



Piotr Weryński * and Dorota Dolińska-Weryńska *

Faculty of Organization and Management, Silesian University of Technology, 44-100 Gliwice, Poland * Correspondence: piotr.werynski@polsl.pl (P.W.); dorota.dolinska-werynska@polsl.pl (D.D.-W.)

Abstract: One of the main barriers when implementing social innovation deemed to be significant is the agency barrier. The purpose of this research is to diagnose the structurally conditioned and awareness agency barriers that occur during the implementation of social innovation in the selected Silesian senior non-governmental organizations. It was assumed that, these days, an important parameter in determining agency is the digital competence possessed. Therefore, it is important to ascertain the level of digital competence of the examined non-governmental organization (NGO) leaders and members as the prosumers of social innovation, which determines the course of their innovative activities. The theoretical basis of research is Margaret Archer's morphogenetic theory of structure and agency and her scheme of causal analysis. On this basis and using a qualitative analysis of data obtained during focus group interviews (FGIs) and computer-assisted web interviews (CAWIs) with the members of NGOs, a diagnosis is conducted concerning the occurrence of agency barriers in the processes of social innovation. It was found that the majority of respondents have the agency potential, knowledge, and competence to actively co-create Society 5.0. The obtained research results will allow educational and implementation projects (action research) to be carried out in the future that are adequate to the needs of this particular social group. At the theoretical level, the usefulness of the morphogenetic scheme was verified in a causal analysis to study the social agency of the members of senior NGOs.

Keywords: social innovation; non-governmental organizations (NGOs); agency; digital competences; qualitative analysis (FGI); quantitative and qualitative analysis (CAWI)

1. Introduction

The social implications of innovation were previously studied by Josef Schumpeter [1–3] as a forerunner of scientific reflection over innovativeness. In a systematic way, research was conducted in the social sciences on the social effects of innovation at the beginning of the 21st century [4,5]. The rise in interest in this issue should be connected with, in an economic dimension, the consequences of the financial and economic crisis that occurred after the year 2009 [6]. This effect is even stronger when we focus on the roles of creativity; innovativeness, including social innovativeness to support economic growth; creating safe workplaces; and increasing competitiveness among the societies of Western countries struggling with, among other factors, population ageing [7]. The demographic burden indicator, i.e., the share of people aged 65 years and over in relation to people aged 15–64, is predicted to significantly increase across the entire EU in the coming decades. In 2010, it amounted to approximately 25%; in 2016 it rose to 29.6%, and it is predicted to keep rising to 51.2% by the year 2070 [8].

The change in the demographic structure of Polish society is intensifying towards an increase in the share of people aged 60+ in the population. For over a dozen years, these changes have been accompanied by the activation of senior non-governmental organizations, stimulated by European Union funds and their patterns of participation in civil society. These processes favor the growth of the participation of these seniors in social life.



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Copyright: © 2021 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). The presented research on the agency barriers restricting the process of social innovation implementation amongst the members of senior NGOs was performed over the course of implementation of the project "Social innovation as the third mission of the university" (National Centre for Research and Development), which took place from the 1st December 2018 to the 30th November 2020. The main objective of this project was to improve the competences (allowing the expansion of knowledge and skills in the areas of social innovation, digital competences, and social communication creation) of 252 leaders and members of senior non-governmental organizations (177 women and 75 men) aged 60+ from 21 local environments from large, medium-sized, and small cities as well as from a few rural communities in Upper Silesia. This project, with the features of action research, should result in an increase in the level of seniors' social engagement and an increase in the representation of their interests in local and regional politics.

Upper Silesia is the most urbanized part of Poland, and its population lives mostly in large and medium-sized cities (with more than 100 thousand citizens). The population of the region is diverse in terms of both nationality and ethnicity. In a cultural sense, it constitutes a Polish–German–Czech borderland. Until recently, it was the largest industrial region in the country, dominated by the heavy industry (foundries, machine and arms industries) and energy industry, based on mining and refining hard coal and metallic ores. Currently, it is shifting more and more towards being an area of post-industrial character and is going through intensive restructuring in the direction of the 4.0 economy and 5.0 society.

The leaders and members of the senior Silesian NGOs were the subjects of this original research. They are the specific prosumers of the social innovations executed by them, because they take up, one after another or at the same time, the roles of initiators, testers, users, and recipients of the aforementioned innovations. During effective work by the NGOs, a very significant role is played by the digital competences as components of their agency.

The deepening change in the demographic structures of European societies, including Polish society, toward an increase in the share of people aged 60+ in the population, favors an increase in the agency of seniors in their social lives. This process is causing the aforementioned issue to become more and more socially and economically significant. It can be seen particularly well in the region of Poland, in which the processes of societal aging as well as depopulation stemming from economic emigration are being accompanied by intensive economic transformation, resulting in entire professional categories, such as miners, foundry, and railway and arms industry workers, retiring early.

These processes generate an over-representation of people in the retirement age bracket in the majority of the cities in the region. The senior social group, which is trying to find its place in the new reality of the region in the most active and effective way, contains the leaders and members of the senior NGOs. Therefore, this research surveyed the leaders and members of the senior non-governmental organizations that took part in the project, particularly from the Universities of the Third Age from the majority of cities and communities of Upper Silesia. Most of these universities have a non-governmental organization status.

The Universities of the Third Age (Polish acronym: UTW) are institutions that, through the activization of seniors, help them to adapt to changes taking place in the contemporary world. They were created in the 1970s and are still developing various forms of activity [9,10]. Based on the strength of the relationship with the universities, one can distinguish two models: the French model and the British model. The first one includes UTWs that are strictly tied to academic centers. They are characterized by a high level of didactic as well as scientific and research activity. They are diversified in terms of organizational forms (full integration with the university, strict cooperation, or independence from the university). The British model is based on the self-education and self-help of seniors without the support of the university [11]. Poland was the third country, after France and Belgium, to accept and develop the movement of the Universities of the Third Age. Currently, the UTW movement in Poland involves over five hundred organizations operating across the whole country. The Universities of the Third Age operating in Silesia provide, in a broad sense, an improvement in the lives of seniors aged over 60 as well as utilizing the potential of seniors—in terms of their knowledge, skills, and life experience—in the labor market to aid in the economic and social development of the country [12,13]. The observations made by the authors as part of the project "Social innovation as the third mission of the university" make it possible to state that the Silesian UTW model is closer to the so-called British model, which is based on the self-education and self-help of seniors with limited support from the university or without it altogether.

