"Possibilities of implementing HEI's third mission in Ukraine before a full-scale war and correction of these processes in wartime"

AUTHORS	Olena Orzhel (iD) Olena Melnyk (iD) Yuriy Danko (iD) (R) Iryna Skliar (iD) Olena Lytovchenko (iD)

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
42	0	11

BUSINESS PERSPECTIVES

Olena Orzhel, Dr. of Public
Administration, Senior Researcher,
Institute of Higher Education of the
National Academy of Educational
Sciences of Ukraine, Ukraine.

Olena Melnyk, Ph.D., Seniour
Researcher, ETH Zurich, Switzerland;
Assoc. Prof., Sumy National Agrarian
University, Ukraine.

Yuriy Danko, Dr. of Economics, Prof.,
Sumy National Agrarian University,
Ukraine. (Corresponding author)

Iryna Skliar, Ph.D., Assoc. Prof., Sumy
National Agrarian University, Ukraine;
Fellow Researcher, Royal Agricultural
University, United Kingdom.

Olena Lytovchenko, Junior Researcher,
Institute of Higher Education of the
National Academy of Educational
Sciences of Ukraine, Ukraine.

Olena Orzhel (Ukraine), Olena Melnyk (Switzerland, Ukraine), Yuriy Danko (Ukraine), Iryna Skliar (Ukraine, UK), Olena Lytovchenko (Ukraine)

POSSIBILITIES OF IMPLEMENTING HEI'S THIRD MISSION IN UKRAINE BEFORE A FULL-SCALE WAR AND CORRECTION OF THESE PROCESSES IN WARTIME

Abstract

Every year, the problem of the third mission of a university is popularized in scientific discourse. The social responsibility of higher education institutions in the conditions of the war between russia and Ukraine and the post-war period is to overcome the multi-directional tasks of higher education, concentrate and strengthen efforts to implement social projects, expand directions for the development of interaction between universities and territorial communities, improve the quality of research to restore the state economy and its development. Therefore, there is a need to rethink the ways of direct and indirect influence on society, the country in particular. The purpose of this paper is to determine the level of awareness and readiness for interaction between the university and the community. The study was conducted from January to June 2020 with the participation of 1,050 respondents from 25 regions of Ukraine. According to the conducted survey, the majority of respondents believe that universities should contribute to the development of the community and note the mutual benefit of university-community interaction for universities and local communities. However, the survey results also showed a low participation experience combined with the willingness to participate in activities offered by higher education institutions. Due to the full-scale war, which fundamentally changed the conditions and affected the efficiency of both universities and most communities, the choice of a community involvement model within the third mission of a university, taking into account the pre-war readiness of universities for a productive community and modern military challenges, remains relevant.

Keywords	universities, community, war, post-war regional development, HEI's third mission
JEL Classification	I20, I26, I28

INTRODUCTION

Scientific interest in the role that higher education institutions (HEIs) play in strengthening regional development, economic growth and social change is being permanently increased. Researchers are common in the idea that universities drive and stimulate regional development within their third mission in cooperation with communities. The biggest debate is about the most effective methods for establishing and maintaining such partnership.

An unprovoked aggression of russia against Ukraine created a new unique case and conditions for the higher education and its impact on in-war and post-war regional development which have never being experienced since the WWII and formation of the contemporary European Higher Education Area. The Ukrainian post-war recovery perspective has already become one of the top-discussed issues both globally and nationally, focusing on the search of the most adequate model for fulfilling the third mission of HEIs within the regional reconstruction process.

Thus, on one hand, universities must lead the restoration of communities, and on the other hand, they are experiencing quite serious problems themselves with the implementation of their mission and goals. Considering the humanitarian consequences of the breaking down of infrastructure, enormous environmental damage, population loses, business potential, it is extremely difficult for universities to lead the regional development, become centers which will focus the processes of regional reconstruction around themselves. Therefore, the design and development of effective strategies of universities and communities cooperate becomes a crucial issue that Ukrainian higher education institutions must address.

This study was started before the russian aggression and focused on the readiness for university-community engagement implementations in Ukraine. However, due to war, which has radically changed prerequisites and conditions, and affected the ability of both universities and most communities to operate, the preliminary research now obviously needs to find answers to the following enquiry "How might a model of community engagement be considered for the university's third mission, given HEIs' pre-war readiness to productive community engagement and current military challenges?"

