SCIENTIFIC PAPERS OF SILESIAN UNIVERSITY OF TECHNOLOGY ORGANIZATION AND MANAGEMENT SERIES NO. 183

2023

HUMANISTIC SERVICES IN THE CONTEXT OF IMPLEMENTATION SOCIETY 5.0

Grażyna OSIKA

Silesian University of Technology; grazyna.osika@polsl.pl, ORCID: 0000-0002-8729-1001

Purpose: The main purpose of the article is to describe humanistic service as a corrective tool to support the implementation of the Society 5.0 concept, making it possible to mitigate any side effects associated with the technicisation of the human living environment.

Design/methodology/approach: Society 5.0, is defined as a human-centred society that aims to balance economic development with solving social and environmental problems through the use of advanced information technology, IoT, robots, artificial intelligence, and augmented reality. A technical focus in the implementation of this concept may conflict with its general idea, i.e. a social project in which the human being stands at its centre. Therefore, in parallel to the development of the technological background, it is necessary to think about the implementation of services that allow people to "experience their humanity" in this technicised environment. This is to be achieved by developing the idea of humanistic services as an attempt to anticipate needs and possible ways of satisfying them in a world in which the concept of Society 5.0 has already been implemented. It is assumed in the deliberations that in order to create a society at a universal high level of perceived well-being, it is necessary to balance technological progress with the development of services that support humanistic values. Due to the anticipatory nature of the investigation, a conceptual analysis has been used in the study.

Findings: In this research, the concept of Society 5.0 and social services were defined; the negative effects that may accompany the technicisation of the human living environment, which may prevent the achievement of well-being, were identified; a service gap was pointed out; a new type of service - humanistic services - was defined; their areas of activity and functionality from the point of view of reaching a high quality of life were preliminarily identified.

Research limitations/implications: These considerations are merely a conceptual sketch and, as such, call for more in-depth theoretical analyses, which will then be subjected to empirical verification, for example, as a pilot of humanistic services.

Practical implications: The research carried out in this article has a very practical dimension, as the theoretical analysis undertaken was aimed at developing very concrete outcomes, i.e., services that can help counteract the negative effects of the technicisation of the human living environment.

Social implications: The article has a conceptual function; according to the applied research method, it allows developing the concept of Industry 5.0, paying attention to what aspects will have to be considered in its implementation, taking into account the human-centred perspective.

Originality/value: The most significant achievement of the present reflexions should be considered to be the recognition of the remedial potential in the service sector, which can help to overcome the negative effects associated with the intensification of the use of technology in many aspects of human life; the elaboration of gaps in currently existing services; the definition of humanistic services; the identification of areas where humanistic services can be applied.

Keywords: Society 5.0, humanistic service, human needs, well-being, human-centric society. **Category of the paper:** Conceptual paper.

1. Introduction

Erik Brynjolfsson and Andrew McAfee in The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies pointed out that "computers and other digital advances are doing for mental power - the ability to use our brains to understand and shape our environments - what the steam engine and its descendants did for muscle power. They are allowing us to blow past previous limitations and taking us into new territory" (Brynjolfsson, Mcafee, 2014, p. 10). This 'new territory' designed with the next generation of digital technologies is the vision of a society referred to as Society 5.0. It assumes that a widespread improvement in the quality of human life can be achieved through the use of advanced IT technologies, which, as cyber-physical systems, will be an integral part of everyday life. And in this sense, it can be considered a strategy for building a human-centred society. By design, the concept of Society 5.0 is a form of remedy that balances economic development with solving social and environmental problems through the use of IT, IoT, robots, artificial intelligence, and augmented reality. Having such advanced technical facilities augurs well for the plans, but at the same time we must be aware that these processes will inevitably generate a new kind of environment for human life and that the technical orientation in the realisation of this concept may conflict with its general idea, i.e. a social project in which the human being is at the centre. We already know that there are social costs associated with the improvements brought about by technology (Krauss, 2015; Kleppman, 2017; Surma, 2017; Złotowski, 2017; Zysman, Kenney, 2018; Bridle, 2019; Osika, 2021a; 2022a), and in the case of such extensive interference as we are dealing with in the case of Society 5.0, we have to reckon with a wider range of negative consequences. Therefore, in parallel to the development of a technological base, it is necessary to think about the implementation of solutions enabling this technicised environment to be centred around the human being, as intended, allowing its members to maximise their well-being, the foundation of which for the human being is to experience their humanity. At the same time, we can predict, in line with the tendencies already identified in the 20th century to shift economic activity from manufacturing to the service sphere, i.e. the transition from an industrial society to a service society (Clark, 1940; Bell, 1973; Grewiński, 2021), that it is the service sector that will constitute a real counterbalance and area of activity in which we, as a society, will relatively easily be able to adapt to the transformations taking place and flexibly respond to emerging needs through innovation. For a service society is a society in which services predominate over production, employment associated with the service sector is dominant and the primary source of economic value is knowledge and the innovations that go with it (Grewiński, 2021, p. 125). However, using the service sector as an instrument to implement Society 5.0 requires an earlier, reflective addressing of these issues, because while welfare thinking is already quite well recognised within the so-called social services, going beyond the areas of the material foundations of quality of life can be regarded as an emerging research gap and a potential new service niche – humanistic services (Lee Kai-Fu, 2019). In this sense, developing the idea of humanistic services is, in a sense, looking ahead; it is an attempt to anticipate needs and possible ways of meeting them in a world where the concept of Society 5.0 has already been put into practise. Consideration assumes that, in order to create a society at a universal high level of perceived well-being, it is necessary to balance technological progress with the development of realised humanistic values within a range of service activities. The approach under reflexion is about breaking the trend highlighted by Yuval Harrari, i.e., that humans have always been better at inventing tools than using them wisely (Harari, 2018, p. 7). What is important here is the idea of what will happen to humans when this expected level of technological development and its implementation into the way social life is organised come to fruition. This is what the main research question is about:

What forms of services can support the achievement of a high level of perceived well-being in a technologically developed living environment, necessary from the point of view of implementing the concept of Society 5.0?