The Silesian UTWs and senior NGOs are prosumers of social innovation created by and for seniors. There are three arguments supporting the proposal that there is no need to prove the innovativeness of social activities undertaken by the respondents:

- Definition argument: The adopted way of defining social innovation as a group activity with prosumer characteristics, which constitutes the essence of NGOs' senior activities, does not require innovativeness to be proved, as the executers determine the criteria of innovation themselves. These are the criteria related to the realization of the group agency, in terms of both awareness and objectivized agency. The prosumer character of the activities is embedded in the purpose of this type of organization.
- 2. Social and historical argument: Social innovations require the specific engagement of innovators, users, and recipients, that is, relatively permanent feedback amongst them. The characteristics presented above are possessed by the examined members of senior organizations. This results from the fact that these are mostly people with higher levels of education who have served or continue to serve important roles in their past and current professional and public lives, the so-called *intelligentsia*. This social and professional category, after losing independence by Poland at the turn of the 18th and 19th centuries, took over and, to a great extent, execute the ethos of modernizers of social and economic life.
- 3. Methodological argument: The research questions raised did not concern the verification of the activities conducted by those examined in terms of possessing social innovation. The types of barriers and reflexivity that occur during the introduction of innovation were investigated.

For the reasons above, the aim of the authors was to determine the types of digital competence as elements of agency the respondents have (4th part of the article), the types of structurally conditioned and awareness agency barriers they encounter when introducing social innovations (4th and 5th part), and the kind of reflexivity that is dominant amongst the respondents when undertaking social innovations (5th part). However, the aim of the authors was not to present and analyze the subsequent stages of the formation of specific social innovations or the course of the process of managing them, i.e., the implementation of research problems is relatively often conceptualized by the social sciences [14,15].

2. Social Innovation and Social Agency: Theoretical Frames

There are many definitions of social innovation, but there is hardly any consensus in the academic field [16–19]. Attention should be paid to definitions that point to the fact that innovation allows a creative reaction to social and economic challenges, among others, in situations when there are people on the market who are socially excluded or when the social effects of globalization affect many economic activities. These are social innovations which, in practice, mean that such solutions, at the same time, are in response to social demand and trigger a permanent change (morphogenesis) in particular social groups [20]. Such solutions may also be connected with the use of innovative products, processes, and organizations of marketing ideas, which should enable different solutions to typical social problems to be found [21].

The institutions of the European Union understand social innovation in a similar way. In their *Guide to social innovation*, the European Commission broadly defines that it is social in terms of both goals and means. It should remain open to territorial and cultural variety. It should be social in terms of a process, that is, the participation of future innovation users and recipients, as well as in terms of socially expected goals. Its source is the ingenuity of citizens, non-governmental organizations, local communities, entrepreneurs, local administration, and central administration clerks. The purpose of such innovation is to provide possibilities for product, service, and model improvements for both the public sector and markets to meet individual and collective aspirations in a more effective way [15].

The National Centre for Research and Development in the Social Innovation Programme (see Appendix A) defines social innovation in the spirit of the previously presented concepts. It includes both socially justified technological innovations and strictly social innovations [14,15]. The category of strictly social innovation, which is the object of the current authors' interest, encompasses participation and inclusion solutions that consider, among others, the problems resulting from having an increasing number of people in the pre- and retirement age groups as well as in the disabled and long-term unemployed groups—groups that are negatively impacted and require support from the state and society.

The definition review shows that a commonly adopted definition does not exist, but everyone agrees that the following elements are common: creative changes in social processes and relations among people (the so-called innovation community). Various types of innovation (variety of solutions) may appear in different forms, and there may be different reactions to them. They constitute a tool for fighting against global and local social problems. For many researchers and practicians of social innovation, the factor differentiating social innovation from other types is the transformation of social arrangements. Social innovation triggers changes in the way that a society functions and changes how social problems are solved in a way that may require considerable and permanent transfers of, e.g., resources. Success occurs when the ideas change people's mentality thanks to the series of actions by practicians, beneficiaries, and public opinion [14], as well as when the ideas change the institutional procedures, rules, regulation of power flow, and beliefs [15].

At the core of the author's understanding of social innovation is the philosophy of pragmatism [22]. A pragmatically approached social innovation emphasizes the significance of the effects of social actions and the barriers that influence them. Effectiveness, understood in this way, can be achieved by focusing on action-based research (hence, the order: research, action, and cooperation) [23,24]. It is achieved thanks to cooperation and mutual inspiration of innovators, users, and recipients. A key role in increasing seniors' agency and their innovation capabilities is played by senior non-governmental organizations. In the dimension of the examined senior non-governmental organizations, during the execution of social innovation, all of the aforementioned categories of members adopt the role of prosumers. They participate in all stages of its creation, implementation, and dissemination.

The process of innovation in a non-governmental organization is determined by complex factors of both external and internal character [25]. Some of them are barriers, defined as forces hindering initiation and the development of innovation. The authors of Barriers to Social Innovation [1] indicated that there are two groups of barriers in innovation processes: structural and agency barriers. Structural barriers are linked to complexity, the uncertainty of social processes, and political, cultural, and economic contexts. They are determined by:

1. Social context: problem complexity, unpredictability of side effects, strong component of binding, but not bridging social capital, gaps in access to information and uncertainty connected with the impact of innovation in the future, a lack of strictly ex post data as well as a possibility for innovation product validation.

- Political and cultural context: monopoly of political power, barriers to free communication, free speech, and media, a "top-down" approach when formulating and implementing policy and strategies, a lack of legal and cultural recognition, an inadequate system of public orders, culture oriented toward the functioning of state institutions but not social ones, poor knowledge transfer policy.
- 3. Economic context: limited possibility for independent financing for initiatives, excessively expensive innovation, lacking a mechanism of innovation scaling, having a potentially large number of subjects, activities, and technologies that the innovation will have a negative impact on, the nature of public goods that result from innovation.

The agency barriers (described above) connected to activities occurring during the process of innovation implementation are a reluctance to undergo innovation, insufficient usefulness of innovation, few solution alternatives to innovation, a low innovation efficiency, different group and individual interests, people's states of mind, personal relations amongst people (envy), distrust towards innovators, a lack of environmental agreement for a mutual approach to changes triggered by innovation, a lack of intermediary linking partners in social networks, a lack of networks in communities, a lack of skills in many areas of social life, including skills for developing institutional entrepreneurship, protectionism, and aversion to risk, and problems with supervision and coordination [1].

In order to complete the conceptualization of the definitions used in the paper, it is necessary to define one more category—agency. The morphogenetic theory developed by Margaret Archer assumes, on the one hand, that agency results from an internal dialogue described as internal conversation of the entity—its specific reflexivity [26–28]. On the other hand, it expresses the ability of the entity, conscious or not, to influence its social environment. According to the assumptions of critical realism presented by Roy Bhaskar and mentioned by Archer, causal forces of social forms are influenced by social agency [29], that is, they are conditioned by emergent (non-reductive) properties of individual and collective action subjects [30]. In other words, the agency of the performing subjects possesses subjective and intentional attributes, which should be tied to reflexivity, but it also conditions and is conditioned by factors present in the environment, that is, structural and cultural properties [31–35]. A constitutive feature of agency is not only the possibility of a subject's (or subjects') activity, but it is expressed by the mere existence of this subject [27,36,37]. In the examined area, the mere existence of the organized senior environments as collective action subjects is proof of their agency capability. Determination of the scale of their action abilities and barriers determining their agency remains a problem.

