Odesa Polytechnic National University
University of Portsmouth
UK-Ukraine Twinning Grants Scheme

Project UUT10

«Inclusive Social Responsibility Formation in the Innovation Process»

ANALYTICAL RESEARCH

MAIN PREREQUISITES, OBSTACLES, DRIVING FORCES, INCENTIVES AND TOOLS FOR THE FORMATION OF INCLUSIVE SOCIAL RESPONSIBILITY IN THE INNOVATION PROCESS OF STAKEHOLDERS: THE VIEW OF POLITICIANS, SCIENTISTS, AND EDUCATORS

Odesa, 2023

Національний університет «Одеська політехніка»
Університет Портсмута
Грантова ініціатива заради партнерства між Великою Британією та Україною

Проєкт UUT10

«Формування інклюзивної соціальної відповідальності в інноваційному процесі»

АНАЛІТИЧНЕ ДОСЛІДЖЕННЯ

ОСНОВНІ ПЕРЕДУМОВИ, ПЕРЕШКОДИ, РУШІЙНІ СИЛИ, СТИМУЛИ ТА ІНСТРУМЕНТИ ДЛЯ ФОРМУВАННЯ ІНКЛЮЗИВНОЇ СОЦІАЛЬНОЇ ВІДПОВІДАЛЬНОСТІ В ІННОВАЦІЙНОМУ ПРОЦЕСІ СТЕЙКХОЛДЕРІВ: ПОГЛЯД ПОЛІТИКІВ, НАУКОВЦІВ, ОСВІТЯН

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Визнання:

Цей проєкт був здійснений завдяки програмі грантів для партнерства між Великою Британією та Україною у сфері наукових досліджень і розвитку, що фінансується Research England за підтримки Universities UK International та UK Research and Innovation.

Relevance and research methodology

Relevance. The military actions and the introduction of martial law on the territory of Ukraine significantly affected the transformation processes in the national economy, industry and society. As a result of the war, part of the territory of Ukraine fell under the temporary occupation, and another part remains very close to military operations, which negatively affects the business activity of business structures and social life.

Since the beginning of the war, domestic businesses have suffered significant financial losses. Some enterprises were forced to relocate their business abroad or to safer regions of Ukraine. Due to the conditions of high situational uncertainty, domestic business structures, having recovered from the initial shock of the onset of a full-scale invasion, have had to adapt to the new military realities and continue their operations, taking into account the risk-induced effects in the economy. Among these are: a decline in production volumes, loss of sales markets, high cost of loans, rising unemployment, mobilization of workers, energy resource shortages, and so on

Thus, a full-scale war in Ukraine demands a revision of existing approaches to policy formation in the field of state economic regulation and the search for effective management methods, especially in the area of innovative development and social protection. Creating a new architecture of the innovation process, considering the boundary conditions due to military actions, will help prevent social instability, social alienation, and breaches of national security through the systemic harmonization of interests of all involved parties. Indeed, the combined efforts of business structures, government bodies, political organizations, science, and education in the field of technology and innovation are crucial for ensuring economic growth during wartime and the post-war period, and the further development of modern society on the principles of inclusion and the acceleration of innovation-investment processes. Specifically, the activation of innovative reorientation of entrepreneurial entities by mastering new technologies, implementing cutting-edge scientific and technical achievements, and introducing innovations in the social sphere will facilitate the coordination of inclusive social responsibility with innovative development. This will enable the prompt resolution of current socio-economic problems related to accelerated technological development and the unpredictability of its outcomes, reducing the growing gap between the risks of innovation processes and the social responsibility of its stakeholders and subjects.

Under these conditions, *it becomes relevant to study the features of forming inclusive social responsibility of stakeholders and subjects of the innovation process, harmonizing their interests towards strengthening national security, ensuring protection and safety of people in the context of determinants of sustainable development during martial law and the post-war period.* That's why, recently, Odesa Polytechnic National University (Ukraine) in collaboration with the University of Portsmouth (Great Britain) has been executing an international project titled “Inclusive Social Responsibility Formation in the Innovation Process”, made possible thanks to the grant scheme UK-Ukraine Twinning funded by Research England with the support of UK International Universities and UK Research and Innovation.

This project aligns with the Research Priorities of the Ministry of Education and Science of Ukraine (2022-2026) concerning scientific research on:

a) issues of formation and implementation of state policy in the fields of education, science, innovations, and technology transfer. Forecasting of scientific-technological and innovative development (point 1);

b) socio-economic support for the development of human potential and reducing the level of social vulnerability of the population (point 5);

c) security issues, defense capabilities, and post-war recovery of the country (point 70).

The scientific research is conducted with the aim of assisting policymakers and companies in bridging the gap between the risks (social and ecological external effects) generated by the innovation process and the social responsibility of interested parties in innovations and beneficiaries [1, 2]. For this purpose, the authors have developed and applied a structural-logical research scheme that envisages achieving two aspects of one goal concerning one research subject (Fig. 1).

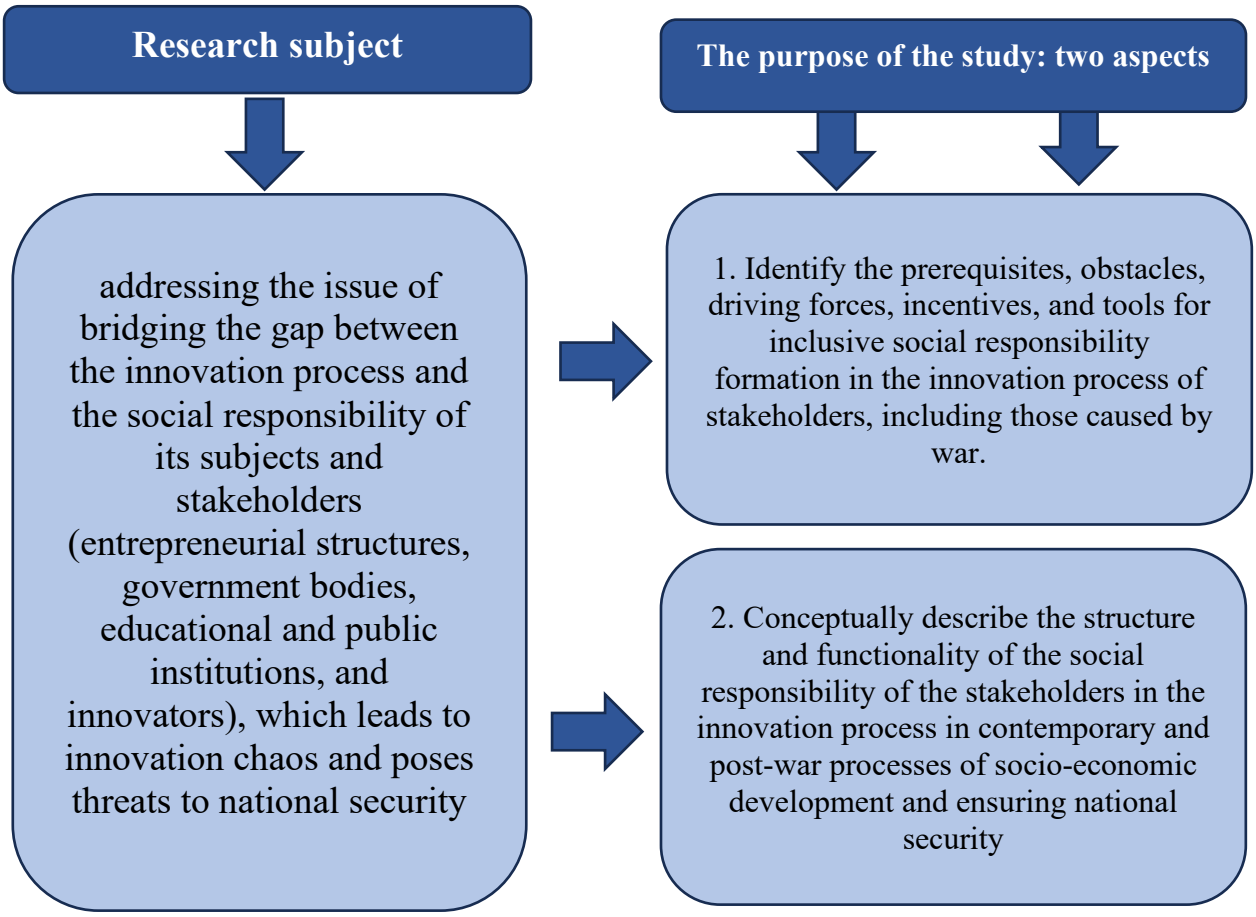

Figure 1 – Subject and purpose of the research project "Inclusive Social Responsibility Formation in the Innovation Process"

Methodology and expected research results. The methodology, scientific novelty, and peculiarities of the research process are elaborated in detail in [3]. Approaches and methods from [4-6] have been applied. This report presents the results of a preliminary quantitative and qualitative analysis of data obtained from surveying a segment of innovation process participants (policy, science, education).

The analytical research results are structured into 3 groups, in accordance with the survey's structure, which concerns the identification of main prerequisites, barriers, driving forces, incentives, and tools for forming inclusive social responsibility in the innovation process of stakeholders, including those caused by war:

1. General survey aspects (respondent profile description: age, gender, field of activity, education, academic degree possession, status as an internally displaced person, self-perception as a vulnerable population category).
2. Analysis of factors influencing the innovative component of ensuring national security that contribute to improving social integration and enhancing innovation potential aimed at addressing social problems of the Ukrainian society from the perspective of stakeholders in the innovation process.
3. Identification of structural and functional components of the social responsibility of stakeholders in the innovation process in contemporary and post-war socio-economic development processes of Ukraine.