1. LITERATURE REVIEW

Currently, the broad range of possible areas of university-community interactions is widely represented: service-learning, mentoring, support to elderly people, community arts, environment, and health (Shiel et al., 2016). Besides, HEIs across the world have been widely introducing community participation and services into their research and teaching. At the same time, Shiel et al. (2016) emphasize a relative lack of research focused on the models and processes of established and maintained partnerships between universities and communities.

Community engagement, being a complex term itself, is usually considered as a part of the broader concept of the HEI's third mission. Essential considerations about the third mission and community engagement are offered by Compagnucci and Spigarelli (2020): "A universal concept of the third mission, whether technological or societal, simply does not exist and that there is no consensus either regarding what functions may, or may not, be included in the concept of the third mission, or on the boundaries of teaching and research". Therefore, the "community engagement" definition gets more complicated due to a variety of functions being included in the concept, while an HEI's third mission is ambiguous itself.

There are no consistent views on the role community engagement plays and what its outcomes should be considered in the context of universities' strategy, how they can carry out this. The HEI's third mission has been investigated in the context of stimulating regional development focusing on university-community engagement. According to Jäger and Kopper (2014), "Third mission of HEIs is understood as the interactive support of regional development processes, based on a range of multiple contributions and the cooperation of HEI and HEI-region".

The main distinctive feature of the university's third mission is that a broad series of activities related to the creation, use, application, and utilization of resources, including knowledge, are implemented outside of the academic environment. The consequences of these activities are the social, cultural, and economic development of communities (De La Torre et al., 2017; Calcagnini et al., 2016; Secundo et al., 2018).

Community engagement should be understood as a two-way process between universities and their wide set of stakeholders, with opportunities for collaborative lifelong learning. HEIs maintain a constant dialog with external and internal stakeholders and build bridge between universities' activities and the needs and expectations of external actors. Universities are normally considered the drivers of the regional development (Perkmann & Schildt, 2015; Chanphirun & Van Der Sijde, 2014; Pinheiro et al., 2017).

Compagnucci and Spigarelli (2020) defined three main aspects that can explain the ambiguity of the third mission concept:

1) the configuration of a university's activities;

2) the level of how the university is integrated into the territorial ecosystem;

3) the institutional frameworks in which the university operates.

Considering the regional development as a key characteristic of the HEI's third mission and community engagement, it is pointed out that defining factors that affect university-community engagement is more important than clarifying the concept.

The conceptual analysis allowed generalizing three key common factors that need to be included in the development of community engagement policy and procedures.

1.1. Type of university (specialist or classic)

Abreu et al. (2016) investigated how the type of a university correlates with academics' engagement in third mission activities. Considering the research-intensive and teaching-led universities, they concluded that teaching-led universities demonstrate higher levels of local and regional engagement, whereas the research-intensive ones are more actively represented at national and international levels.

Jäger and Kopper (2014) demonstrated similar inference for different types of universities in Germany. They concluded that universities of applied sciences (Fachhochschulen), as those with a greater emphasis on vocational education and applied research, fit better into the surrounding region and therefore have a higher potential to fulfil the tasks of the third mission of regional knowledge transfer compared to universities (Universitäten), which pay more attention to basic research.

1.2. Staff development

Despite the recognition of the importance of academic and non-academic staff for the implementation of the university-community engagement, the issue of what exactly affects the perception as a component of university activity, the motivation and readiness of academics, are insufficiently researched topics. Also little studied remains the assessment of the impact of changes in university administration, which is introduced to adapt academic participation in entrepreneurial activities, learning and research (Muscio et al., 2017, Clarysse et al., 2011).

Despite some research (Perkmann & Schildt, 2015; Pugh, 2017), the determinants of academics' intentions to participate in third mission related activities remain understudied. To make the third mission more effective, it is crucial to establish deeper engagement with academic staff and external stakeholders. However, this has become a key challenge for HEIs to enhance their activities related to their third mission.

We need to talk about shifting from an administrative to a strategic focus of HEIs' third mission orientation. According to Secundo et al. (2018), the concept of HEIs' third mission is evolving and requires the inclusion of some new determinants.