The authors distinguish two original types of agency barrier: structurally conditioned and related to awareness. The first type is determined by contexts resulting from the following types of potential related to the members of the examined non-governmental organizations: infrastructural, economic, intellectual competence, communication, and digital. The second type of barrier concerns the state of mind of those examined, attitudes adopted towards the social innovation undertaken (pro- and anti-innovative) and attitudes toward the co-participants of innovation (e.g., trust, normative community, or distance and envy) and toward the necessity of building social bonds in micro-, meso- and macroenvironments (bridging social capital).

The conceptualization of two types of agency must refer to theoretical concepts, which, apart from emphasizing the reflexivity and intentionality of an entity, also place the agency capability in the existing structural and cultural contexts. Within these frameworks, the entity has the ability to make a difference under particular social and time conditions in terms of transformation or the maintenance of various social forms. The morphogenetic theory developed by Archer assumes, on the one hand, that individual agency comes from an internal dialogue and specific reflexivity for the entity (component of agency related to awareness). On the other hand, it indicates the ability of the entity (material resources, knowledge, skills, experience) to influence its social environment (and thus, the structurally conditioned agency component).

An analytical isolation of two types of agency is crucial for the description and explanation of social changes (morphogenesis) in the examined organizations and their social environments. Agency, in a broad sense of the word, provides the conditions for innovativeness and leads to innovation, when complying with the proper structural and cultural conditions. It is a necessary, but not sufficient condition for the occurrence of innovation. It is essential to determine the structural and cultural conditions and type of reflexivity required for innovation to take place.

To analyze the creation of the barriers to agency that result in dysfunctions in the field of innovativeness, we refer to several epistemological assumptions of morphogenetic theory and critical realism. We assume that the reality of the examined phenomena and social processes manifests not only in their empirical features but also in causality. Causal mechanisms are real when they come from the relations existing among social beings and between the properties and forces of social and cultural structures as well as the agency capabilities of individual and group subjects [31,38–40]. The actions carried out in structural and cultural contexts should be treated as causal forces.

When adopting the presented epistemological assumption and methodological directive resulting from it, one should search for the relations between the sphere of contexts and agency in a diachronic order of time [29,41], and the basic research procedure adopted is causal morphogenetic analysis. Its deductive analytical scheme constitutes the methodological framework as a pattern for data synthesis. It is used for the analysis of the creation and duration of the particular agency barriers in a given environment, which are the result, to a lesser or greater extent, of concealed ones. Below elements concerning a deductive scheme of causal explanation for the analysis of concrete cases of the occurrence of agency barriers amongst the members of the particular non-governmental organization are presented. The scheme comes deductively from a three-phase conditioning model (conditioning, interactions, and elaboration) [29]:

- Diagnosis of structural conditions (component of structurally conditioned agency barriers): Structural conditions (infrastructural, economic, knowledge resources, skills and competences including digital ones, political ties, group, organizational, and local and regional interests) differentiate the groups and their members in terms of access to power, wealth, and prestige.
- Diagnosis of cultural conditions (component of structurally conditioned agency barriers): Under the conditions of social or organizational morphostasis (duration), cultural conditions, that is, the sets of accepted ideas and values, organizational cultures, systems of belief, and ideologies magnify the structural conditions. They legitimize the relationship between exalting one type of subject and demeaning others in the organization and its close and distant environments.
- Indication of the co-existence of incoherence between the structural conditions (including material and infrastructural type) and cultural ones. Structural and cultural tensions create the context for social interaction. The structural and cultural contexts condition the social agency.
- Defining the type of reflexivity by the action subjects (the main component of awareness agency): The action subjects emotionally and reflexively analyze the external conditions. Depending on the type of socially dominant reflexivity and the sense of duration or non-duration of structural and cultural contexts, the action subjects execute their agency in different ways in relation to the external conditions [29,42].
- Indication of dominant types of reflexivity when undertaking social innovations (the components of awareness agency): In a morphostatic scenario, mainly undertaken through the participation of communication reflexivity, actions aim to reflect the social and organizational status quo. An indicator of the existence of communication reflexivity is the emphasis on the barriers of agency that are structurally conditioned to a greater extent than the possibility of them being overcome by members of the organization. Negative group emotions block innovation as they cause group and

individual envy, a lack of trust in the environment, and the dominance of binding social capital.

- Morphogenetic scenarios, which are affected by the type of autonomic reflexivity, manifest in a critical attitude toward particular aspects of organizational life, leading to action and change. A qualitative indicator of their existence is the emphasis on bridging social capital and the potential of a group to act in cooperation with the environment.
- Determining awareness agency barriers leading to morphostatic effects (duration). The agreement of action subjects regarding the existing relationships between the structural and cultural contexts blocks the development of new action subjects as well as changes in the organizational status quo and the social and organizational innovativeness potential. The morphostatic effects are magnified by the type of communication reflexivity.
- Defining awareness agency barriers leading to morphogenetic effects (changes, including innovation). The course and effects of activities result from the autonomic reflexivity of the subjects who make subjective, individual decisions about their practical projects.

3. Methodological Assumptions, Framework of the Research Procedure, and Ethical Declaration of Researchers

Based on the theoretical assumptions presented above and observations about the project, four research questions were developed and the search for their answers is presented in this paper: (1) What is the extent of digital competences as elements of the structurally conditioned agency of the examined members of non-governmental organizations? (2) What structurally conditioned agency barriers have been observed by the examined seniors while undertaking innovative activities? (3) What awareness agency barriers have been observed by the examined seniors? (4) What types of reflexivity are dominant among the respondents when undertaking social innovation activities?

In order to diagnose and explain the creation of agency barriers, the authors used some elements of morphogenetic causal analysis [35,43]. This provided a general methodological framework for synthesizing and interpreting quantitative and qualitative data on the structurally conditioned and awareness barriers related to agency. Two detailed research methods were also used to obtain data: qualitative (focus group interviews (FGIs)) and mixed quantitative and qualitative (and computer-assisted web interviews (CAWIs). This procedural approach allowed us to analyze the elements of the structural and cultural properties of a given organization as well as the agency capabilities of organizational subjects.