Obtained results

1. General survey aspects (respondent profile description)

In the online survey related to investigating issues associated with determining the characteristics of forming the social responsibility of stakeholders and subjects of the innovation process, 105 individuals participated who gave consent (100%) for the analysis of its results and became more acquainted with the international project UUT10 "Inclusive Social Responsibility Formation in the Innovation Process" to understand the essence of the research conducted.

Under the research conditions, individuals involved in innovation processes (politics, business, science, education) participated in the survey.

At the beginning of the survey, *the respondent's profile* was formed. Specifically, respondents provided personal information about their position, field of activity, age, gender, education, and possession of a scientific degree. To understand the scope of the study, respondents were asked about their regional location.

During the survey, while forming the respondent's profile, a series of questions were also posed, aimed at understanding whether respondents have access to all necessary needs under current conditions, whether they can satisfy all financial needs through their primary job, and if they belong to vulnerable population categories.

In Fig. 2, an analysis of the respondents' positions, who participated in the study, is presented. As we can see, the majority of the respondents who took part in this survey within the project are: a) individuals working exclusively in the field of science and education (55.3%), b) scientists and educators who also identify themselves as top

managers and business owners (11.4% and 4.8% respectively), are higher education students (9.5%), or are individual entrepreneurs (8.6%).

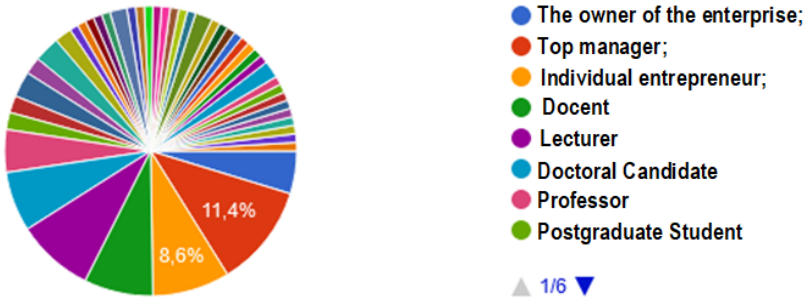

Figure 2 – Analysis of respondents' positions

That is why education (66.7%) and professional, scientific and technical activities (24.8%) are defined as the sphere of activity of the majority of respondents (Fig. 3).

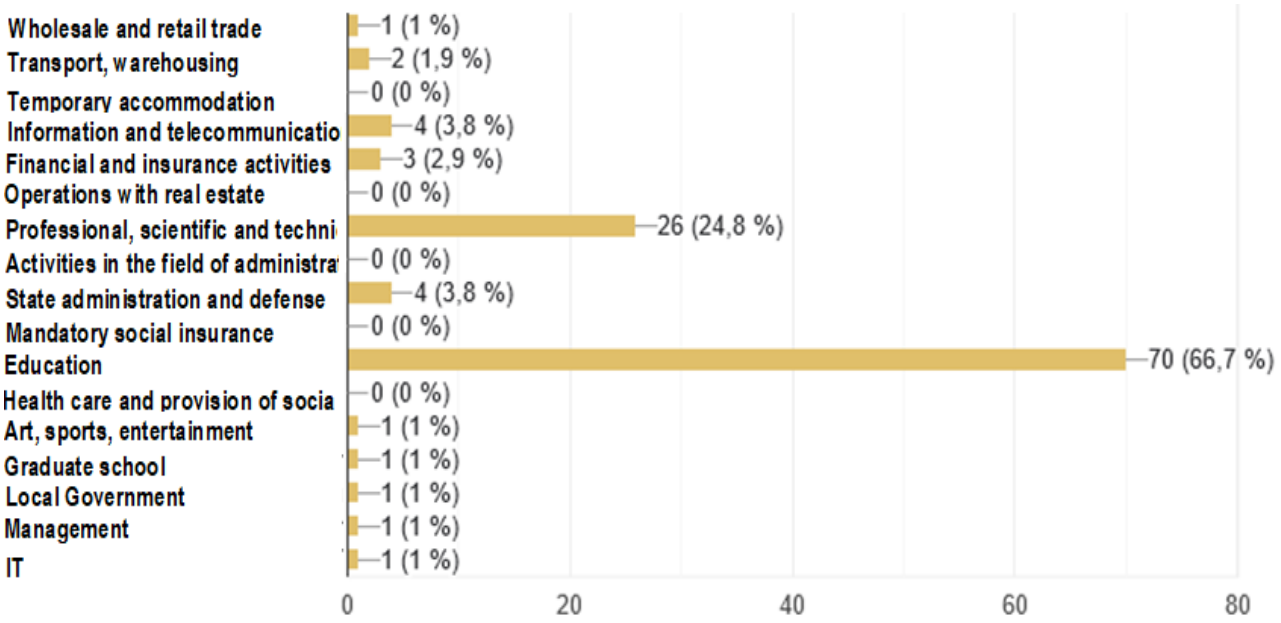

Figure 3 – Analysis of respondents' field of activity

Persons from the age of 16 took part in the study. From the analysis of the age groups of people who took part in the study, we can see that the majority of respondents (Fig. 4) who took part in the project are 40-49 years old – 42.9%, 30-39 years old make up 18.1% , 20-29 years old – 12.4% of the total number of people.

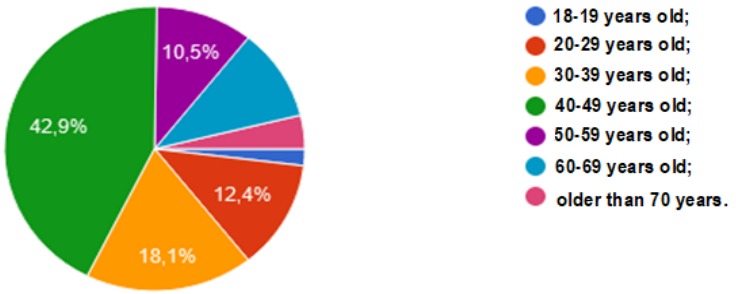

Figure 4 – Analysis of age groups of respondents

The majority of the respondents were women, accounting for 61.9% of the total surveyed (Fig.5). This is due to the gender shifts in the fields of science and education that have taken place in recent years and reflects the actual structure of the sector.

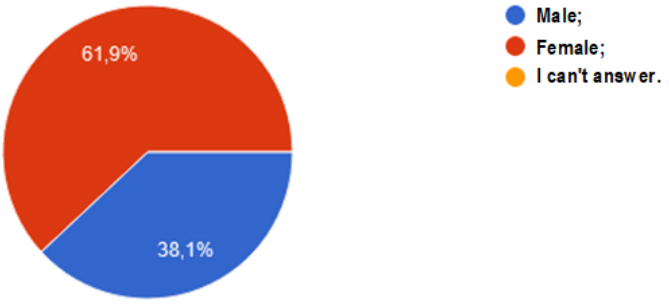

Figure 5 – Gender analysis of respondents

In Figures 6 and 7, an analysis of the education and the presence of a scientific degree of the participants in the study is presented. As we can see, the majority of respondents who participated in the project have a higher education (93.3%) and hold a Doctor of Science degree (44.8%) or a Candidate of Science degree (25.7%), respectively.

Figure 6 – Analysis of respondents' education

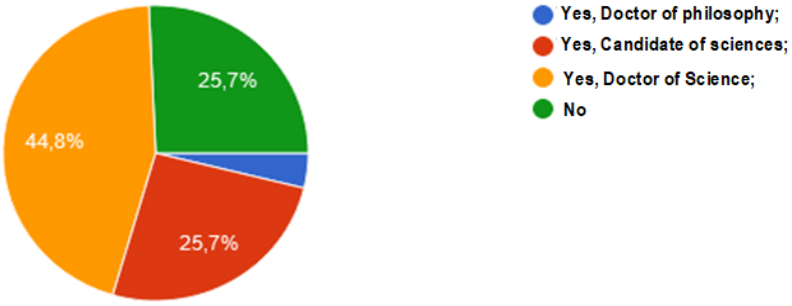

Figure 7 – Analysis of the presence of a scientific degree among respondents.

The majority of respondents are now in Ukraine (86%), in particular in the city of Odesa and Odesa region (34.4%).

Most of the respondents (85.7%) now have access to all necessary needs (Fig. 8).

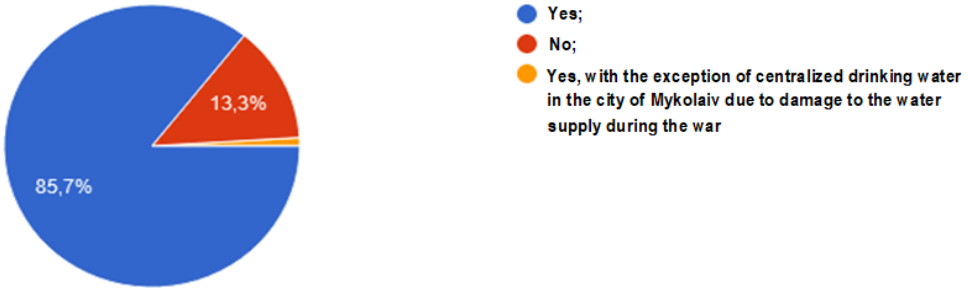

Figure 8 – Analysis of respondents' availability of access to all necessary needs

At the same time, there is a problem regarding the possibility of meeting all the respondents' financial needs at the expense of their main place of work. Their analysis showed that only 22.3% of respondents can fully meet their financial needs at the expense of their main place of work, and most of them (44.7%) have additional sources of income, and 14.6% have assistance from the state and/or international organizations (Fig. 9).

Figure 9 – Analysis of the possibilities of meeting all financial needs of the respondents at the expense of their main place of work

But the majority of respondents (78.6%) do not consider themselves to be among the vulnerable categories of the population. Among those respondents who identified themselves as a vulnerable category of the population, the largest specific weight is occupied by families with many children (20%) and people with disabilities (20%) (Fig. 10-11).