Due to the anticipatory nature of the research, a conceptual analysis will be used to develop theoretical insights from existing knowledge, which can then be verified in the course of the empirical work. At this stage of the research, this method seems fully justified.

2. Methods

As indicated in the Introduction, the research will use conceptual analysis, as one of the oldest scientific methods (Furner, 2004; Gilson, Goldberg, 2015; Stuart, 2015; Dickson et al., 2018), allows, on the grounds of already existing knowledge, to 'develop a theory.' Based on the most classical research methods, such as deductive reasoning, initial assumptions well established within the scientific field are made and from these initial assumptions are derived, i.e. conclusions are formulated that provide novel insights into the problem at hand. This type of research is typical of so-called basic research because deductive reasoning carried out in this way allows concrete research hypotheses to be made in empirical studies. Conceptual analysis is used to combine theories, adopt theories to new solutions, categorise, establish

logical relationships between phenomena, and build theoretical models (Jakkolla, 2020). Given the theoretical sophistication of research in the described problem area, it appears to be an adequate research method. According to the stages of conceptual analysis, the following steps are assumed to be taken:

- 1. Defining basic concepts, describing initial theoretical assumptions for this study terms such as Society 5.0, social service will be defined.
- 2. Establishing relationships for this research, the answer to the question What service gaps can be generated by the technicized environment of Society 5.0?
- 3. Conclusions for this research the answer to the question What forms of services can support the achievement of a high level of perceived well-being in a technicized living environment, necessary from the point of view of implementing the Society 5.0 concept?

The questions formulated above detail the research issues addressed in these reflexions. As it seems, at the stage of anticipating possible changes in reality. It is necessary to initially theoretically develop knowledge that is already well-founded empirically, which in turn will make it possible to create assumptions that will then be subjected to further empirical verification or can be introduced as concrete social solutions.

3. Results

3.1. Theoretical Frameworks

3.1.1. Definition of Society 5.0

Japan's technology development and innovation strategy announced in 2016, entitled *Comprehensive Strategy on Science, Technology and Innovation for 2016*, pioneered the concept of Society 5.0 (Arsovsky, 2019; Gladen, 2019; Deguchi et al., 2020; Osika, 2021b). Its key premise was that "society 5.0 is that data are collected from the 'real world' and processed by computer, with the results being applied in the real world. [...] Society 5.0 will feature an interactive cycle in which data are gathered, analysed, and then converted into meaningful information, which is then applied in the real world: moreover, this cycle operates at society-wide level" (Deguchi et al., 2020, pp. 2-3). This conception of society is often defined as 'a human-centred society that balances economic advancement with the resolution of social problems by a system that highly integrates cyberspace and physical space' (Society 5.0, 2020, p. xii). The strong technological orientation and focus on the realisation of universal social wellbeing, expressed in the terms'supersmart society' and 'human-driven society' as terms that adequately characterise its assumptions, should be regarded as important distinctive features of the concept. If one wanted to define society 5.0, it would have to be considered as a society "advanced IT technologies, IoT, robots, an artificial intelligence, augmented reality (AR) are

actively used in people common life, in the industry, health care and other spheres of activity" (Skobelev, Borovik, 2017, p. 307), but not only for progress, but also for the benefit and wellbeing of each person. Matthew E. Gladden makes us aware that 'the human beings who are members of Society 5.0 will also find their bodies, minds, and daily life experience transformed through the application of futuristic technologies. New types of medical devices, [...] robotics, AI, and the Internet of Things will have a great impact on not only people's lifestyle and on their way of being but also on the foundation of its existence" (Gladen, 2019, pp. 5-6). We can understand this type of society as a'system of systems' (Rojas, 2021), founded on a complex information infrastructure based on such digital technology solutions as Internet of Things (IoT), Big Data (BD), and artificial intelligence (AI). The logic behind this 'system of systems' is, broadly speaking, that the main source of information is a network of sensors connected to everything from which we want to extract data, which is collected in data silos, compiled according to demand, and then processed by artificial intelligence algorithms. These tools make it possible to diagnose in real time the current state of affairs, providing information and knowledge about it, but they also make it possible to anticipate and design specific changes related to social life, in virtually every area of it. The technologically established process of moving from the knowledge of 'what is' to 'how it happened that it is' and 'what can happen in the future' and finally 'how to precisely programmed the change' will become, according to the assumptions of the concept of Society 5.0, a basic form of social activity that allows, based on accumulated data, to develop optimal solutions from the point of view of possibilities of improving the quality of life. This principle applies both to the physical infrastructure but also to social activities; in this sense, the technological potential becomes the foundation of society's flexibility and the measure of its adaptability" (Osika, in press). This technically founded form of organisation applies to every type of human operating environment. Urban infrastructure with intelligent processes for energy, water and transport networks, through the organisation of production processes (Demir, 2019; Huang, 2019; Nahavandi, 2019; Breque et al., 2021; Xu, X. et al., 2021; Berg, 2022; Dixson-Decleve, 2022; Hjorth, Chrysostomou, 2022; Osika, 2022a), agriculture, to the organisation of leisure time and emergency response. This digital transformation is expected to transform many aspects of society, including private life, public administration, industrial structure and employment, through the use of cyberspace and their integration with physical spaces. The Society 5.0 model brings about a number of changes that open up the possibility of creating new systems and processes (Onday, 2019, pp. 1-6). These changes are not only technological but also economic, geopolitical, social, mental, and the focus on the human being as a central element of change allows us to combine technological development with economic growth while offering hope for a sustainable future. This new conception of society aims to bring a human-centred perspective in order to balance the deployment of BD, IoT and AI technologies with solving society's main problems, such as competitiveness, productivity, connectivity and well-being (Osika, in press). Embedded in the concept of Society 5.0 is making the most of the ongoing technological transformation associated with digitalisation by and for people.