A diagnosis of the structurally conditioned barriers of agency was made through the use of computer-assisted web interviews (CAWIs). Within the framework of CAWI research, 15 questionnaires were gathered, and these were completed by the leaders and members of Silesian senior non-governmental organizations (University of the Third Age) and appropriate local Senior Councils. The questionnaires included questions about the internal structure of the organization and functions served, the characteristics of its environment, methods of communication with the environment, and projects executed. In addition, a SWOT (Strengths, Weaknesses, Opportunities, and Threats) analysis of the organization was conducted (see Appendix B1). The selected fragments of the quantitative and qualitative empirical materials are presented in table form (Table 1: Digital forms of communication of the organization with the environment) in the next two parts of the paper (Appendix C).

	Having a Website	Having a Facebook Account	Having a Logo and Motto for the Organization	Publishing the Magazine Online	Cooperation with Local Media: TV, Radio, Portals	Projects Realized Requiring Digital Competence
University of the Third Age in Bytom and Council of Seniors in Bytom	1	1	1	1	1	1
Katowice, three Universities of the Third Age, Council of Seniors	1	1	1	1	1	1
Council of Seniors in Chorzów	1	1	1	1	1	1
The University of the Third Age Association, Gliwice	1	0	1	1	1	1
Council of Seniors in Rybnik	1	1	1	0	1	1
Sosnowiec Association "From a junior to senior", Sosnowiec Association "Active	0	1	1	0	1	1
Senior"						
Council of Seniors in Tychy	0	1	0	0	1	1
Lubliniec University of the Third Age	1	1	1	0	1	1
Jaworzno University of the Third Age	1	0	1	1	1	1
Council of Seniors in Mysłowice	1	0	0	1	1	1
University of the Third Age Association in Piekary Śląskie	0	1	1	0	1	1
University of the Third Age Association						
and Council of Seniors in Tarnowskie	1	1	1	1	1	1
Góry						
Council of Seniors in Zawiercie	1	1	1	1	1	1
Łazy University of the Third Age	1	1	1	0	1	1
Nędza University of the Third Age	1	0	1	1	1	1
Association "Active Wojkowice Senior"	1	1	1	0	1	1

Table 1. Digital forms of communication of organizations with the environment (elements of agency).

In the table, according to the ordinal scale, "1" means that the form exists, "0" means a lack of the given digital form of communicating with the environment. Source: own work.

On the other hand, it was possible to define the awareness barriers to agency by using focused group interviews (FGIs). For the FGIs, 168 people took part, including 84 leaders (board members) and 84 members of senior non-governmental organizations. Selection of the individual focus groups was based on a purposive sampling strategy. The research included 21 non-governmental senior circles from all 21 centers participating in the project "Social Innovation as the third mission of the university", as follows: rural areas (community of Nędza, Bobrowniki), small towns (Poręba, Łazy, Wojkowice, Lubliniec, Mikołów), medium-sized towns (Tarnowskie Góry, Mysłowice, Zawiercie, Czechowice-Dziedzice, Jaworzno, Piekary Śląskie), and cities (Katowice, Sosnowiec, Gliwice, Bytom, Chorzów, Tychy, Dabrowa Górnicza, Rybnik). The focus group interviews were conducted separately in each circle. An even number of representatives from the local University of the Third Age and an appropriate number of members from the Community/Town Senior Council were included in the research. It was also assumed that, according to the rules of grounded theory [44,45], data gathered in the groups would be compared in a continuous way. The categories should be indicated when ordering the research material from FGIs.

The focus group interviews included questions about the types of barriers that hinder the introduction of innovations within an organization and in the organization's environment and the importance of personal and group envy and distrust in the implementation of innovation. The main scope of the questions making up the FGIs is presented in Appendix B2.

During the research using FGI and CAWI, proceedings were conducted in an impartial, responsible way to gain trust. The participation of seniors in the research was based on their voluntary and conscious consent. The authors explained, in a way that the respondents could understand, what the research concerned, who it was led by, and how the results were going to be made public and used. The respondents were informed of their right to refuse participation in the research and the right to withdraw their consent at every stage of the research without giving a reason. Separate and clear consent was obtained when using sound recording devices. The participants were informed of their rights concerning the regulations of personal data protection and, just in case, of copyright protection. Those examined were guaranteed the highest possible levels of anonymity and confidence.

4. Digital Competence as the Elements of Agency of the Members of Senior NGOs

The Internet is one of the basic means of communication and is often decisive in terms of whether the organization is visible and recognizable in the social environment. People who lack digital competence also have a limited capability to fully participation in social, professional, or cultural life, which leads to gradual social or economic exclusion as well as contributing to an increase in so-called digital exclusion [46,47]. One of the decisive factors in this regard is age. Seniors in Poland are the group that uses the Internet the least often. The phenomenon of the digital exclusion of seniors appeared and began to grow stronger as a result of the development of modern technologies at the turn of the 20th and 21st centuries. The seniors, however, understand more and more often the need to remove digital barriers through participation in various computer courses that are offered by, among others, the Universities of the Third Age. The inclusion of the elderly into the virtual reality and counteracting digital exclusion is of particular importance in light of the increasingly severe problem of aging of Polish society.

On the other hand, in recent years, a certain level of digital activization of seniors has been observed. The digital participation of Polish seniors is now observed more often, and this has been confirmed by the results of a survey [48,49]. In the year 2005, computer use was declared by 12% of seniors aged 60–64 and 4% aged 65 and older. How did the extent of Internet utilization change in the examined period? In 2005, computer utilization was declared by only 8% of respondents from the first age group and 3% in the second group. By 2015, this percentage has risen significantly, reaching 40.8% among seniors aged 60–64 and 17.9% in those aged 65 or older. Furthermore, acquiring and improving relevant competences is becoming a goal for the examined Universities of the Third Age in Upper

Silesia, which are increasingly focusing on courses regarding the use of computers and the utilization of the Internet.

One of the objectives of the research was to show whether the members of Silesian senior non-governmental organizations are digitally excluded as well as to diagnose the extent of their digital competence (research question No. 1), consequently showing their agency in building relations with the social, cultural, and economic environments.

Those examined were fully aware that, in order to exist in society, it is necessary to build an image of their organization and efficiently communicate with the environment, with particular emphasis on Internet communication. Due to this, in the majority of the Universities of the Third Age in Upper Silesia, there are regularly run computer workshops that teach seniors to safely function on the web, pay bills via the Internet, use email, and create a Facebook account. The extent of digital competence is illustrated in a synthetic way in Table 1. According to the focus group research and description of the environments prepared by the given Universities of the Third Age based on the standardized questionnaire interviews (CAWIs), almost 70% of seniors use an email account for their primary way of communicating online. Seniors send information to each other about future meetings and events in the region that are important to them. An example of successful email communication is the project run by the University of the Third Age in Katowice "Time Bank". In the project, seniors make a register of actions that they can do for one other, and they write to one other about their current needs and support one other in this way, e.g., one senior does shopping for another one, while in return, the second one teaches him English or walks his dog. In this way, bond-forming types of bridging social capital are created, and the structures of the local civil society are built.

