish Auxiliary Institute correspond more to values found in the welfare society ideal-type.

5. Analysis

The results show that the values within the two definitions of welfare technology correspond with values associated with separate ideal-types. This may stem from the fact that they have different creators, who can be assumed to contribute significantly to the values embedded in the definitions. The definition created by IT and Telecom Industries corresponds significantly with the values found in the ideal-type of an industrial society, while the definition by the Swedish Auxiliary Institute corresponds more to the values within the ideal-type of welfare society. This is not particularly surprising given the sectors from which the creators of the definitions originate from. Many of those who work for IT and Telecom Industry have a computer science background, and this is a sector in which, as Bell notes, there are a large number of white-collar workers [15]. Time and cost are vital components of good customer service, and this sector is characterized by private market competition.

The Swedish Auxiliary Institute has a different perspective, relating to people with impairments, where time and cost may be important but not as important as other welfare values such as safety, participation and independence, resulting in a definition containing different values.

Frennert (2019) notes that 'the core values of care get lost in the quest for digitalization' [2]. These core care values are related to welfare ideal-type values. This means that these are under-estimated in a world of digitalization, where the economic values related to the values within the industrial ideal-type are prioritized. When economic values are used to design technologies, the implemented technologies do not fit the needs of users. Therefore, even the early stage defining technologies according to economic values affects the creation, implementation and use of the technologies.

Vanderburg discussed appropriate and inappropriate technologies and argued that the values behind the technologies must match the users' needs. He uses the example of a hammer. If the only tool available was a hammer and all problem were nails, hiring a contractor would lead to cracked windows and destruction. But this is exactly the situation civilization is facing today when the same tools are used for different types of problems. Vanderburg calls these 'inappropriate technologies' [25], technologies created for one purpose can seldom be applied somewhere else unmodified due to the differences in the values of the creator and the user. This is a problem that can occur with regard to the use of welfare technologies when different definitions are used during the creation process. The Swedish IT and Telecom Industries create welfare technologies such as alarms, cell phone solutions and resource planning. As their values to those of the Swedish Auxiliary Institute, who represent the users of welfare technologies, these may be 'inappropriate technologies'. Therefore, caution is important when defining what values will be prioritized during the creation of welfare technology. The focus should be on what needs the welfare technologies aim to satisfy and not on what the beneficial effects could be. For example, implementing a night-time alarm at an elderly person's home should have the main aim of providing safety for the elderly person at all hours of the day and night and not be mainly aimed at reducing cost by minimizing the travel time of care personnel, even though this is a positive effect.

Values are depending perspective and colored by goals. The aims of reducing costs and maximizing profit originate from the mind-set of industrialization. On the other hand, the aim of providing the best possible care means that welfare values are prioritized. Therefore, we must ask which values are the most important. Both ideal-types are associated with values that can be viewed positively in relation to the development of welfare technologies. As mentioned above, the use of technology for profit within welfare organizations can have negative effects if welfare values are forgotten. Therefore, a combination of the two can be good, as long as precautions are taken and the users' values are not forgotten.

6. Discussion

The choice to analyse the two definitions using the ideal-types represented by the industrial society and the welfare society was based on the fact that the two ideal-types represent extreme societies at opposite ends of the social spectrum. In reality, societies are not generally as extreme as they are pictured in this study and in previous literature on the subject. However, these extremes function as a useful tool to highlight certain core values and driving forces. As the welfare ideal-type comes from a political perspective and a vision of the ideal welfare society, and the industrial ideal-type is a historical reflection, the two are constructed slightly differently. While the two ideal-types represent two extreme societies, they are represented in this study as lists of terms expressing values.

An interpretative methodology places significant responsibility on the researcher and, therefore, demands transparency. This is one of the reasons why identified values are directly presented in the texts by using bold text. The aim by doing this was to minimize my own interpretation and allow readers to interpret the values by them self directly from the context of the text.

Overall, the results of this study show that there are different definitions of welfare technology and they each represent different values. One corresponds to values associated with an industrial ideal-type and another corresponds to values associated with a welfare ideal-type. One difference that separates the creators of the two definitions is their relations to the Swedish public and private sectors. Swedish IT and Telecom Industries is a member organization for 1,300 IT and telecom companies who together drive and develop the Swedish IT and telecom market. They want to highlight the benefits of IT and telecom and support its usage with the aim of increasing economic growth (www.itot.se). This goal correlates with the values within their definition of welfare technologies which includes mention of economic opportunities and productivity improvements. They also state that 'the economic opportunities require rationalization and productivity improvements'. I have highlighted the verb

'require' as it gives the reader a sense that this is something that has to be done now or as fast as possible due to financial difficulties. Welfare technologies may represent a valuable opportunity to increase productivity and rationalization, but the importance of welfare values should not be forgotten along the way.

The pilot study [24] used as empirical material in this study is carried out in 2014, which can contribute limitations of this study. This because of the increasing amount of research and knowledge production regarding digitalization and healthcare. Even though this study assessed to be important as it highlight the existence of multiple definitions of welfare technologies and their value inconsistencies.

The Swedish Auxiliary Institute is a non-profit organization whose members are the state and Sweden's municipalities and county councils. Their work aims at enhancing participation, equality and safety for people with impairments. Their core values, as the results show, correspond with welfare values. Since its members are the state, municipalities and county councils, it is related to the public sector, which is constructed not on economic factors, such as increasing profits, but rather on increasing welfare in Sweden.

Thus, we can see that the definitions are coloured by economic and welfare values related to the private and public sectors. Both have their advantages and disadvantages. As the economy will always be a central aspect of society, economic values cannot be neglected. However, when constructing, implementing and using technologies in welfare organizations, welfare values cannot be forgotten due to the nature of the technology. The main goal should be to satisfy the needs of the patient and the technology should never deviate from that.

Vanderburg (2012) argues that there are two types of relationships between people and their surroundings: 'people changing technology' and 'technology changing people' [25]. Welfare technologies should not change patients or their values according to economic values but should meet patients' needs with the aim of creating welfare.

7. Conclusions

Today, the term 'welfare technologies' has is defined differently by different parties with different values. This study examines two definitions, one created by Swedish IT and Telecom Industries and one by the Swedish Auxiliary Institute, extracts their values and compares those values to those contained in pictures of the ideal-types of industrial society and a ideal welfare society. The purpose of this is to investigate the extent to which the creator of a definition affects the values behind the definition. The results show that the values within the definition created by Swedish IT and Telecom Industries correlates to the values and driving forces behind the ideal-type of an industrial society but not of those behind the ideal-type of an welfare society. Conversely, the definition created by the Swedish Auxiliary Institute correlated significantly with the values and driving forces behind the ideal-type of a welfare society.

As Swedish IT and Telecom Industries are creators of welfare technologies, they focus on economic values, such as efficiency and reducing costs. As discussed in the introduction, the focus on economic values and market competition has already negatively affected elderly care by placing too much focus on time and cost. A good way of balancing this would be to ensure welfare values are always considered in the creation process. Economic values will always play a significant role in the public sector, but welfare values must be prioritized to improve care.

It can be concluded that even the early stage of defining welfare technologies according to economic values affects how these technologies will turn out. One solution would be to make sure the existing definitions are more balanced, involving values associated with both ideal-types and stating which values may be more important than others. This would also counteract the fact that there are currently multiple very different definitions that generate different perceptions of what welfare technologies are.

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