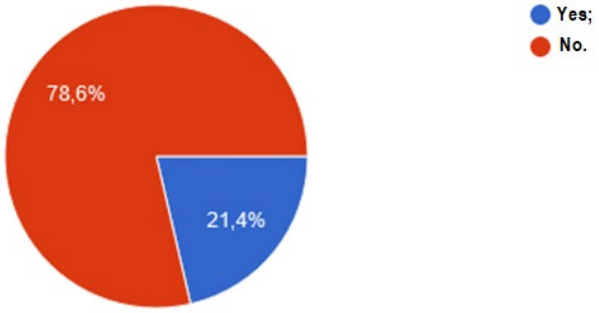

Figure 10 – Analysis of the number of respondents who classify themselves as vulnerable categories of the population

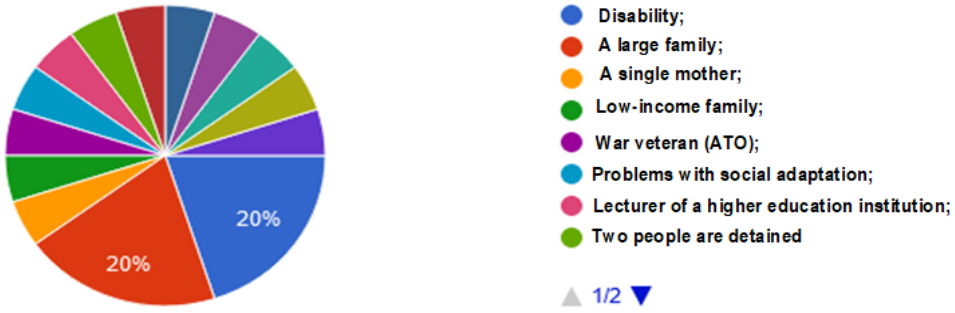

Figure 11 – Analysis of selected vulnerable categories of the population by respondents

Therefore, the profile of the respondents in this study, according to the analysis of data on the position, field of activity, age, gender, education and scientific degree, is as follows:

a) the majority of respondents represent the educational sector (66.7%), and 24.8% work in professional, scientific and technical fields. This indicates that the majority of participants are concentrated in areas where innovation and social responsibility can have a large impact;

b) the majority of respondents are in the age range of 40-49 years (42.9%), which indicates experience and stability among the participants. Women make up a significant part of the respondents (61.9%), reflecting gender changes in science and education;

c) the educational level of the respondents demonstrates high quality, because 93.3% have a higher education, and 44.8% of people have a doctoral degree, emphasizing the expertise of the participants;

d) the majority of respondents are in Ukraine, in particular in Odesa and the region (34.4%), therefore they are familiar with the situation personally;

e) most respondents have poor financial capabilities – only 22.3% can fully satisfy their financial needs at the expense of their main place of work, and the presence of additional sources of income is important for 44.7% of respondents;

f) the vast majority of respondents belong to low-vulnerable categories of the population and do not feel vulnerable (78.6%), but among those who identified themselves as such, large families (20%) and people with disabilities (20%) stand out.

Overall, *this profile of respondents highlights the wide range of experience and expertise among the participants, making the research findings more representative and meaningful for the study of social responsibility in the innovation process.*

2. Analysis of factors influencing the innovative component of ensuring national security and the process of forming inclusive social responsibility of stakeholders in the innovative process.

As noted above, in order to determine the prerequisites, obstacles, driving forces, incentives, tools for the formation of inclusive social responsibility in the innovation process of stakeholders, including those caused by war, the questions were divided into *two interrelated blocks regarding*:

a) analysis of factors affecting the innovative component of national security, which contribute to the improvement of social integration and increase the potential of innovations in order to solve social problems of Ukrainian society from the point of view of stakeholders of the innovation process;

b) determination of structural and functional components of social responsibility of interested parties of the innovation process in modern and post-war processes of socio-economic development of Ukraine, in particular on the basis of inclusion. This block reflects the respondents' awareness of the problem of the need to overcome the gap between the innovation process and the social responsibility of its stakeholders and subjects: innovators, business structures, state bodies, educational and public institutions.

The vast majority of respondents (94.3%) believe that organizations need an innovative strategy (Fig. 12).

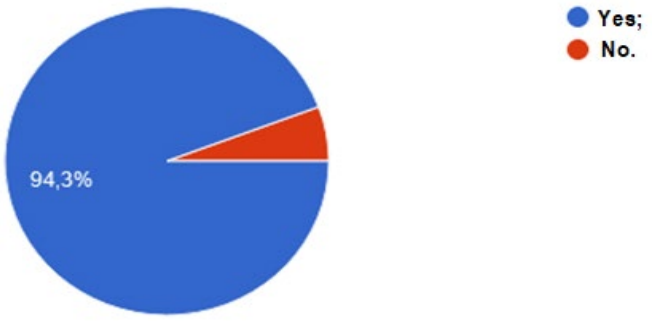

Figure 12 – Analysis of the need for an innovative strategy for organizations by respondents

Respondents who answered positively to the question regarding the need for an innovative strategy for organizations defined the impact of business relocation from February 24, 2022 on its innovative strategy as sufficiently influential (Fig. 13).

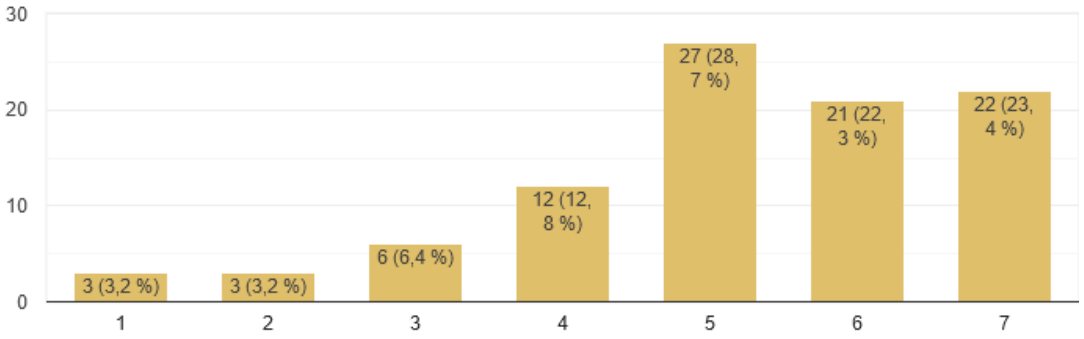

Figure 13 – Analysis of the assessment of the impact of business relocation from February 24, 2022 on its innovation strategy by respondents on a scale (1 – no impact (no impact), 7 – maximum impact (decisive impact)

A significant part of the respondents (38.8%) fully agree that the state should support the free use of external technologies, ideas and personnel by entrepreneurs and enterprises (Fig. 14).

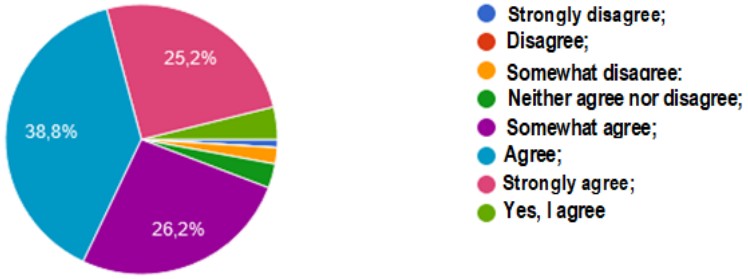

Figure 14 – Analysis of the results of the respondents' point of view on the statement that the state should support the free use of external technologies, ideas and personnel by entrepreneurs and enterprises

The vast majority of respondents (30.1% and 17.5%, respectively) noted that state assistance in innovative activities is extremely and very important for business, science and education (Fig. 15).

Thus, the majority of respondents recognized the significant impact of business relocation on its innovation strategy, while at the same time emphasizing the importance of state support in the use of external technologies, ideas and personnel in the innovative activities of business, science and education.

Another conclusion is that *the participants involved in the study question the necessity and importance of innovation in the context of global changes*, although they

actively recognize the key role of the state as a partner in creating a favorable environment for the development and implementation of innovative approaches.

Figure 15 – Analysis of the results of the respondents' point of view about the importance of state aid in innovation activity

Among the methods of stimulating innovative activity, the respondents identified awarding of innovators as the most important (Fig. 16).

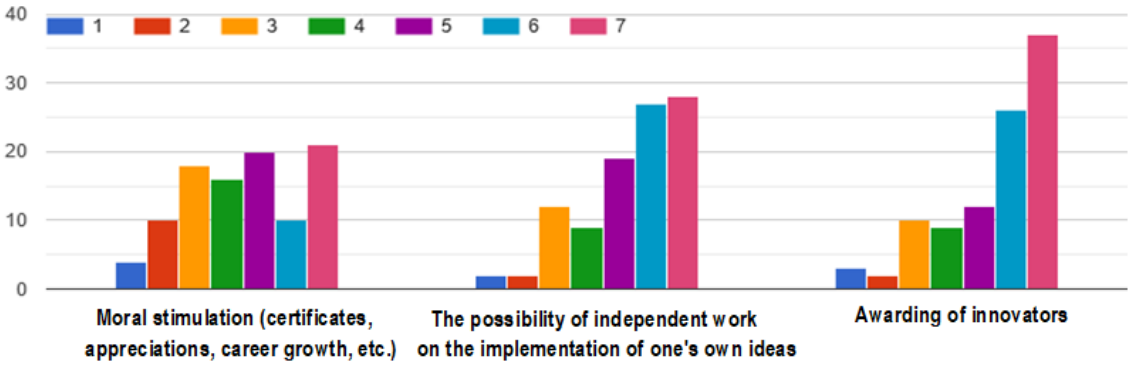

Figure 16 – Analysis of the results of respondents' ranking of methods of stimulating innovative activity

The respondents identified the following as *the main obstacles to the implementation of innovative activities in Ukraine today*:

a) a full-scale war in Ukraine;

b) imperfection of legislation in the field of innovative activity;

c) unclear and non-transparent mechanism of state financing of innovative activities;

d) political instability.