3.1.2. Definition of social service

The concept of social services is directly linked to the socio-economic transformations recognised by researchers in the 20th century, originating in technical development and productivity growth (Grewiński, 2021). As early as 1940, Colin Clark in The Condition of *Economic Progress* drew attention to the emergence of the service sector as a new economic area. This trend was also confirmed by later observations like Jean Fourastie (1954), Daniel Bell (1973), and Alan Gartner and Frank Rissman (1978), who explicitly wrote about the emergence of the so-called service society. Describing these transformations, the authors draw attention to a few of the most significant characteristics of this postindustrial society. Firstly, the shift of a large part of employment to the service sphere; secondly, the widespread growth of consumption, including households, i.e. the increase in the demand for delegation of activities that used to be performed independently, but also new forms of activities emerge that respond to emerging needs. To put it with a certain sophistication, to reveal the basis of these transformations, the mechanisation of production makes it possible to raise the material status of workers; they can spend part of their earnings on subcontracting the mundane activities of life, thus gaining time which they can devote to leisure time. In each of these situations, we are talking about some kind of service. Third, this type of society is associated with the realisation of the need for self-determination and also supports processes of democratisation (Gartner, Rissman, 1978). The widespread fact of using other people's labour develops the possibilities to go beyond one's own skills, individuals can start to project themselves using the services of others. Self-determination, in turn, makes it possible to become aware of one's needs and the right to realise them, reaching, as it were, out of necessity, to the democratic instruments of social order-building. Fourth, the use of services is associated with the expansion of social relations and the creation of social capital based on trust (Sztompka, 2007, p. 47). Access to diverse services is only possible in large concentrations of people, that is, the domain of this type of society is cities, is another fifth characteristic (Grewiński, 2021). The ability to cede activity to the service provider is based on specialisation and meritocracy - I delegate the performance of a given activity to you because I know you know it - in this way, the development of specialised services is possible: finance, insurance, health care, education, cultural sector, etc., this is another sixth feature of the service society. In the paradigm described, "all activities of a service nature for the benefit of other natural or legal persons, contributing to the satisfaction of individual or collective needs [...] these activities do not directly involve the production of products" (Popularna Encyklopedia Powszechna, after Grewiński, 2021, p. 55) should be considered economically crucial.

The literature points to four phases of service development, the primary phase being related to the dominance of services that do not require high skills. The second phase, growth, is related to services requiring skills but fully exhausting the scope of the service, e.g. tailoring. The third phase, industrial service and consumption growth, as the name suggests, supports the development of industrial activities, i.e. accounting, administrative, logistic, etc. The fourth phase refers to services based on information technology (Flejterski et al., 2005). Currently, we can speak of another, fifth phase related to the development of digital, foundational technologies, which include the invention of the computer, the Interent and the smartphone, as well as intensifying technologies such as cloud solutions, the Internet of Things, artificial intelligence, cyber-physical systems and blockchains (Śledziewska, Włoch, 2021, pp. 21-54). Based on these technological solutions, social media and so-called online services have developed (Marzano et al., 2020). The evolution of services, according to some researchers, can also be analysed from the perspective of civilisational and cultural changes. At successive stages of urbanisation, industrialisation, technologisation and the associated social and cultural transformations, the need emerged for services of a social nature, i.e. those serving to improve the quality of life of society in the spirit of welfare (Golinowska after Grewiński, 2021, p. 58). We can define social services as an interpersonal form of assistance "which is targeted at social problems and the particular situation of individuals, provided by public and private institutions and individuals, aimed at restoring or improving physical and mental living and survival skills as well as social competences (Hartman, 2013, p. 75). And according to the definition, social services provide, in the individual dimension, opportunities to meet needs that ensure a high level of quality of life and, in the social dimension, welfare and prosperity.