However, it is a controversial task, because the third mission implementation strategic orientation of universities faces external and internal barriers to the governance and management of the third mission. It is important to avoid generalizations that are made independently of institutional and local contexts (Kitagawa et al., 2016; Giuri et al., 2018).

Some research aimed to analyze staff motivation to engage in third-mission activities demonstrated a positive correlation between staff reward for these activities' outputs and their level of engagement in such activities. The importance of an effective motivation system is considered essential for the performance and sustainability of any type of the third-mission activity (Huyghe & Knockaert, 2014, Paoloni et al., 2019).

The controversy of entrepreneurial activities from the standpoint of their influence on the performance of traditional teaching and research roles is also investigated. Conflicts of interest are possible, which also need to be considered in appropriate management approach development.

1.3. Collaboration with stakeholders

The model of collaboration with stakeholders is crucial for an HEI's third mission and so for community engagement. As Compagnucci and Spigarelli (2020) mentioned: "From a general point of view, the third mission is the relationship between universities and stakeholders from the non-academic world."

TEFCE project (TEFCE, 2020) defined the community engagement as "a process whereby universities undertake joint activities with external communities in a way that is mutually beneficial, even if each side benefits in a different way. In practice, such joint activities can be undertaken by university staff or students, whether as a part of their teaching and research, as a part of joint projects or initiatives, or as a part of university governance and management" (Farnell, 2020). The TEFCE project, similar to other studies of university-community engagement, interprets "community" broadly as groups of people united by "place, identity or interest" (TEFCE, 2020). In other words, university-community relationships unfold with

a) local communities, including local authorities;

b) certain social groups, like one-parent families, ethnic minorities, learners with special needs, etc.;

c) schools and civil society groups, professional associations, farmers' or teachers' unions, small and medium-sized businesses, and the like.

Giuri et al. (2018) articulated the third mission as the result of the dialog between different group of stakeholders: industry, government, and society. Social, economic, and cultural development of communities is put to the perspective of the third mission policy.

Awareness and readiness for university-community engagement from HEI and communities' perspective were unexplored.

Significant issues have occurred during the literature review. Since 2022, many new publications dedicated to the russian aggression appeared (Kozmenko & Ostapenko, 2022; Razinkova et al., 2023; Smaliukienė et al., 2023; Brož et al., 2023; Zhuravka et al., 2023; Vasyltsiv et al., 2023). Ostapenko et al. (2023) analyzed the dynamics of publications, compares publications for the entire period of the russian armed aggression against Ukraine (2014–2023), as well as before and after the full-scale invasion (2020–2021 and 2022–2023), their structure by topics, countries, affiliations, authors and sponsors. Jreisat (2023) investigated the impact of oil price shocks (such as COVID-19, russian aggression) on the stock markets of six Latin American countries. The influence of russian aggression on the competitiveness of Ukraine's insurance market was investigated by Plastun et al. (2023). Gupta et al. (2023) considered the construction of an investment portfolio containing several assets – BRICS stock indices, gold, crude oil, bonds, and cryptocurrencies, which would be stable during crisis periods such as war.

However, few publications are devoted to the activities of universities in conditions of full-scale war. Existing studies of cooperation between universities and communities mostly refer to the pre-war period; lack of conciliation regarding the classification of models of such cooperation; the theoretical inconsistency of the community engagement concept and considerations of the in-war and post-war challenges for both universities and communities in Ukraine, which are hardly being articulated.

In the special issue "Academic management in war," 18 articles summarize the unique experience of anti-crisis management of many Ukrainian universities (Kozmenko et al., 2023). For example, some universities have been relocated twice since the beginning of Russian aggression after 2014 and after a full-scale invasion. Such is the Donetsk National Technical University. Its example shows the loss of human capital from the dismissal of teachers and the advantages of universities that hire such teachers (Zakharova & Prodanova, 2023). The effectiveness of university management under occupation and during its relocation is also considered (Lopatina et al., 2023).

Given the context and emerging trends in the social and economic spheres, the aim is to analyze the extent to which universities have the potential to implement their third mission, focusing on community engagement.