Among *the main obstacles to the generation of innovative ideas and the diversification of innovative activities that existed until 2022*, the respondents identified:

a) lack of financial resources;

b) lack of support from the state;

c) lack of innovative culture at the enterprise;

d) lack of employee motivation system.

As *the main obstacles to the commercialization of new technologies/innovations in the current conditions*, the respondents identified:

a) corruption;

b) occupational hazards in conditions of full-scale war;

c) interruptions in electricity, water and heat supply;

d) damage to property or goods as a result of hostilities.

The vast majority of respondents (20.4% and 29.1%, respectively) believe that spending on innovative activities for 2022-2023 has decreased significantly or sufficiently (Fig. 17).

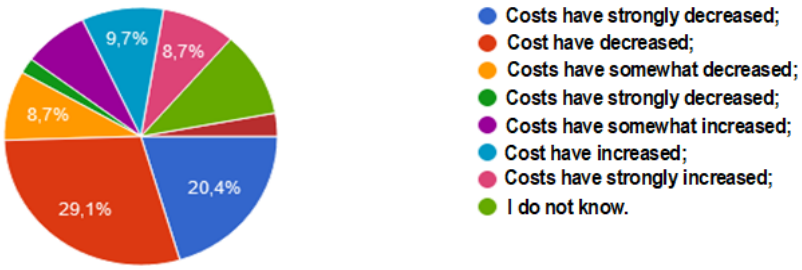

Figure 17 – Analysis of the results of the respondents' answers regarding changes in costs for innovative activities for 2022-2023

As *the main factors for stimulating innovative activity in modern conditions*, the majority of respondents identified:

a) special long-term support programs at the branch level;

b) fiscal incentives;

c) measures to establish business contacts with innovators, startups, scientific institutions;

d) support for the training of specialists.

The vast majority of respondents (33% and 28.2%, respectively) identified a very strong and fairly strong influence of the war on the development and implementation of innovations (Fig. 18).

Figure 18 – Analysis of the results of respondents' answers regarding the strength of the war's influence on the development and implementation of innovations

As *the main consequences of the war, which must be taken into account by businesses when developing innovative solutions and the state when developing programs to support innovative developments and innovators*, the vast majority of respondents identified:

a) economic consequences (economic losses, destruction of infrastructure, reduction of production, destruction of enterprises and loss of business, etc.);

b) social consequences (humanitarian crisis, increase in unemployment, loss of human capital, etc.);

c) impact on people's health (diseases, psychological injuries, physical injuries).

The vast majority of respondents (81.6%) believe that the protection of human rights and protection of the environment during the war and in the post-war period is and will be a permanent priority (Fig. 19).

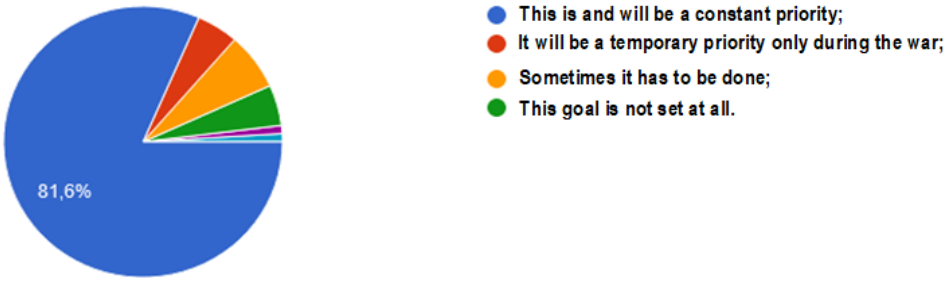

Figure 19 – Analysis of the results of the respondents' attitude to the protection of human rights and environmental protection during the war and in the post-war period

The vast majority of respondents (47.6%) believe that it is extremely important to ensure the safety of people when introducing new technologies and products (Fig. 20).

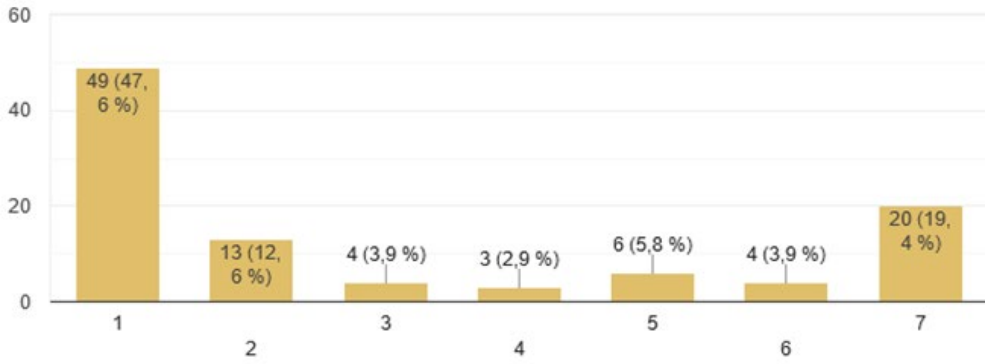

Figure 20 – Analysis of the results of respondents' ranking of the importance of ensuring people's safety when introducing new technologies and products

Regarding the question concerning the *possibilities of Ukrainian institutions of higher education and/or scientific institutions to be a source of innovation for business and solving social problems*, 48.5% of respondents noted that similar potential

opportunities exist, and 36.9% of respondents noted that similar potential opportunities exist and are now being implemented in practice (Fig. 21).

Figure 21 – Analyss of the results of respondents' answers regarding the possibilities of Ukrainian institutions of higher education and/or scientific institutions to be a source of innovation for business and solving social problems

As *the main aspects that are important for improving the transfer of technologies created in Ukrainian universities and/or scientific institutions to business and society*, the majority of respondents identified the need for:

a) provide greater financial autonomy to universities and scientific institutions in order to stimulate their initiative as the main participants in the innovation process;

b) intensify communication between the scientific and business community for the demonstration of scientific developments;

c) increase the practical orientation of innovative developments based on anticipatory consideration of business demand for innovations;

d) develop an open register of universities and scientific institutions that most successfully commercialize their developments in order to draw business attention to them.

The majority of respondents rated the readiness of business for public-private partnership in the field of innovation at an average level (Fig. 22).

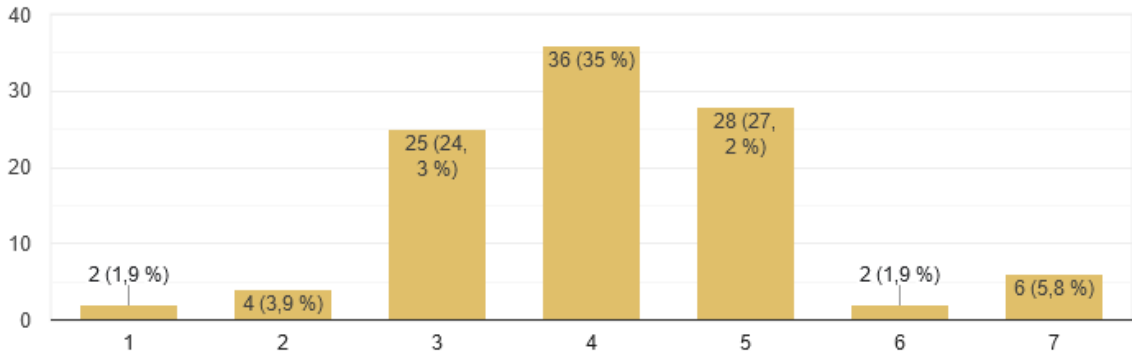

Figure 22 – Analysis of the results of the respondents' assessment of business readiness for public-private partnership in the field of innovation on a scale from 1 to 7 (where 1 is not ready (no readiness), 7 is ready (there is readiness))

The vast majority of respondents (39.8%) assessed the level of openness of data on scientific developments in Ukraine, which could be commercialized at a moderate level (Fig. 23).

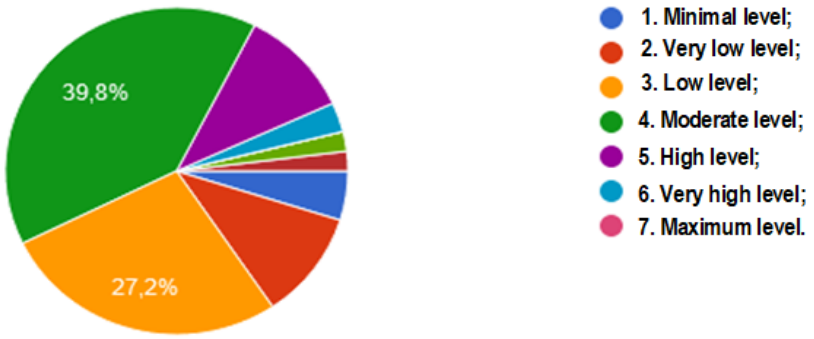

Figure 23 – Analysis of the results of respondents' determination of the level of openness of data on scientific developments in Ukraine that could be commercialized

Such a result can have several interpretations:

- on one hand, this may indicate the potential for commercialization of scientific developments in Ukraine, but there are issues regarding the availability of information for interested parties;
- on the other hand, it may also indicate that some respondents may consider the level of openness insufficient for effective commercialization.

3. Determination of structural and functional components of social responsibility of stakeholders of the innovation process in modern and post-war processes of socio-economic development of Ukraine (respondents' awareness of the problem of the need to overcome the gap between the innovation process and the social responsibility of its stakeholders and subjects: innovators, business structures, state bodies, educational and public institutions).