3.1.3. Service gaps

The very general definition of social services introduced above may not be fully satisfactory, but it does bring out key emphases for further conceptualisation. The essence of such services is the provision of social functions with the ultimate goal of providing members of society with a high quality of life. In the final report produced for the EU, 2022, entitled ' Study on Social Service with Particular Focus on Personal Targeted Social Service for People in Vulnerable Situation', having analysed the social policies of the Member States, it is pointed out that "UE Member States have a system of social security where services play an important role, there is no ready-made definition and categorisation of social services, and there is a variety of terms and definitions in use, none of them generally accepted" (VVA, Penteia, Oxford Research, Erudio, IKEI, 2022, p. 63). This may mean that we are now in the process of redefining this area of social life, due to its perceived importance from the perspective of the wider public good. For, as the report reads: "The concept and provision of social services is linked to the protection of universal human and social rights, democratic principles, religious and/or cultural values, socio-economic ambitions, but also to fulfilling political objectives. Social services can be linked to the objective of protecting the fundamental human and social rights of each individual, guaranteeing a person's dignity and their capacity to participate in a democratic society. [...] The function of social services in a society is intrinsically related to how one conceptualises their rationale or purpose. Therefore, the function of social services includes ensuring the minimum welfare conditions necessary for a life in dignity and the necessary conditions for participation in a democratic life; activating individuals to ensure greater labour market participation to enhance their job readiness and the resilience of the

individual as well as the society and the economy at large; or enhancing the physical and mental wellbeing of individuals" (VVA, Penteia, Oxford Research, Erudio, IKEI, 2022, p. 16). In the approach presented here, the scope of social services is understood very broadly, encompassing both those needs that are commonly defined as existential (so-called social assistance services), but also applies to some extent to public services (Zimna-Parjaszewska, Skrzypek, 2022, p. 50). A clear form of illustrating the relationship between the different types of services is proposed by Joanna Lizut, see the figure below.



Figure 1. Correlations in the System of Services.

Source: Lizut, 2015; Grewiński, 2021, p. 67.

As can be seen, social services, as those whose task is to take care of the well-being of individuals and society, include social assistance services, but at the same time cannot be completely identified with them, as, according to previous findings, in addition to satisfying needs at the basic level, we need those that are in the spirit of the times, allowing us to adapt to civilisational and cultural changes (Golinowska for Grewiński, 2021, p. 58). The demand for a specific type of them is a result of needs arising in response to the shaping of the new environment of human life. At present, the most significant change factor is technology. The social transformation analysed in these reflections is supposed to concern the unprecedented technicisation of the human world environment. At present, this most significant agent of change is technology. The social transformation analysed in these reflections is supposed to concern the unprecedented technicisation of the human world environment. We should try to anticipate the possible 'side-effects' of this fact and, in this context, the need to restore the balance between what is human and what is technical seems obvious. This is particularly important from the point of view of the assumptions of the human-centric concept of society 5.0. Anticipating how this environment will affect us, it is worthwhile, while losing none or very little of the potential brought about by the development of technology, to reflect on how we can be at the service of the human being and his or her needs in the broadest sense of the term, and take care of his or her well-being. That is, we should try to answer the questions of what our humanity may lack and what services we can use to satisfy this deficit. It is proposed that these new services be called humanistic services.

3.2. Humanistic Service for Human-Centred Society

Identifying the areas that could encompass these new forms of services requires an initial identification of the conditions necessary to achieve a high level of quality of life, i.e., what guarantees the experience of well-being. Then we analyse the potential deficits that may emerge in the face of the ongoing transformation of the way of human life associated with intensive technological intervention, typical for Society 5.0. And finally, formulate proposals for actions that can help to bridge these deficits in the form of humanistic services.

From an analytical point of view, the category of well-being and the related concept of quality of life are problematic, in the sense that there are no clear definitions or indicators (Osika, 2018). Therefore, it is worth considering the issue in broad contexts and recognising it as a component of physical, mental well-being combined with the awareness of the realisation of needs and values that are important for the individual (Osika, 2017, p. 88). Indeed, an integral component of well-being in addition to a high level of satisfaction with basic needs is experiencing satisfaction with one's existence (Wojewoda, 2018, p. 98). This article is not intended to be a review, so the approaches presented will be limited to those with the greatest analytical potential associated with the proposed approach. *The International Management Institute* proposes to take into account seven areas of well-being: economic regarding the state of the environment, physical referring to health, psychological indicating mood, employment talking about the state of the job market, social examining the perception of security, social trust a sense of equality, and political as a measure of the level of democracy (Kotler, 2015, pp. 254-255).

However, from the perspective of the present considerations, Erik Allardt's concept will be more useful, who grouped measures of well-being into three basic categories: *having*, *loving*, *and being*. *Having* includes material needs for survival, and measures include possessions, income, housing, employment conditions, health, access to education, and level of education. *Loving* mainly refers to the needs for human relationships and social identity; Allardt counts the degree of connection to relatives, family, friends, the local community, participation in associations and organisations, and working relationships as measures at this level. In contrast, to *being* he includes the needs of living in harmony with the social and natural environment, i.e., a sense of personal growth, and as indicators he takes into account decision-making autonomy, a sense of influence over one's own life, political involvement, opportunities to realise oneself in one's leisure time, i.e., enjoying contact with nature, and being able to do work that is considered meaningful (Allardt, 1993, pp. 89-92; Salmi, Lammi-Tashula, 2011, p. 124).

In summary, experiencing well-being, that is, a high assessment of quality of life, in addition to the satisfaction of basic needs, depends on "being able to enjoy the respect of one's peers, maximising freedom, making individual choices, entering into relationships with others, engaging in activities that are considered meaningful, doing work that gives satisfaction and a guarantee that we are needed by someone" (Bińczyk, 2015, p. 9).