More variation exists in the case of the website of each senior organization. Some organizations have such a site, some do not have it at all, while others use the town hall website and have a special bookmark for seniors. Whether the organization has its own website does not depend on the size of the city but rather on the activity and creativity of the leaders as well as their relationship with the local administration that, to a lesser or greater degree, supports them financially. A perfect example of such a successful operation is the activity of the University of the Third Age in the Łazy [50] and Nędza [51] towns. Despite these towns being small, they have incredibly active leaders who create the websites for the organization on their own and acquire the means for their operation. The website of the University of the Third Age in Lazy is presented in a professional way and contains all of the information about the organization, thematic sections, online bulletin, current workshops as well as information about virtual lectures for the Universities of the Third Age published on the EduSenior channel created on the YouTube platform. On the webpage there is also a bookmark named "Multimedia" that contains photos, films, and files for download. There is also a form to facilitate contact by potential members. This site's high levels of presentation and professionalization reflect a high level of consciousness among the leaders in regard to online communication. Therefore, it is hard to speak of digital exclusion in this group.

In the majority of cases, Universities of the Third Age in Upper Silesia do not have problems with using Facebook for communication. The president of the University of the Third Age in Wojkowice calmly stated, "Yes, we have the Internet, we have a profile on Facebook, that knows about everything, about our actions, (. . .) during the majority of events photos are taken and they are described with some notes". They promote their organization and build its image through Facebook. Facebook is also a source of information for them. An example of this was provided by a statement by one of the seniors working at the University of the Third Age in Katowice, who, thanks to information published on Facebook, took part in a special project involving educating the leaders of senior local non-governmental organizations using the *community organizing* method. In the aforementioned project, students were taught ways in which local initiatives can be organized and planned from scratch.

"These were two trips to Budapest and Bucharest. I am noting here that I found it on Facebook, logged in there and, due to apparently justified reasons, I have been accepted. It

is a very interesting method and it teaches how can local initiatives be organized from scratches. There is some problem, like if they want to build a block of flats next to our home, right? And we start from the ground up, we become such a leader and organize. It's connected to the so-called doorknocking, which is knocking on doors and encouraging the participation in the initiative or organizing a certain campaign from the very basics."

The high level of agency interactivity and communication of the examined seniors is further indicated by their constant cooperation with the local media: the press, radio, and television. Regarding contact with the media, a representative of the University of the Third Age in Sosnowiec "We participate in the program with the Katowice television, we also appeared on the radio, this case was being publicized and because of that we are simply recognizable. Not only in the city but generally in the province." Meanwhile, the president of the "Wojkowice Active Senior Association" states "We are visible, we are praised everywhere, we are on television, we are on the radio, we give interviews, we are in the local and provincial newspapers, in general Polish newspapers there are also articles about it. And that created some jealousy. We are gaining many new members."

Each of the examined leaders and members of the Universities of the Third Age stated that they were aware of the significance of the voices of various media in the local environment. Small towns and villages most often cooperate with the local press. During the FGIs with representatives of the Universities of the Third Age, it was noted that, for larger cities, such as Katowice or Gliwice, there is also cooperation with television, mainly with TVP Katowice and TV Silesia. As an example, in Gliwice and Katowice, thanks to TVP Katowice as part of the "Kaleidoscope of Good Places" program, there was the opportunity to record 15-min films promoting associations. Now, they have these films and can present them on their website or show them during a conference. The University of the Third Age in Katowice also has a cyclic program on TV Silesia that runs for 15 min every week and concerns the problems of seniors and events and actions organized by seniors.

Acquiring and completing projects requires a constant improvement in the digital skills of seniors. It is necessary to use web generators of the project applications or to conduct correspondence (e-mail) as well as present substantive and financial reports to Intermediary Institutions. A clear example of this occurs at the University of the Third Age in Lazy, which, for the last 11 years, has been running a Universities of the Third Age Polish Sport Olympics project. The organization of this project has been conducted online for years. In the year 2019, as many as 61 universities and senior organizations throughout Poland, as well as universities from Austria and Slovenia, participated in it. Over 900 contestants took part, and hundreds of fans supported their teams. In the year 2019, the Olympics was added to the Polish 40th anniversary of the University of the Third Age movement program. Since its first edition, the Olympics has been under the patronage of the Polish Olympic Committee, the Ministry of Sport, the Ministry of Family, the Labor and Social Policy, The Great Orchestra of Christmas Charity, and the Federation of the University of the Third Age Associations. Another example of digital inclusion comes from Rybnik. The Rybnik Council of Seniors conducts a project, "Silesian Digital Academy" (Sląska Akademia Cyfrowa). This is a 3-year program co-financed from the funds of the European Union as part of the Operational Program Digital Poland 2014–2020 that is conducted by the Foundation for Social Participation, the partner of which is the town of Rybnik. The project aims to improve the skills mainly of people older than 65 related to the use of such things as computers, tablets, smartphones, and the Internet in everyday life.

To summarize this subsection, digital and communication competences were indicated for the members of the examined organizations, and these significantly contribute to the magnification of their agency. This regularity is confirmed by the fact that a great majority of organizations declared in CAWI research that they possess their own website (80%), Facebook account (over 73%), logo and slogan (almost 87%), and an online magazine (60%) as well as cooperating with local and regional media (100%) and using digital competences in their projects (100%). Digital competence, understood in a broad sense as an ingredient of the structurally conditioned agency of those examined, helps an organization to obtain information and apply for external funding. In the examined non-governmental organizations, the sources of funding for social innovation are mostly EU programs and domestic programs (e.g., Civic Initiatives Fund). The CAWI research showed that over 80% of the studied organizations obtain financial resources from these types of funding. They are directed toward the development of local institutions of civil society. Those examined stated that they are involved in obtaining grants for concrete projects.

5. The Structurally Conditioned and Awareness Component of Agency and the Emerging Types of Reflectivity

An attempt was made to determine the extent of digital competence of the examined members of Silesian senior non-governmental organizations. In other words, we investigated the structurally conditioned agency component, which is conditioned by the structural and cultural contexts of an organization's actions but is independent from the context examined in this area.

Here, we refer to the other components of structurally conditioned agency and the awareness component of agency, which is mainly a derivate of the reflexivity of the examined members of the senior NGOs. We investigate the barriers in the undertaken social innovations observed by those examined and the agency barriers constituting restrictions stemming from the levels of digital and communication competence possessed by those examined (research questions No. 2 and 3).

All types of barrier suggested by the participants of the analyzed focus group interviews as well as the connections between them are presented in a synthetic way in the perception map below, which was generated with Atlas.ti software. The Atlas.ti tool allowed the generation of codes and their families, presenting the main categories of the respondents' replies received from the focus group interviews as well as the emergent terms that made it possible to clearly present the results of the research. As an example, one of the most significant codes is "envy", and this consists of two elements, the first of which was the degree of grounding (21), i.e., the binding of one code to other codes. This code was counted into the code family (CF) of barriers hindering the implementation of innovations. The presented list of codes and code family was created on the basis of the analysis of nine focus interviews representing three organizations—from large, medium, and small towns.