The vast majority of respondents defined "The responsibility of an entrepreneur or enterprise for the impact of management decisions and activities on society and the environment" as the main statement that defines inclusive social responsibility (Fig. 24).

This observation indicates an understanding that the business community considers social responsibility as an important aspect of its activities and recognizes the need for the impact of management decisions on society and the environment. This can serve as a basis for the further development of inclusive social responsibility practices in business, taking into account social and environmental challenges.

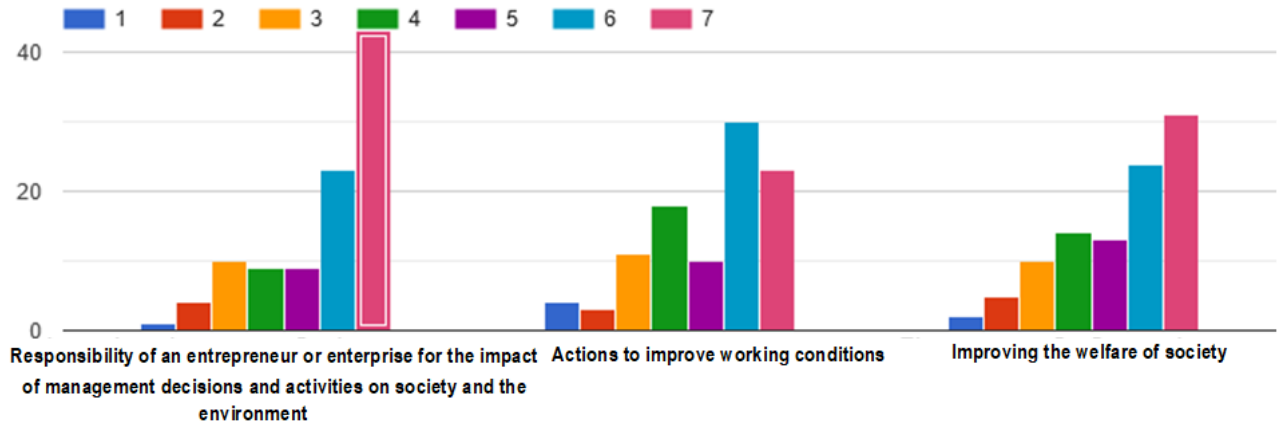

Figure 24 – Analysis of the results of the respondents' assessment of the statements that are definitions of inclusive social responsibility on a scale from 1 to 7 (where 1 is completely disagree (this is not my point of view at all), 7 is completely agree (this is how I see inclusive social responsibility))

Regarding the definition of basic needs and free access to their satisfaction, the vast majority of respondents (83.8% and 74.3%, respectively) identified:

a) access to basic needs to support one's life: food, water, clothing, health care, housing, education, energy resources;

b) working conditions taking into account her individual abilities (Fig. 25).

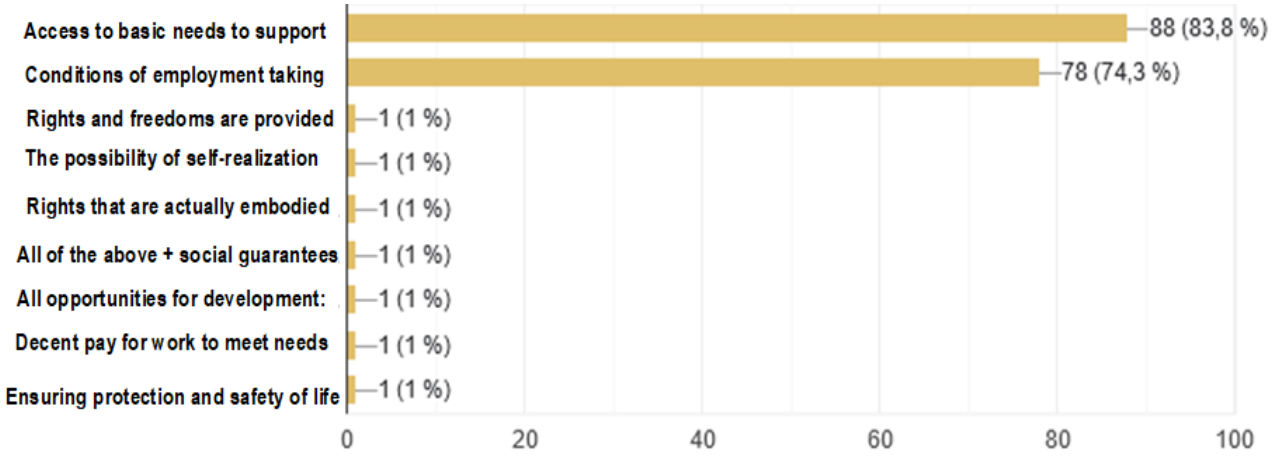

Figure 25 – Analysis of the results of the respondents' assessment of the answers to the question "What, in your opinion, should every person have?"

The vast majority of respondents (41.9% and 38.1%, respectively) identified the following as a global business goal welcomed by modern society:

a) to be active members of society, community, etc.;

b) to help the country develop (Fig. 26).

This shows that the respondents recognize the social responsibility of business and its potential impact on society and economic development of the country. The primary goal in their understanding is active participation in society and providing support for the country's development.

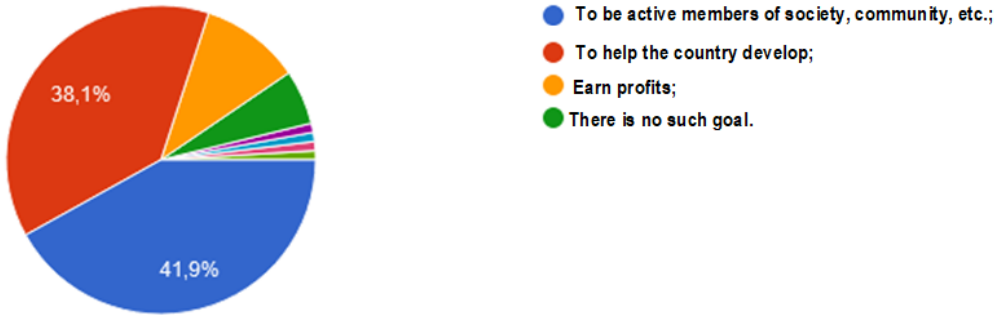

Figure 26 – Analysis of the results of the respondents' evaluation of the answers regarding the determination of the global purpose of business, which is welcomed by modern society

As *the main principles of social responsibility, which must be used during the implementation of innovations*, the respondents chose:

a) the principle of intelligent integration of technologies and innovations into society (maximum benefit for people and minimal negative impact on the environment);

b) the principle of providing social benefits (innovations should contribute to improving people's quality of life, meeting their needs and solving social problems);

c) the principle of ethics (implementation of innovations must take into account ethical principles and not harm people, animals or the environment);

d) the principle of orientation towards an innovative path of development (implementation of innovations should ensure harmony between economic, social and environmental aspects, ensuring sustainable and balanced development of society).

At the same time, the majority of respondents (39%) consider the principle of intelligent integration of technologies and innovations into society to be the most important when implementing innovations (Fig. 27).

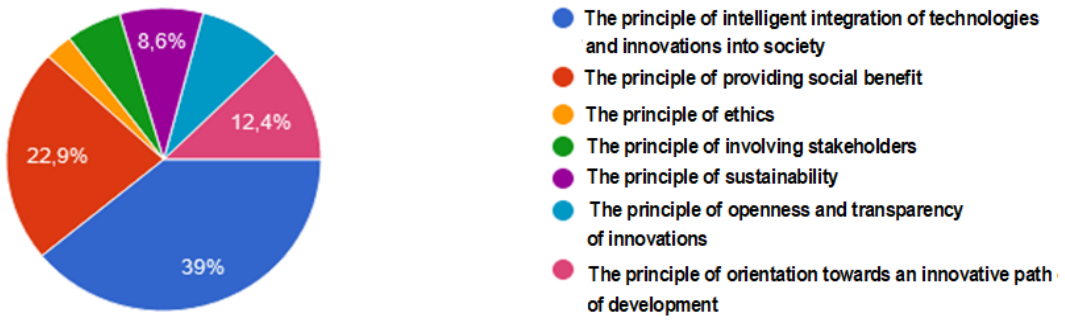

Figure 27 – Analysis of the results of the respondents' answers regarding the determination of the most important principle of social responsibility in the implementation of innovations

The vast majority of respondents (27.6%) identified the highest possible level of business responsibility for the consequences of the adopted innovative decisions on the health of people and the environment (Fig. 28).