The next question to be answered concerns the deficits that the intensive technologyisation of the living environment spoken of in the concept of Society 5.0 may bring. It is difficult to foresee all of them, so only those of which some symptoms are currently discernible will be considered. The first is related to the widespread perception of alienation, or even loneliness, which has become a common human experience (Hertz, 2021). For this experience, a significant role is played by the technological remodelling of the way we interact with each other, the way we communicate. Researchers have for many years highlighted the negative consequences of the dominance of mediatised communication (Turkle, 2012; Stephens-Davidowitz, 2017; Vaidhyanathan, 2018; Hertz, 2021). It is clear from the research that all forms of telepresence support us task-wise, but at the same time relationally fail to meet our social needs, including the need for intimacy, central to a sense of well-being. The period of isolation associated with COVID-19 has highlighted and allowed us to fully realise the extent to which these problems exist. On the other hand, remote modes have proven to be very efficient economically but also ecologically, so we should not assume that we will give up this form of communication, rather this trend will increase causing an even greater wave of loneliness, rather we need to develop ways to cope with loneliness. The issues we will also have to deal with are related to our work activities, as this is where the impact of technology will be most significant. Already, there are several issues that require reflexion. First, the rise of so-called 'lights out' production (Rifkin, 2015) and the associated changes in employment. The emergence of temporary unemployment or "joblessness" (Skinner, 2018) as a widespread social phenomenon (Grabowicz, 2017), which can consequently give rise to social pathologies. The spread of so-called 'cobotization', that is, work done in collaboration with cyber-physical systems in the broadest sense (Webb, 2019; Przegalińska, Jemielniak, 2020; Przegalińska, Oksanowicz, 2020; Osika, 2022b). The replacement of 'live work' to 'dead work', i.e. work that is performed due to previous human effort, but will be delegated to widely understood machines. The resulting job instability that affects all occupational groups can lead to a loss of security and control for workers. "Splitting human work with digital and physical systems – this brings the possibility of dehumanization of work environment, lack of possibility to meet affiliation needs and associated low motivation to work, of course in case of humans. The problem may also be the negative effect of «upward comparison». It is already known that automation improves the work efficiency and these comparisons are unfavorable for humans [...], and this, in turn, violates the identity foundations -«who am I if I can be replaced with a machine». In such a case, the performed work ceases to be meaningful. The «machine» criteria with which humans will be assessing themselves, treating their humanity only as efficiency of work performance, can also be treated as «dehumanizing»" (Osika, 2019, p. 293). The described negative changes in the working environment seem to violate important human values, i.e. undertaking activities that are considered meaningful and doing work that gives satisfaction and a guarantee that we are needed by someone, and from this perspective it is difficult to speak of well-being. However, as in the case of loneliness, it is rather difficult to stop technological developments; rather, it is necessary to think about how to support people in their new life situation.

In line with the idea of these considerations, a new type of social service, the so-called humanistic service, which compensates for the deficits created on our humanity, may become a solution. Referring to previous findings, we can define it as a form of interpersonal assistance aimed at satisfying the needs determining well-being, i.e., the sense of intimacy, the sense of belonging, the sense of meaning, the sense of usefulness, etc. It can be provided by public and private institutions as well as individuals and is designed to address the deficits created by the technicisation of the human living environment that affect the well-being experienced. If one wanted to use Joanna Lizut's typology again, the completed figure would look as follows, see Figure 2.



Figure 2. Correlations in the System of Services with Humanistic Service.

Source: Lizut, 2015; Grewiński, 2021, p. 67.

We can make the service proposal presented above more concrete by relating it to the groups of well-being measures identified by Allardt and exploring which areas generate the greatest deficits. Essentially, having in the case of human services will be of secondary importance in contrast to loving and being. As an example of the emerging demand for humanistic services, Rent-a-Friend with platonic friends for hire services can be cited; this type of company is emerging in many cities (Hertz, 2021). Similar grassroots movements can be seen in volunteering activities, which can become a source of identity experiences in the future, can help develop social networks, give a sense of belonging, being needed, etc. (Güntert et al., 2022). In order for volunteering to fulfil its function in this sense, it may be necessary to have a service to match one's potential with service providers of volunteer-based activities as is currently the case with dating services. There is already an beginning to talk of social workers for networking and social reintegration (Osika, 2020; Golinowska for Grewiński, 2021, p. 59). Of course, this is already only an anticipation but a necessary one from the point of view of the reflexion carried out here.