The examined members of senior NGOs perceived a couple of key groups of barriers in their social, economic, and political environments and relations between people in organizations (envy, unwillingness to implement innovations) that restrict the execution of social innovations. However, a lack of knowledge and computer skills, constituting digital and communication competences, which are stereotypically ascribed to people aged 60+, were not identified as barriers and, according to those examined, do not constitute a significant barrier to social agency. Proof of this is the low frequency of difficulties coming from a digital competence deficit and a lack of communication identified among the barriers of implementing innovation, as presented in Figure 1 (code: communication barriers—indicated by 4 participants in the FGIs {4-0} and code: lack of specialistic knowledge—indicated by 5 participants in the FGIs {5-0}).

Both structurally conditioned barriers and awareness barriers of agency that negatively condition the initiating, testing, and implementation of innovation were identified. In terms of the objectivized barriers or, more precisely, the economic context, the focus group interview participants emphasized the significance of financial restrictions (code: finances {14-0}). As for the significant objectivized barriers in political and cultural contexts, the following ones were chosen: a "top-down" approach when formulating and implementing policies and strategies (code: barriers tied to politics {10-0}), a lack of legal recognition (code: no access to information {4-1}), and culture oriented at the operation of state institutions instead of the social ones (code: no help from local government {9-0} and code: bureaucratic barriers {6-0}).

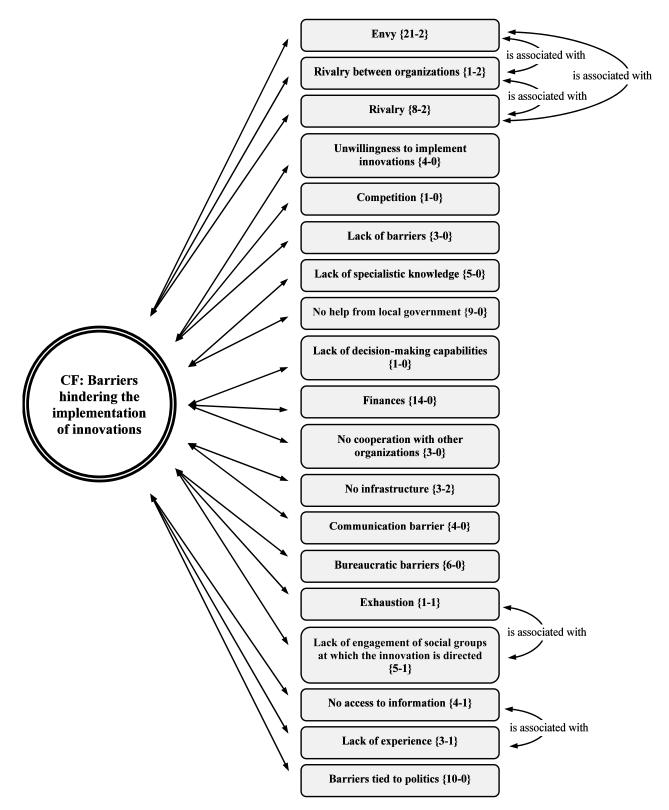


Figure 1. Code family perception map: barriers to innovation in senior non-governmental organizations (NGOs). Source: own work.

According to the respondents, the barriers limiting social innovations in the area of agency include interpersonal relations, complexity and intensiveness, tensions and conflicts within the organization, and determination of the extent of innovation.

Among the awareness barriers to agency, the role of negative group emotions was strongly emphasized, namely envy and resentment (code: envy {21-2}). A lack of agreement from the environment toward a common approach to changes caused by innovations (code: lack of engagement of social group at which the innovation is directed {5-1}) and a network of trust and cooperation in communities existing only to a limited extent or not at all (code: rivalry {8-2} and code: rivalry between organizations {1-2}) were also identified. Furthermore, those examined pointed to agency restrictions conditioned by the state of the minds of both the innovation implementers and users (conservative) and distrust towards other innovators (code: no cooperation with other organizations {3-0}).

This kind of agency barrier results from every day, unavoidable contact with all participants in the organization, occurring independently from the functions performed by them, often within the organizational structures that are not completely defined in the functional context. They operate through personal and group rivalries, factionalism in perceiving and articulating group interests, involve the initiation and implementation of innovation, and often oppose certain group or environmental interests.

The phenomenon of envy is noteworthy in the analyzed context. The respondents indicated that negative emotions, mainly envy, are a particularly important factor limiting the building of innovation community. Its sources in the Polish political and cultural contexts can be found in the polarization of society in terms of ideology (anti-European Catholic conservatism versus pro-European left-liberal secularism). Hence, rivalries (e.g., funding) between environments and organizations are often burdened with envy against an ideological background. There is also a more universal way to explain this phenomenon. Helmut Schoeck showed that envy is a universal, negative social emotion [52]. It constitutes a certain anthropological constant that cannot be completely eliminated from social relations. It is only possible to reduce it through conscious and consistent socialization emphasizing freedom rather than equality.

The results presented above prove the existence of bridging social capital deficits and a lack of interpersonal and group trust in the studied groups and organizations. The low levels of bridging social capital and generalized trust in the partners of social interaction are features of Polish society that were historically fixed during the period of communist power (1945–1989) and structurally hinder the development of a civil society and bottom-up social innovations. This also concerns the examined environments and organizations.

What types of reflexivity are dominant among the respondents when undertaking social innovations? (Research question No. 4)

According to Archer, agency is not only the capability of a subject to act but is also reflected by the very existence of this subject [53]. Therefore, the very existence of organized senior environments as collective action subjects is proof of senior agency capabilities. The domination of morphogenetic actions and of the members' autonomic reflection is tied to the essence and objectives of these non-governmental and voluntary organizations, as it is based on free participation, a bottom-up approach, and to a large degree, self-financing and prosumer organizations.

Despite the presented deficits and the structurally conditioned and awareness barriers, the majority of those examined stated that they make organizational actions according to a morphogenetic scenario. This is supported by the type of autonomic reflectivity. The aforementioned observations were also confirmed by the analysis of the SWOT questionnaires, an integral part of the CAWI interview questionnaire (Figures 2–5). From the 15 analyzed SWOT questionnaires, a definite majority of representatives of the examined organizations emphasized their current opportunities, capability to take action, and the development perspectives and strengths of their organization (see: Figures 2 and 4) rather than internal and external threats or weaknesses of their organization (see: Figures 3 and 5). The perception maps presented below clearly show that the advantage of strengths manifests itself in terms of both the scope and frequency of indicated categories (codes). In other words, the surveyed organizations and their members have more strengths than weaknesses.