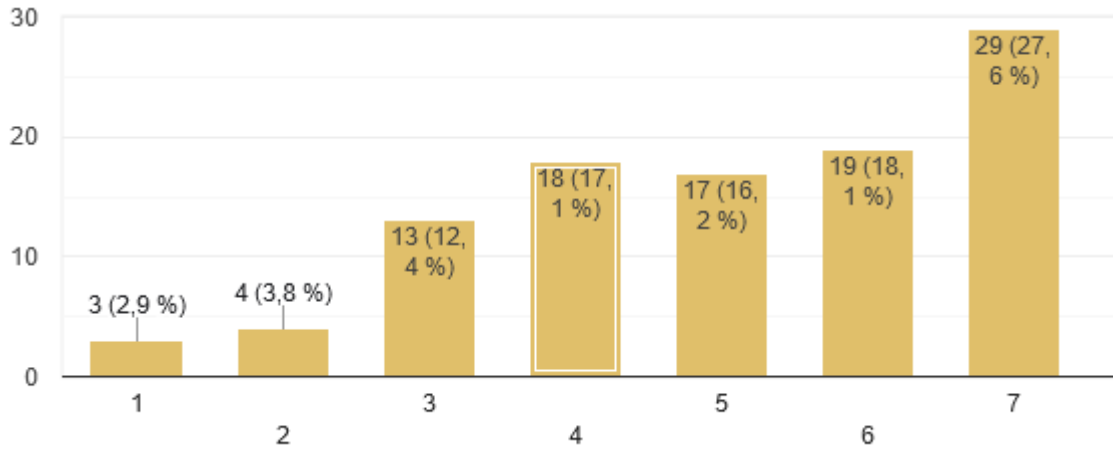

Figure 28 – Analysis of the results of the respondents' assessment of the level of business responsibility for the consequences of the adopted innovative decisions on the health of people and the environment on a scale from 1 to 7 (where 1 is a low level of responsibility, 7 is a high level of responsibility)

It can be assumed that *the prevailing opinion in the educational and scientific environment is that business should be responsible for the possible consequences of its innovative decisions, especially regarding the impact on human health and the environment.*

The vast majority of respondents (21% and 17.1%, respectively) sometimes or constantly join projects to solve social and environmental problems through innovation and constantly or usually (30.1% and 28.2%, respectively) use ethical standards in their development and implementation (Fig. 29-30). This may indicate that a certain part of the business recognizes the importance of ethical aspects in its activities and innovative projects.

Figure 29 – Analysis of the results of the respondents' answers regarding their joining projects to solve social and environmental problems with the help of innovations

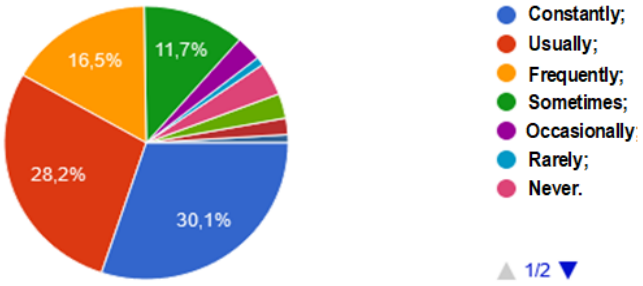

Figure 30 – Analysis of the results of respondents' answers regarding the use of ethical standards in the development and implementation of innovations

That is, a significant part of the respondents (66.7%) shows an active interest in social and environmental issues, establishing trends towards a more ethical approach to business and innovation (86.5%), growing interest in sustainable development and social responsibility.

At the same time, monitoring the impact of innovations on human health and the environment, according to the results of the survey of respondents, is carried out more often sometimes (26.2%) than constantly (9.7%), often (18.4%) and usually (20.4 %) (Fig. 31).

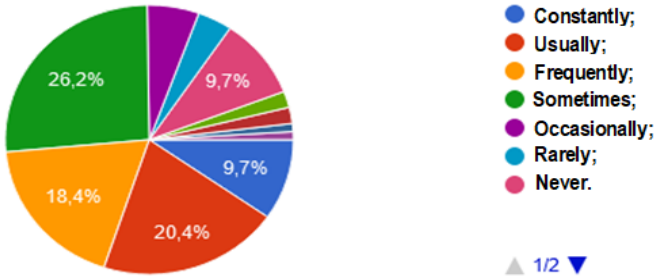

Figure 31 – Analysis of the results of respondents' answers regarding monitoring the impact of innovations on human health and the environment

The vast majority of respondents cooperate with public organizations and government bodies to ensure social responsibility in an innovative environment: sometimes (21%), usually (18.1%), often (12.4%) and constantly (11.4%) (Fig. 32).

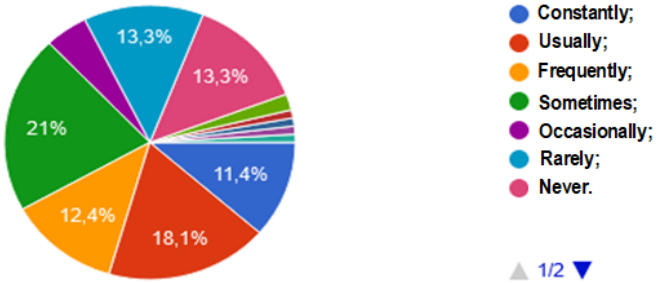

Figure 32 – Analysis of the results of respondents' answers regarding cooperation with public organizations and government bodies to ensure social responsibility in an innovative environment

The vast majority of respondents noted that they are extremely cautious about the use of new materials and technologies that may have a negative impact on human health and the environment and about protecting privacy and data collection security regarding innovations (Figures 33-34).

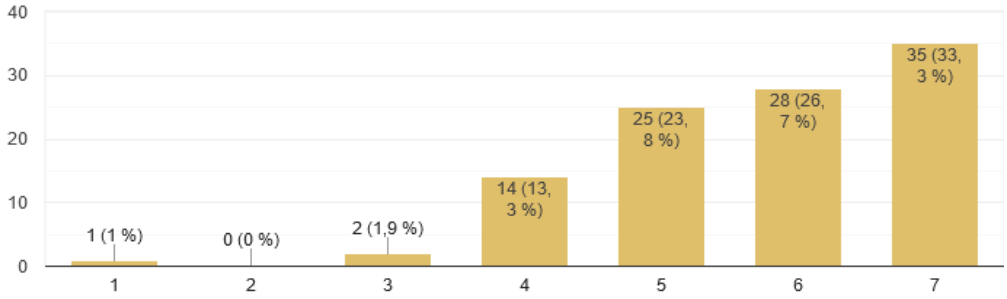

Figure 33 – Attitude of respondents to the use of new materials and technologies that may have a negative impact on human health and the environment on a scale from 1 to 7 (where 1 is not at all careful, 7 is extremely careful)

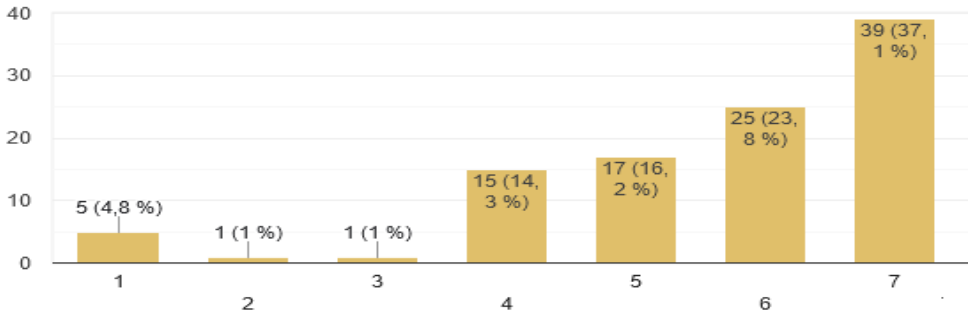

Figure 34 – Attitudes of respondents to the protection of privacy and security of data collection in relation to innovations on a scale from 1 to 7 (where 1 is not at all cautious, 7 is extremely cautious)

The vast majority of respondents check new technologies and tools for their safety and effectiveness: 32.4% do it usually, 19% often, and 17.1% constantly (Fig. 35).

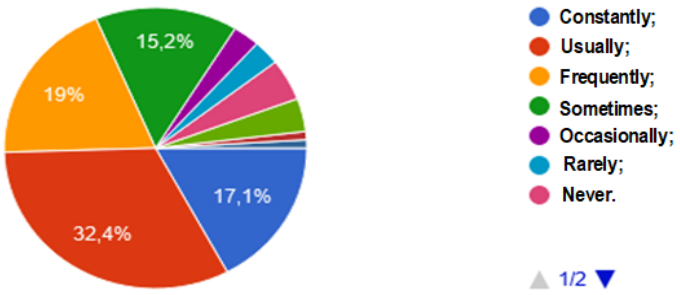

Figure 35 – Analysis of the results of respondents' answers regarding the verification of new technologies and means for their safety and effectiveness

Survey data indicate:

- high level of respondents' understanding of potential risks and desire to ensure safe implementation of innovations;
- their indignation at a possible violation of privacy and security when collecting data on innovative solutions;
- the importance of ethical aspects in modern technological developments and the need to carefully consider privacy issues when implementing new innovations.

The vast majority of respondents believe that the war had a significant impact on social responsibility in the innovation environment and made it more relevant (27.2%) (Fig. 36).

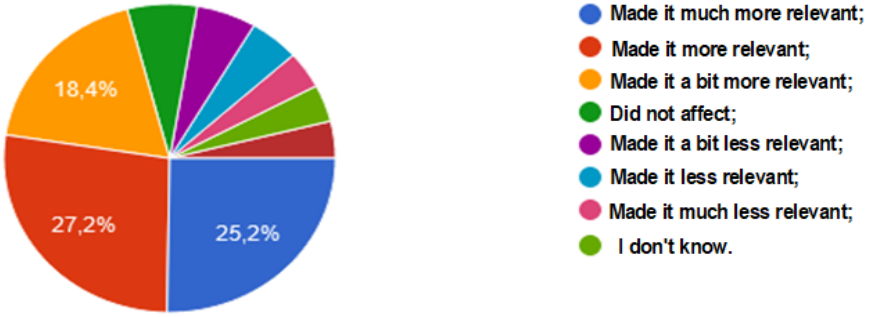

Figure 36 – Analysis of the results of respondents' answers regarding the impact of war on social responsibility in an innovative environment

At the same time, as a result of the war, the attitude of respondents to social responsibility regarding innovations and innovative solutions aimed at solving social and environmental problems in the future improved and even significantly (35% and 19.4%, respectively) (Fig. 37).