4. Discussion

The digital technology we have today allows us to develop ambitious visions of the future in which it is an important part of society. Such concepts include the strategy generally referred to as Society 5.0. As indicated in the Introduction, this concept aims to help combine economic development with solving social and environmental problems through the use of information technology, IoT, robots, artificial intelligence, and augmented reality. At the same time, it is not technology, but the human being and his or her well-being that is the main focus of the measures taken, which is why the humanocentric nature of these solutions is emphasised (Arsovski, 2019; Demir et al., 2019; Gladden, 2019; Deguchi et al., 2020; Breque et al., 2021; Rojas, 2021; Berg, 2022; Dixson-Decleve et al., 2022). It is intended that the main social, including economic, processes will be supported by technology (Demir, 2019; Huang, 2019; Nahavandi, 2019; Breque et al., 2021; Xu, X. et al., 2021; Berg, 2022; Dixson-Decleve, 2022; Hjorth, Chrysostomou, 2022; Osika, 2022a) as a result, an unprecedented technicisation of the human living environment seems inevitable. Consequently, we must also consider the negative consequences for the quality of life. Therefore, the discussion assumes that, in parallel to the development of a technological base, it is necessary to think about the implementation of solutions enabling this technicised environment to be centred around people. One such proposal could be the so-called humanistic services, which fit into general economic trends recognised by researchers since the beginning of the 20th century (Clark, 1940; Fourastie, 1954; Bell, 1973; Gartner, Rissman, 1978; Grewiński, 2021). It has been assumed that it is the social service sector (Golimowska after Grewiński, 2021; Study of Social service..., 2022; Zimna-Parjaszewska, Skrzypek, 2022) expanded to include this new niche, that will constitute a viable counterbalance and area of activity in which we as a society will be able to adapt relatively easily to the transformations taking place and respond flexibly to emerging needs through innovation, and humanistic services should be considered a form of such innovation. Several deficits have been identified that are currently diagnosed as negative impacts of technology that threaten our well-being (Turkle, 2012; Stephens-Davidowitz, 2017; Vaidhyanathan, 2018; Webb, 2019; Hertz, 2021), in overcoming which services can be a valuable tool for social action. At the same time, it is important to be aware that this is merely a sketch of a certain concept for future action, which should be extended by further theoretical work to concretise the idea into a specific strategy that may have implementation potential. Of course, theoretical analyses must be verified by empirical research, for example in the form of pilot studies to test the solutions developed.

5. Summary

Encouraged by the potential of digital technologies at our disposal today, we are creating visions of a society that maximises the wellbeing of its members. This is also the spirit in which the concept of Society 5.0 should be approached. As indicated in the deliberations, through the use of information technology, IoT, robots, artificial intelligence, and augmented reality, we plan to combine economic development with solving social and environmental problems. At the same time, all activities undertaken as part of Society 5.0 are intended to improve quality of life. From the findings so far, we also know that this unprecedented technicisation of the human living environment too has side effects, contributing to the deterioration of well-being. Therefore, in parallel to technical innovation, it is necessary to reflect on possible ways to mitigate these negative effects. This paper proposes humanistic services as an example of a countermeasure, defined as a form of interpersonal assistance aimed at satisfying well-being needs, i.e. a sense of closeness, a sense of belonging, a sense of meaning, a sense of usefulness, etc. This proposal is in line with the general concept of human services. This proposal fits in with general economic trends recognised since the beginning of the 20th century. Conceptual analysis was applied in the research. The following research steps were performed:

- Basic concepts were defined and described, such as: the concept of Sciety 5.0, social service this allowed us to understand the potential risks associated with the unprecedented technicisation of the human living environment and the potential hidden in service activities as a remedy to the diagnosed risks, affecting the level of perceived well-being.
- Establishing relationships the extent of potential gaps in social services that may be generated by the technicised environment of Society 5.0 was identified. Potential shortcomings in the social services currently offered were identified by comparing the conditions necessary to achieve a high quality of life (Allardt classification) with existing ways of life that are currently being transformed by intensive technological intervention. A number of existing risks were identified, such as mass loneliness, job instability and the associated loss of meaning, lack of a sense of belonging, etc., among others.
- Final conclusions are formulated it was determined what forms of services can support the achievement of a high level of perceived well-being in a technicised living environment, necessary from the point of view of implementing the concept of Society 5.0? A working definition of humanistic services was initially proposed and possible areas for their introduction were identified, using Allardt's classification.

This article should be seen as a preliminary phase, helping to conceptualise possible difficulties arising in the process of implementing the concept of society 5.0 and a working proposal of measures we can try to take in order to mitigate the appearance of possible side effects.

References

- Allardt, E. (1993). Having, Loving, Being: An Alternative to the Swedish Model of Welfare Research. In: M. Nussbaum, A. Sen, *The Quality of Life* (pp. 88-94). New York: Oxford University Press.
- Arsovski, S. (2019). *Quality of Life and Society 5.0*. International Quality Conference 13 IQC Quality Research. Available at: http://www.cqm.rs/2019/papers_iqc/81.pdf, 22.03.2022.
- 3. Berg, Ch. (2022). *Industry 5.0: Industrial revolution With a Soul*, https://www.clarify.io/ learn/industry-5-0
- 4. Bińczyk, E. (2015). Fantazja wiecznego bogacenia się a irracjonalność późnego kapitalizmu. In: T. Jackson, *Dobrobyt bez wzrostu* (pp. 7-21). Toruń: Wydawnictwo Naukowe UMK.
- 5. Breque, M., Cotta, J., Nul De, L., Petridis, A. (2021). *Industry 5.0, Towards a sustainable, human-centric and resilient European industry. Policy brief.* Brussels: European Commission.
- 6. Bridle, J. (2019). *New Dark Age: technology and the End of Future*. London/New York: Verso.
- Brynjolfsson, E., Mcafee, A. (2014). The Second Machine Age. Work. Progress, and Prosperity in a Time of Brillant Technologies. London/New York: W.W. Norton & Company.
- 8. Clark, C. (1940). *The Condition of Economics Progress*. London: Macmillan & Co., Limited St. Martin's Street.
- Deguchi, A. et al. (2020). What is Society 5.0? In: Hitachi-UTokyo Laboratory (H-UTokyo Lab.) (ed.), *Society* 5.0. Singapore: Springer. Available at: https://doi.org/10.1007/978-981-15-2989-4_1, 17.04.2022.
- 10. Demir, K.A. et al. (2019). Industry 5.0 and Human-Robot Co-working. *Procedia Computer Science*, *Vol. 158*, pp. 688-695.
- 11. Dickson, A. et al. (2018). Theoretical and Conceptual Framework: Mandatory Ingredients of A Quality Research. *International Journal of Scientific Research, vol.* 7, pp. 438-441.
- 12. Dixson-Decleve, S. et al. (2022). Industry 5.0: A transformative Vision for Europe. Governing Systemic Transformations towards a Sustainable Industry. Luxembourg: Publications Office of the European Union.
- Flejterski, S. et al. (2005). Usługi w teorii ekonomii. In: S. Flejterski, A. Panasiuk, J. Prenc,
 G. Rosa (Eds.), *Współczesna ekonomika usług* (pp. 13-40). Warszawa: PWN.
- 14. Fourastie, J. (1954). *Die grosse Hoffnung des zwanzigsten Jahrhunders*. Koeln: Bund-Verlag.