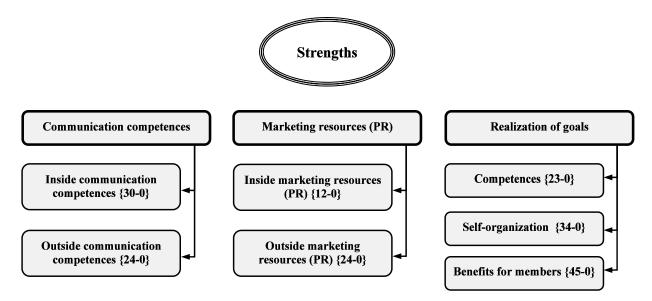


Figure 2. Code family perception map: part of the SWOT analysis of senior NGOs (Strengths). Source: own work.

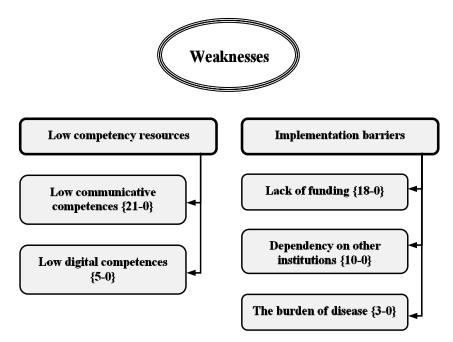


Figure 3. Code family perception map: part of the SWOT analysis of senior NGOs (Weaknesses). Source: own work.

It is worth emphasizing that among the weaknesses and implementation barriers presented above, the health conditions of the members of the surveyed organizations (code: the burden of disease {3-0}) were indicated as taking the last position. This contradicts stereotypical thinking which assumes that the health of seniors is the main factor determining their participation in social life and introducing innovations.

Among the threats identified, respondents indicated problems with the objective aging process of organization members (code: problems resulting from aging members {16-0}) as well as financial threats, both individual (code: financial problems of seniors {9-0} and organizational (problems with obtaining a subsidy {7-0}). However, they were not threatened by a lack of digital or communication skills. The above observations confirm the previously presented results obtained during group interviews.

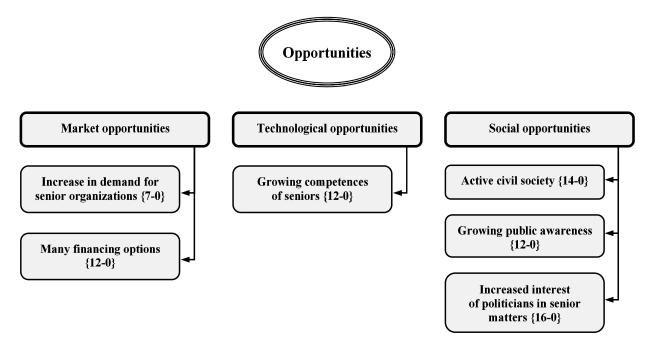


Figure 4. Code family perception map: part of the SWOT analysis of senior NGOs (Opportunities). Source: own work.

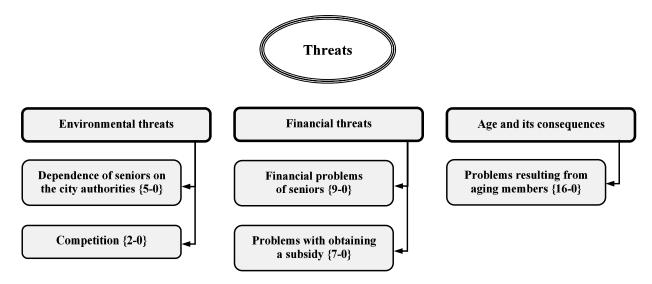


Figure 5. Code family perception map: part of the SWOT analysis of senior NGOs (Threats). Source: own work.

Those examined are characterized by a critical and active attitude towards particular aspects of organizational life and towards their local environment, which leads to social innovation in their environment. They can utilize the opportunities created by structural and cultural contexts and avoid the barriers connected to those. They possess knowledge and competence for active participation in social networks, including social media. They are prepared to cooperate with the environment of the organization.

Speaking in the language of morphogenetic theory and referring to its schema of causal analyses, (1) the examined NGO members, in the processes of implementing innovations, constantly examine the structural and cultural conditions and (2) determine objective inconsistencies between them (the indicated deficits and barriers). (3) Then, they collectively work emotionally and reflectively through the external conditions in order to provide feedback. (4) They have social and cultural interactions with the environment. (5) The agency resources make it possible to undertake actions according to the morphogenetic scenario connected with the collective autonomic reflectivity.

6. Results

In the paper presented, four research questions were raised. We present the research results obtained in response to the first question concerning the extent of digital competence as an element of agency of the examined members of non-governmental organizations.

The results of the focus group research and CAWIs indicated that the members of Silesian senior NGOs surveyed have relatively high levels of digital competence and communication skills, which positively condition their possibilities for agency during the implementation of social innovations. The majority of the CAWI participants declared that their organization had its own website, Facebook account, logo and slogan, and online magazine as well as cooperating with local and regional media and using digital competences possessed in their projects.

These results positively distinguish the surveyed seniors, the members of non-governmental organizations, from the participants in other available research on the digital competence of seniors [54–56]. It should be noted, however, that other available studies concern people who are not members of NGOs, i.e., they are probably less socially active. Thus, their results are not fully comparable with the current authors' research.

The next two research questions were related to the following issues: (1) what structurally conditioned barriers of agency are perceived by the surveyed seniors in their innovative activities and (2) what agency awareness barriers are noticed by the surveyed seniors?

As a result of the analysis of qualitative data from focus group interviews (FGIs), the types of agency barriers that negatively condition the initiation, testing and implementation of social innovation in the analyzed environments and non-governmental organizations were determined. In the area of structurally conditioned barriers, more precisely in the economic context, above all, the FGI participants emphasized the weight of financial restrictions. Bureaucratic barriers in local, regional, and central institutions, policies culture-oriented towards the actions of state institutions as opposed to social ones, and limited help from the local government were deemed to be the most significant barriers in political and cultural contexts.

Among the awareness barriers, the existing components of binding, non-bridging social capital, the lack of a strong social network in the communities, as well as rivalry between organizations, interpersonal and group envy, and other negative group emotions such as resentment [57] were described as being the most serious. Furthermore, those examined pointed out the restrictions of agency conditioned by divergent group interests, states of minds of innovation implementers and users, a lack of trust toward the innovators, and a lack of agreement from the environment regarding a joint approach to changes created by innovations.