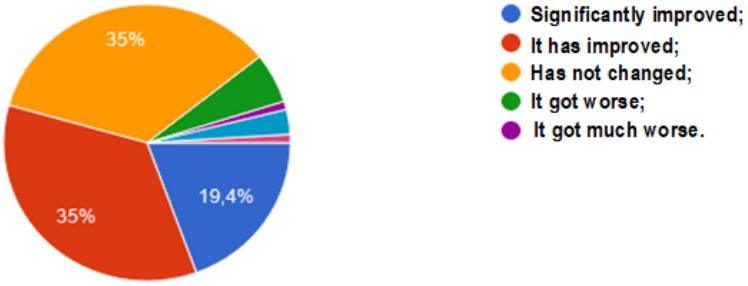

Figure 37 – Analysis of the results of the respondents' answers regarding the change in their attitude to social responsibility in relation to innovations and innovative solutions aimed at the future solution of social and environmental problems as a result of the war

This suggests that *the war probably caused changes in the perception of social responsibility in the innovation context among the respondents*. In other words, military conflict can influence how people perceive the importance of social responsibility in innovation processes and their potential impact on society and the

environment. An increase in positive attitudes may indicate a greater awareness of the importance of innovative solutions to social and environmental problems in the context of wartime events.

The question of the distribution of responsibility for innovation and the innovative solution caused a variety of responses from respondents (Fig. 38).

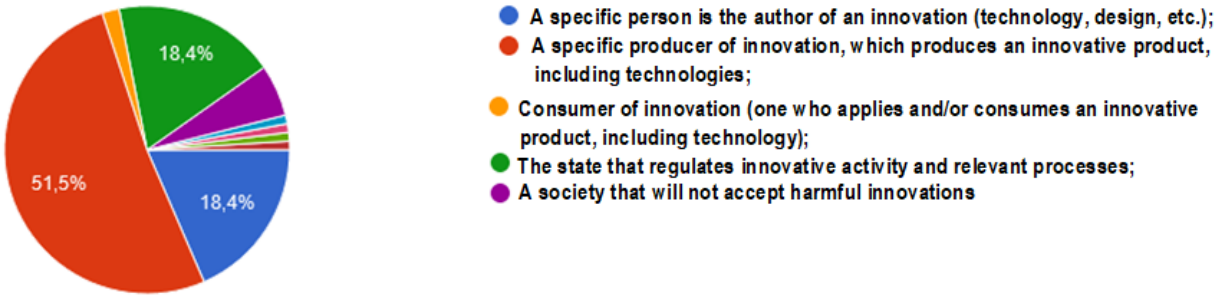

Figure 38 – Analysis of respondents' answers regarding the entity that should bear the risk of negative consequences of innovations

According to the majority of respondents, the following should bear social responsibility for an innovative solution:

a) a specific innovation producer who produces an innovative product, including technologies. This is the opinion of the vast majority of respondents (51.5%);

b) the state that regulates innovative activities and relevant processes (18.4%);

c) a society that will not accept harmful innovations (less than 10%).

These data indicate that *the vast majority of respondents believe that social responsibility for innovative solutions should be local* (51.5%) – it should be borne by specific manufacturers who produce innovative products and technologies. In their opinion, *the state and society have a much smaller function and scope of responsibility*.

The vast majority of respondents identified a sufficiently high level of influence of social responsibility on the success of the organizations in which they work (Fig. 39).

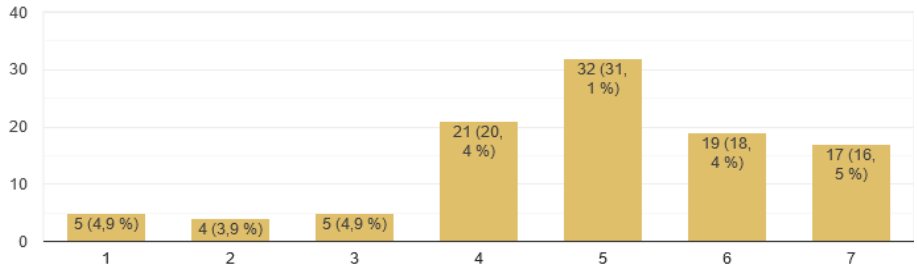

Figure 39 – Analysis of the results of the respondents' assessment of the level of influence of social responsibility on the success of the organizations in which they work on a scale from 1 to 7 (where 1 is no effect, 7 is a priority influence)

As *the main directions of social responsibility, which can be highlighted as priorities for ensuring socio-economic development*, the majority of respondents

identified:

a) creation of a favorable entrepreneurial, legal and institutional environment for the socialization of innovative activity;

b) encouraging demand for innovative products that meet the goals of sustainable and inclusive development;

c) public-private partnership in solving urgent problems of economic development;

d) formation of a socially responsible outlook among entrepreneurs and innovators.

During the last 3 years, the majority of respondents most often observed the following *negative consequences of innovations*:

a) threats to national security (leakage of military information, destabilizing influence on society, organizations – hacker attacks, etc.;

b) negative impact on the environment (pollution, displacement of ecological objects and natural resources, loss of flora and fauna);

c) negative social consequences (humanitarian crisis, increase in unemployment, loss of human capital, etc.).

As part *of evaluating the degree of effectiveness of socially responsible behavior of business organizations in performance indicators*, the majority of respondents determined its highest level in:

a) improvement of product quality;

b) profit growth due to the introduction of innovative technologies, innovative products;

c) raising the level of qualification of employees.

As *the most important factors for motivating businesses and other subjects of the innovation process to socially responsible behavior*, the vast majority of respondents identified:

a) conscious provision of conditions for the stability of society;

b) increasing the economic efficiency of business due to the formation of a favorable image in society;

c) the need to comply with legal norms and the threat of sanctions.

Generalization and conclusions of the research

Thus, in the course of the research of the identification of the main prerequisites, obstacles, driving forces, incentives and tools for the formation of inclusive social responsibility in the innovation process of stakeholders, including those caused by war, which was conducted with the help of a survey of educators, scientists and politicians, three groups of conclusions can be drawn:

The first group of conclusions regarding the statistical profile of respondents:

- *professional composition:* the study was mainly attended by persons working exclusively in the field of science and education (55.3%) with the largest number of respondents aged 40-49 (42.9%) and women (61.9%). Most of them have a higher education (93.3%) and a doctor of science degree (44.8%) and a candidate of science degree (25.7%), respectively. Some scientists and educators also identified themselves

as a top manager and business owner (11.4% and 4.8%, respectively), a higher education student (9.5%) or an individual entrepreneur (8.6%). Other respondents are politicians and public figures;

- *geography:* the vast majority of respondents are located in Ukraine (86%), in particular in the city of Odesa and Odesa region (34.4%);

- *vulnerability:* and 85.7% of respondents now have access to all necessary needs. However, only 22.3% of respondents can fully meet their financial needs at the expense of their main place of work, and most of them (44.7%) have additional sources of income and assistance from the state and/or international organizations (14.6%). The majority of respondents (78.6%) do not consider themselves to be among the vulnerable categories of the population. Among those respondents who identified themselves as a vulnerable category of the population, the largest specific weight is occupied by families with many children (20%) and people with disabilities (20%).

The second group of conclusions regarding the factors influencing the innovative component of national security, which contribute to the improvement of social integration and increase the potential of innovations in order to solve the social problems of Ukrainian society from the point of view of the stakeholders of the innovation process:

- *innovative strategy for organizations*: almost all respondents (94.3%) believe that organizations need an innovative strategy;

- *the role of state aid in innovative activity* – a large part of respondents (38.8%) believe that it is the state that should support the free use of external technologies, ideas and personnel by entrepreneurs and enterprises, and state aid in innovative activity is extremely and very important for business, science and education (30.1% and 17.5%, respectively);

- *the impact of the relocation of the business from February 24, 2022 on its innovation strategy* – determined by the respondents as sufficiently influential; - according to the respondents, the most important method of stimulating innovative activity is awarding innovators;

- *impact of the war on the innovation process:* the influence of the war on the development and implementation of innovations was defined by respondents as very strong (33%) and fairly strong (28.2%). At the same time, 20.4% and 29.1% of them believe that the costs of innovative activities for 2022-2023 have decreased significantly or sufficiently;

- *the main obstacles to the generation of innovative ideas and the diversification of innovative activities:*

1) by 2022 – lack of financial resources, support from the state, innovative culture and employee motivation system;

2) after 2022 – full-scale war in Ukraine, imperfect legislation in the field of innovative activity, unclear and non-transparent mechanism of state financing of innovative activity, political instability;

- *obstacles to the commercialization of new technologies/innovations*: according to the respondents, these are corruption, occupational hazards in conditions of full-

scale war, interruptions in electricity, water and heat supply, damage to property or cargo due to hostilities;

- *the consequences of the war, which must be taken into account by businesses when developing innovative solutions and the state when developing programs to support innovative developments and innovators*: the vast majority of respondents identified:

1) economic consequences (economic losses, destruction of infrastructure, reduction of production, destruction of enterprises and loss of business, etc.);

2) social consequences (humanitarian crisis, increase in unemployment, loss of human capital, etc.);

3) impact on people's health (diseases, psychological injuries, physical injuries);

- *the need for protection and security during the war and in the post-war period: protection of people's rights and protection of the environment* – the majority of respondents (81.6%) noted that the protection of people's rights and protection of the environment during the war and in the post-war period is and will be a constant priority, and 47 .6% of them believe that it is extremely important to ensure the safety of people when introducing new technologies and products;

- *opportunities of Ukrainian institutions of higher education and/or scientific institutions to be a source of innovation for business and solving social problems:* 48.5% of respondents noted that similar potential opportunities exist, and 36.9% of respondents noted that similar potential opportunities exist and are already being implemented in practice. They believe that in order to improve the transfer of technologies created in Ukrainian universities and/or scientific institutions to business and society, it is necessary to:

1) grant greater financial autonomy to universities and scientific institutions in order to stimulate their initiative as the main participants in the innovation process;

2) to intensify communication between the scientific and business community for the demonstration of scientific developments;

3) increase the practical orientation of innovative developments based on anticipatory consideration of business demand for innovations;

4) to develop an open register of institutions of higher education and scientific institutions, which are most successfully commercializing their developments, in order to attract business attention to them;

- *factors for stimulating innovative activity in modern conditions:* the majority of respondents identified special long-term support programs at the industry level, fiscal incentives, measures to establish business contacts with innovators, startups, scientific institutions, support for the training of specialists;

- *the readiness of business for public-private partnership in the field of innovation* – the majority of respondents rated it at an average level, 39.8% of them rated the level of openness of data on scientific developments in Ukraine, which could be commercialized, at a moderate level.