- 15. Furner, J. (2004). Conceptual Analysis: A Method for Understanding Information as Evidence, and Evidence as Information. *Archival Science*, vol. 4, pp. 233-265.
- 16. Gilson, L.L., Goldberg, C.B. (2015). Editor's comment: So, what is a conceptual paper? *Group & Organization Management, vol. 40*(2), pp. 127-130.
- 17. Gladden, M.(2019). Who will Be the Memebers of Society 5.0? Towards an Anthropology of Technologically Posthumanized Future Societies. *Social Science*, vol. 148/8, pp. 1-39.
- Grabowicz, K. (2017). Feudalizm technologiczny jako źródło sekularnej stagnacji w późnym kapitalizmie. In: K. Kozłowski, J.J. Zygmuntowski (Eds.), FutureInsights: Technologie 4.0 a przemiany społeczno-gospodarcze (pp. 49-66). Warszawa: Oficyna Wydawnicza, Szkoła Główna w Warszawie.
- 19. Grewiński, M. (2021). Usługi społeczne we współczesnej polityce społecznej. Przegląd problemów i wizja przyszłości. Warszawa: Dom Wydawniczy ELIPSA.
- 20. Güntert, T. et al. (2022). Organizational, Motivational, and Cultural Contexts of Volunteering: The European View. Berlin: Springer.
- 21. Harari, Y.N. (2018). 21 Lessons for the 21st Century. London: Jonatan Cape.
- 22. Hartman, A. (2013). Usługi społeczne: specyfika, zadania i kierunki rozwoju z perspektywy teorii socjologicznych. In: A. Evers, R. Hinze, T. Olk (Eds.), *Podręcznik usług społecznych przykład Niemiec* (pp. 91-112). Warszawa: Wyższa Szkła Pedagogiczna im. Janusza Korczaka w Warszawie.
- 23. Hertz, N. (2021). *The Lonely Century: Coming Together in w World that's Pulling Apart.* London: Hodder &Stoughton.
- 24. Hjorth, S., Chrysostomou, D. (2022). Human-robot collaboration in industry environments: A literature review on non-destructive disassembly. *Robotics and Computer-Integrated Manufacturing*, *vol.73*, https://doi.org/10.1016/j.rcim.2021.102208.
- 25. Huang, G.Q. et al. (2021). Digital technologies and automation: the human and eco-centred foundations for the factory of the future. *IEEE Robot & Automation Magazine, vol. 7*, pp. 174-179.
- 26. Jakkola, E. (2020). Designing conceptual articles: four approaches. *AMS Review*, *vol. 10*, pp. 18-26.
- 27. Kleppman, M. (2017). *Designing Data-Intensive Applications: The Big Ideas Behind Reliable, Scalable and Maintainable Systems.* Beijng/Boston/Farnham/Sebastopol/Tokyo: O'REILLY.
- 28. Kotler, P. (2015). *Confronting Capitalism: Real Solution for a Troubled Economic System*. New York: American Management Association.
- 29. Krauss, L.M. (2015). What Me Worry. In: J. Brockman (ed.), *What to Think About Machines That Think*. New York: Harper Perennial (e-book).
- 30. Lee, Kai-Fu (2019). *Inteligencja sztuczna, rewolucja prawdziwa. Chiny, USA i przyszłość świata.* Poznań: Media Rodzina Sp. z.o.o.