When relating the types of agency barriers connected to the implementation of social innovation described above to the six stages of the innovation process provided in the "Open book of Social Innovation"—inspiration, proposition, prototype, maintenance, scaling, and system change—it should be stated that those examined most often are change inspirers themselves. They are the creators of the propositions of change, simulation, and prototypes executed on a small scale, e.g., in residential areas. Later, they gradually extend the scale of operations until actions move outside the city, region, and country (e.g., in the case of the UTW Sports Olympics and Senior Organizations in Łazy and Nędza).

The last but not least important question concerned the types of reflexivity undertaken by the respondents while implementing social innovations. The participants in the research, who were concentrated in the Universities of the Third Age and the non-governmental organizations cooperating with them, were mostly active people with a cognitive passion and motivation for active participation to change their local communities by initiating and realizing social innovations at the grassroots level. They are not strangers to autonomic reflexivity, favoring innovational attitudes and a critical approach to the environment. According to the assumptions of morphogenetic theory (Archer), this constitutes a basic component of an entity's awareness, making it easier to implement social innovations (morphogenetic scenario). The added value of the presented studies in the theoretical dimension is the operational specification of the morphogenetic scheme of causal analysis presented by Margaret Archer. In addition, the notion of structurally conditioned and awareness agency was conceptualized, which allowed the precise operationalization of the main research questions about agency barriers. Agency barriers that occur when implementing social innovations in the selected Silesian senior NGOs were identified. In terms of application, the obtained research results will allow for the implementation of educational and implementation projects (action research) that are adequate for the needs of a particular social group.

7. Discussion

Those examined have the agency potential, knowledge, and competence to actively co-create Society 5.0. Why did this positive result emerge in the research project?

The research results obtained prove that the respondents have a relatively high level of social agency. To a large extent, this was influenced by the social roles of those examined leaders and members of senior NGOs. These are mostly people with higher levels of education, who are leaders of local communities and organizations, who are relatively financially independent, and who have security in the form of a pension and savings, despite their age. They are professionally and socially active, possessing significant social capital at their disposal: bridging and binding. The attitudes of the respondents showed signs of autonomic reflexivity, which is conducive to innovation. A dysfunctional element of their generally pro-innovative reflexivity is the negative group emotions (envy) revealed by the FGI respondents.

However, one has to introduce a stipulation concerning the specificity of the examined group, which is not representative of the larger population of retirees, and this changes the rather optimistic view of the results achieved. The authors are aware of the fact that, for example, the digital and communicative competences of those examined may differ from the level of digital knowledge and skills of the majority of Poles of senior age [7,54]. This opinion comes from knowledge regarding the level of education of those examined and from the managerial professional, social, and organizational roles and functions held by them, both in the past and currently.

The extension of the research scope to include other Silesian senior environments, Universities of the Third Age, and non-governmental organizations and to undertake transregional and multinational comparative research remain tasks for the future [58,59]. However, the fact that the vast majority of respondents belong to the so-called *intelligentsia*, which is historically a privileged part of society (about 15% of the population), makes them different from the wider Polish structural and cultural contexts. This context makes it difficult to construct comparative studies of social agency on an international scale, but does not exclude their construction.

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Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author.

Conflicts of Interest: The authors declare no conflict of interest.

Appendix A

Social innovations were operationally accepted in the present budget perspective (2014–2020) by the institutions of the European Union as a fifth type of innovation, next to four earlier standardized ones presented in the Oslo Manual [60]. This notion permanently functions within the frameworks of policy and programmes of the European Commission, e.g., in the European programme to fight against poverty and social exclusion, the Innovation Union, the Social business initiative, the Employment and social investment package, the Digital Agenda, the New industrial policy, the Innovation partnership in active and healthy ageing, and the Cohesion Policy [6].

Appendix **B**

B1. Thematic range of questions for leaders of the surveyed senior NGOs included in the computer-assisted web interviews (CAWIs):

- 1. Description of the organization, (provide the name, address of the organization, contact details of the managing person, period of activity, operating sections/groups, internal structure, management method, special achievements of the organization, good practices).
- 2. Description of the environment in which the organization works (with whom the organization cooperates, who supports it (financially, substantively), what other organizations are working for seniors in the environment, what cooperation between them looks like).
- 3. Methods of communicating with the environment (own website, newsletter, own logo, slogan promoting the organization from outside, friendly media, methods of recruiting members).
- 4. Description of the chosen implemented project/activity of which the organization is the most proud (name, implementation time, goal, number of participants, short description of the activities/tasks, effects, difficulties encountered).
- 5. SWOT analysis of the organization (strengths, weaknesses, opportunities, threats).

B2. The main questions making up the focus group interviews (FGIs):

- 1. What barriers do you see in your NGO that hinder the introduction of innovations within the organization? Which barriers are the most difficult to overcome?
- 2. What barriers do you see in the organization's environment that hinder the introduction of innovations, including social ones? Which barriers are the most difficult to overcome?
- 3. What is the importance of personal and group envy and distrust in the implementation of innovation?
- 4. Who supports changes in your organization and who blocks it?

Appendix C

Table A1. Digital forms of communication of the organization with the environment (elements of agency). This table contains the original Polish names of the surveyed organizations and Universities of the Third Age.

	Have a Website	Have a Facebook Account	Have a Logo and Motto of the Organization	Publishing the Magazine Online	Cooperate with Local Media: TV, Radio, Portals	Projects Realized Requiring Digital Competences
Uniwersytet Trzeciego Wieku i Rada Seniorów w Bytomiu	1	1	1	1	1	1
Uniwersytet Trzeciego Wieku i Rada Seniorów w Katowicach	1	1	1	1	1	1
Rada Seniorów w Chorzowie	1	1	1	1	1	1
Stowarzyszenie Uniwersytet Trzeciego Wieku w Gliwicach	1	0	1	1	1	1
Rada Seniorów w Rybniku	1	1	1	0	1	1
Stowarzyszenie "Od juniora do seniora", Stowarzyszenie "Aktywny Senior" w Sosnowcu	0	1	1	0	1	1
Rada Seniorów w Tychach	0	1	0	0	1	1
Uniwersytet Trzeciego Wieku w Lublińcu	1	1	1	0	1	1
Uniwersytet Trzeciego Wieku w Jaworznie	1	0	1	1	1	1
Rada Seniorów w Mysłowicach	1	0	0	1	1	1
Stowarzyszenie Uniwersytet Trzeciego Wieku w Piekarach Śląskich	0	1	1	0	1	1
Stowarzyszenie Uniwersytet Trzeciego Wieku i Rada Seniorów w Tarnowskich Górach	1	1	1	1	1	1
Rada Seniorów w Zawierciu	1	1	1	1	1	1
Uniwersytet Trzeciego Wieku w Łazach	1	1	1	0	1	1
Uniwersytet Trzeciego Wieku w Nędzy	1	0	1	1	1	1
Stowarzyszenie "Aktywny Wojkowicki Senior" w Wojkowicach		1	1	0	1	1

Source: own work.

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