The above provides arguments for the hypothesis of the project, within which this study is carried out, *about the need to harmonize the new architecture of the innovation process with the boundary conditions that will contribute to the prevention of social instability, social alienation and violations of national security, and the*

systematic harmonization of the interests of interested parties through mechanisms that will ensure the coordination of inclusive social responsibility with innovative development.

The third group of conclusions regarding the definition of the main structural and functional components of the social responsibility of the stakeholders of the innovation process in the modern and post-war processes of socio-economic development of Ukraine on the basis of inclusion is divided into two blocks.

The first block of conclusions *concerns the respondents' awareness of the problem of the existence of a gap between the innovation process and the social responsibility of its stakeholders and subjects and the need to overcome it:*

- *interpretation of the principles of social responsibility:* the vast majority of respondents chose *"The responsibility of an entrepreneur or enterprise for the impact of management decisions and activities on society and the environment"* as the main statement that defines inclusive social responsibility, and 41.9% and 38.1%, respectively among them, as a global goal of business, welcomed by modern society, they identified: to be active members of society, community, etc.; help the country develop. As *the main principles of social responsibility, which must be used during the implementation of innovations*, the respondents chose the following principles:

1) intelligent integration of technologies and innovations into society (maximum benefits for people and minimal negative impact on the environment);

2) providing social benefits (innovations should contribute to improving people's quality of life, meeting their needs, solving social problems);

3) ethics (implementation of innovations must take into account ethical principles and not harm people, animals or the environment);

4) the principle of orientation towards an innovative path of development (implementation of innovations should ensure harmony between economic, social and environmental aspects, ensuring sustainable and balanced development of society).

Most respondents (39%) consider *the principle of intelligent integration of technologies and innovations into society to be the most important when implementing innovations*;

- *definition of basic needs and free access to their satisfaction:* the vast majority of respondents defined access to basic needs to support their daily activities (food, water, clothing, health care, housing, education, energy resources) – 83.8% and working conditions taking into account their individual abilities – 74.3%;

- *global business goals welcomed by modern society:* the respondents defined such goals as being active members of society, community, etc. (41.9%) and helping the country develop (38.1%);

- *the level of business responsibility for the consequences of adopted innovative decisions on the health of people and the environment:* the vast majority of respondents (27.6%) marked it as *the highest possible*;

- *social responsibility for an innovative solution:* according to the majority of respondents, the following should bear social responsibility for an innovative solution: producers of innovation who produce an innovative product, including technologies;

the state that regulates innovative activity and relevant processes; a society that will not accept harmful innovations. At the same time, the majority of respondents (51.5%) believe that the risk of negative consequences of innovation should be borne by its producers;

- *the impact of the war on social responsibility in the innovative environment:* the majority of respondents believe that the war had a significant impact on social responsibility in the innovative environment and made it more relevant (27.2%). As a result of the war, their attitude to social responsibility regarding innovation improved (35%) and significantly improved (19.4%);

- *negative consequences of innovations (over the past 3 years)*: most respondents during the past 3 years most often observed the following negative consequences of innovations - threats to national security (leakage of military information, destabilizing influence on society, organizations - hacker attacks, etc.); negative impact on the environment (pollution, displacement of ecological objects and natural resources, loss of flora and fauna); negative social consequences (humanitarian crisis, increase in unemployment, loss of human capital, etc.);

- *assessment of the degree of effectiveness of socially responsible behavior of business organizations in performance indicators:* the majority of respondents noted the highest level in improving the quality of products, increasing profits due to the introduction of innovative technologies, innovative products, increasing the level of qualification of employees;

- *the main areas of social responsibility that can be identified as priorities for ensuring socio-economic development:* the majority of respondents identified the following areas as:

1) creation of a favorable entrepreneurial, legal and institutional environment for the socialization of innovative activity;

2) encouraging demand for innovative products that meet the goals of sustainable and inclusive development;

3) public-private partnership in solving urgent problems of economic development;

4) formation of a socially responsible outlook among entrepreneurs and innovators;

- *the most important factors for motivating business and other subjects of the innovation process to socially responsible behavior:* the vast majority of respondents identified – conscious provision of conditions for the stability of society; increasing the economic efficiency of business due to the formation of a favorable image in society; the need to comply with legal norms and the threat of sanctions.

The second block of conclusions *concerns respondents' response to the problem (practical actions):*

- *taking part in innovative projects to solve social and environmental problems:* the vast majority of respondents noted that they do it sometimes (30.1%) or constantly (28.2%) and constantly (30.1%) or usually (28.2 %) uses ethical standards in their development and implementation;

- *monitoring of the impact of innovations on people's health and the environment:* according to the results, such monitoring is carried out by respondents sometimes – 26.2%, usually – 20.4%, often – 18.4%, constantly – 9.7%;

- *testing of new technologies and tools for their safety and effectiveness*: they usually test – 32.4% of respondents, 19% – often, 17.1% – constantly. The vast majority of respondents are extremely cautious about the use of new materials and technologies that may have a negative impact on human health and the environment; and to protect the privacy and security of innovation data collection;

- *cooperation with public organizations and government bodies to ensure social responsibility in an innovative environment:* the vast majority of respondents answered positively (sometimes – 21%, usually – 18.1%, often – 12.4%, constantly – 11.4%);

- *the level of influence of social responsibility on the success of the organizations and institutions where the respondents work:* the vast majority of respondents identified a *sufficiently high level of such influence*.

Thus, as part of an open survey of politicians, scientists, and educators, the main prerequisites, obstacles, driving forces and incentives for the formation of inclusive social responsibility in the innovation process of stakeholders, including those caused by war, were determined.

The analysis of the results of this study *provides strong arguments in support of the main hypothesis of the project regarding the existence and necessity of overcoming the gap between the risks (social and environmental external effects) generated by the innovation process and the social responsibility of innovation stakeholders and beneficiaries on the basis of inclusion*. On the practical level, it is about overcoming the gap between the innovation process and the social responsibility of its subjects and stakeholders (business structures, state bodies, educational and public institutions, and innovators), which cause innovative chaos and create threats to national security.

In general, it can be stated that *the influence of war on the process and mechanisms of the formation of inclusive social responsibility of stakeholders and subjects of the innovation process, which harmonizes their interests in the direction of strengthening national security, ensuring the protection and safety of people in the context of the determinants of sustainable development in the conditions of martial law and post-war period, is very large and negative*, which determines the need for further research in this direction.

References:

1. Inclusive Social Responsibility Formation in the Innovation Processcooperation project. Odessa Polytechnic National University: website. 2023. URL: https://op.edu.ua/en/international/projects/uk-ukraine-twinning-initiative-10

2. “Inclusive Social Responsibility Formation in the Innovation Process. International cooperation project. Economic scientific portal: website. 2023. URL: https://economics.net.ua/en/uut10

3. Diego Vazquez-Brust, Chris Simms, S.V. Filyppova, S.O. Cherkasova, H.H. Oborska, P.V. Vugelman, M.S.Tkachenko. *Project "Inclusive social responsibility Formation in the innovation process": specifics of research methodology* / Actual problems of the theory and practice of management: Materials of the XII International scientific and practical conference. May 26, 2023, Odesa National University polytechnic". Odesa, Ukraine. P.164-168. https://economics.net.ua/files/science/men/2023/s7.pdf

4. Bakhrushin V.E. Methods of data analysis*:* a study guide for students / V.E. Bakhrushin – Zaporizhzhia: KPU, 2011. – 268 p. https://web.kpi.kharkov.ua/auts/wp-content/uploads/sites/67/2017/02/DAMAP_Ivashko_posobie2.pdf

5. Filyppova S.V. Management analysis: theory and practice. Cycle "Modern Management Technologies". Kyiv: AVRIO, 2004. 336 p. (ukr).

6. Brown Bruce (Bruce L.) Multivariate analysis for the biobehavioral and social sciences / Bruce L. Brown, Suzanne B. Hendrix, Dawson W. Hedges, Timothy B. Smith. John Wiley & Sons, Inc., Hoboken, New Jersey, 2012.

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«INCLUSIVE SOCIAL RESPONSIBILITY FORMATION IN THE INNOVATION PROCESS»

ANALYTICAL RESEARCH

MAIN PREREQUISITES, OBSTACLES, DRIVING FORCES, INCENTIVES AND TOOLS FOR THE FORMATION OF INCLUSIVE SOCIAL RESPONSIBILITY IN THE INNOVATION PROCESS OF STAKEHOLDERS: THE VIEW OF POLITICIANS, SCIENTISTS, AND EDUCATORS

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In order to implement projects and principles of partnership between the Odesa Polytechnic National University and the University of Portsmouth in accordance with the Memorandum of Understanding and within the framework of the concluded Agreement between the universities, as well as within the framework of the UK-Ukraine Twinning Grants Scheme initiative, for the coordination of international project activities of university employees and divisions the UUT10 project "Inclusive Social Responsibility Formation in the Innovation Process" and the composition of its executors was approved by the order of the Rector of the Odesa Polytechnic National University № 43a dated March 23, 2023.

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