- 31. Lizut, A. (2015). *Usługi społeczne jako instrumenty ograniczania wykluczenia społecznego*. Niepublikowana rozprawa doktorska. Warszawa.
- 32. Marzano G. et al. (2020). *Towards Changes of Labor Market, Skills and Competences*. Warszawa: Dom Wydawniczy ELIPSA.
- 33. Nahavandi, S. (2019). Industry 5.0 A Human-Centric Solution. *Sustainability, Vol. 11, 4371*, pp. 1-13, doi:10.3390/su11164371.
- 34. Onday, O. (2019). Japan's Society 5.0: Going Beyond Industry 4.0. *Bus. Eco. J.*, *No. 10*, pp. 1-6.
- 35. Osika, G. (2017). O bólu generowanym społecznie. Ethos, vol. 4(120), pp. 87-102.
- 36. Osika, G. (2018). Jakość życia jako wskaźnik rozwoju społecznego. Zeszyty Naukowe Politechniki Śląskiej, Seria: Organizacji i Zarządzanie, vol. 123, pp. 355-370.
- Osika, G. (2019). Social Innovation as a Support for Industry 4.0. Scientific Papers of Silesian University of Technology, Organization and Management Series, vol. 141, pp. 289-301.
- 38. Osika, G. (2021a). Dilemmas of Social Live Algorithmization Technological proof of Equity. Scientific Papers of Silesian University of Technology, Organization and Management Series, 151, pp. 525-538.
- 39. Osika, G. (2021b). Communication competence as a support for implementation the Society 5.0 concept. In: K.S. Soliman (Ed.), *Innovation management and information technology impact on global economy in the era of pandemic* (pp. 8290-8298). Proceedings of the 37th International Business Information Management Association Conference, Cordoba: IBIMA International Business Information Management Association.
- 40. Osika, G. (2022a). Industry 4.0: Selected Aspects Algorithmization of Work Environment. *Scientific Papers of Silesian University of Technology, Organization and Management Series, vol. 155, pp. 431-447.*
- 41. Osika, G. (2022b), Humanistic and social dimensions of cobotization in the context of implementation Industry 5.0. *Scientific Papers of Silesian University of Technology, Organization and Management Series, vol. 165,* pp. 559-574.
- 42. Osika, G. (in press). Ambient design as a social innovation for smart cities of Society 5.0.In: G. Sierpiński, B. Sensuła (Eds.), *Technologies and trends in planning and development of a smart city*. Gliwice: Wydawnictwo Politechniki Śląskiej.
- 43. Przegalińska, A., Jemielniak, D. (2020). Collaborative Society. Cambridge: MIT Press.
- 44. Przegalińska, A., Oksanowicz, P. (2020). *Sztuczna inteligencja. Nieludza, arcyludzka. Fenomen świata nowych technologii.* Kraków: Społeczny Instytut Wydawniczy Znak.
- 45. Rifkin, J. (2015). The Zero Marginal Cost Society. The Internet of Things, The Collaborative Commons, and The Eclipse of Capitalism. New York: Martin's Press.
- 46. Rojas, C.N. et al. (2021). Society 5.0: A Japanese Concept for a Superintelligent Society. *Sustainability, vol. 13, 6567.*

- 47. Salmi, M., Lammi-Tashula, J. (2011). Work Family Tenssions and Well-Being in Finland.
 In: S. Drobnik, A. Guillen (Eds.), *Work-Life Balance in Europe: The Role of Job Quality* (pp. 120-148). London: Palgrave Macmillan.
- 48. Skinner, Ch. (2018). Cyfrowi ludzie. Nasza czwarta rewolucja. Warszawa: Poltext.
- 49. Skobelev, P.O., Borovik, S. (2017). On the Way From Industry 4.0 to Industry 5.0: From Digital Manufacturing to Digital Society. *Industry 4.0, vol. 2(6),* pp. 307-311.
- 50. Śledziewska, K., Włoch, R. (2020). Gospodarka cyfrowa. Jak nowe technologie zmieniają świat. Warszawa: Wydawnictwo Uniwersytetu Warszawskiego.
- 51. Society 5.0. A People-centric Super-smart Society (2018). Tokyo: Hitachi-UTokyo Laboratory; Springer.
- 52. Society 5.0. Overcoming Societal Challenges and Co-creating the Future Though Digitalisation and Unity in Diversity (2020). Breda: Breda University, SAP.
- 53. Stephens-Davidowitz, S. (2017). *Everybody Lies. Bog Data, and What the Internet TellUs About Who we Really Are.* New York: HarperCollins Publisher.
- 54. Stuart, M.T. (2015). Philosophical Conceptual Analysis as an Experimental Method. In: T. Gamerschlag, D. Gerland, R. Osswald, W. Petersen (Eds.), *Meaning, Frames and Conceptual Representation* (pp. 267-292). Düsseldorf: Düsseldorf University Press.
- 55. Sztompka, P. (2007). Zaufanie. Fundament społeczeństwa. Kraków: Znak.
- 56. Turkle, S. (2011). *Alone Together: Why We Expect More from Technology and Less from Each Other*. New York: Basic Books.
- 57. Vaidhyanathan, S. (2018) Antisocial Media. Haw Facebook Disconnects us and Undermines Democracy. New York: Oxford University Press.
- 58. VVA, Penteia, Oxford Research, Erudio, IKEI, (2022). *Final Report of the project 'Study* on social services with particular focus on personal targeted social services for people in vulnerable situations'. Luxembourg: Publications Office of the European Union.
- 59. Webb, A. (2019). *The Big Nine: How the tech Titans & Their Thinking Machines Could Warp Humanity.* New York: PublicAffairs.
- 60. Wojewoda, M. (2018). Jakość życia jako problem filozoficzny. Folia Philosophica, Vol. 40, pp. 97-115.
- 61. Xu, X. et al. (2021). Industry 4.0 and Industry 5.0 Inception, conception and perception. *Journal of Manufacturing System, Vol. 61,* pp. 530-535, DOI: https://doi.org/10.1016/j.jmsy.2021.10.006
- 62. Zimna-Parjaszewska, M., Skrzypczak, B. (2022). *Standaryzacja usług społecznych w organizacji pozarządowej*. Lublin: Polihymnia.
- 63. Zysman, J., Kenney, M. (2018). The Next Phase in the Digital Revolution: Intelligent Tools, Platforms. *Growth, Employment, Communication of The ACM, 61*, pp. 54-63.