It is important to emphasize that university-community engagement in the Ukrainian higher education sector was inconspicuous before the war. Different models of university-community engagement as well as HEI involvement in community life, and social-economic development were poorly reflected in academic or public discourse at both national and local levels. This can be reasoned by the soviet legacy, intense higher education modernization agenda that did not include social mission or community engagement, as well as disproportionate geographically distribution of universities (the largest number of students study in Kyiv (343 thousand people), followed by Kharkiv and Kharkiv region (155 thousand people), Lviv and Lviv region (108 thousand people), Dnipro and Dnipropetrovsk region (92 thousand people) OECD (2017).

The known surveys conducted in Ukraine on a national scale were mainly concerned with the issues of university-business cooperation [https://www.gen.tech/post/genesis-academy_opytuvannya]. The Ministry of Education and Science of Ukraine studied the issue of cooperation between companies and Ukrainian universities and/or research institutions, the strengths and weaknesses and the frequency of such cooperation [https://mon.gov.ua/ua/news/na-sajti-mon-rozmisheno-rezultati-opituvannya-biznesu-shodo-innovacijnoyi-diyalnosti-ta-potreb-v-ukrayinskih-rd].

Given that the war radically changed the Ukrainian economic and social landscape, as well as the higher education sector, this paper focuses on developing a model of interaction between the university and the community within the framework of the third mission of higher education institutions, taking into account the pre-war period, the readiness of higher education institutions to involve the community.

The study aims to determine the level of awareness and readiness for interaction between the university and the community.

2. METHODS

To identify the level of awareness and readiness for university-community engagement, the survey was conducted explicitly asking respondents on whether and how universities and communities should cooperate for mutual benefit and societal progress.

The survey was conducted from January to June 2020 covering 1,050 respondents representing 25 oblasts of Ukraine.

Initially, the questionnaire was distributed by its authors in person among academic peer networks during conferences, seminars, training events, etc. and online via email, using social networks Facebook, Viber, WhatsApp and Telegram, as well as All-Ukrainian NGO Innovation University with participants from more than 200 Ukrainian universities was involved in the survey conducting. Later, the peers through their networks distributed the questionnaire further beyond universities, covering non-academic communities.

The initial hypothesis was that Ukrainian citizens do not know much about university-community engagement, and few will be interested and knowledgeable enough to take part in the survey. That is why the convenience sampling was chosen for the survey when only those who were willing to participate were invited to take part in the survey. The questionnaire was distributed using peer networks, which made it possible outreach to all Ukraine's administrative regions (oblasts) drawing the rich picture of perception of university-community engagement all over the country. This self-selecting approach was justifiable, considering the novelty of the theme and assuming a low level of public awareness of university-community engagement. Using representative sampling or random choice sampling might result in too many gaps (missing information).

The second assumption was that the opinion on university-community engagement would differ among respondents who represent different regions of Ukraine, belong to different age groups and social groups.

It is believed that positions of men and women would not differ significantly, in other words, sex would not influence the perception of university-community engagement, awareness and attitude to it. To verify this belief, the correlation was established between respondents' gender and their attitude to university-community engagement.

As to the age group, the assumption was that respondents' age would influence their awareness of significance of university-community engagement, attitude to it and readiness to contribute to it: It was expected that older respondents would demonstrate lower awareness, less positive attitude than the total pool of respondents and less readiness to contribute university-community engagement. Such an assumption was made not because of authors' ageism, but due to several objective factors: older citizens have a more limited access to sources of information compared to younger generations and therefore may lack knowledge on the benefits of university-community engagement; older citizens are less active in public/societal life, which may hamper their readiness to participate in university-community engagement. Therefore, it seemed reasonable to compare the attitude of different age groups (18-25, 41-50, 61-70) against the overall pool of respondents.

As to respondents' education, it was assumed that there will be a correlation between the level of education, on the one hand, and awareness of importance of university-community engagement and attitude to it, on the other; namely, the higher the level of education, the more awareness and support to university-community engagement the respondents would demonstrate. This assumption is rooted in belief that more educated citizens are more aware of importance of knowledge and significance of universities' role as centers of learning and knowledge under knowledge society.

As to the influence of the place of residence on the perception of university-community engagement, the assumption was that citizens from large urban areas (cities with the population over 500 thousand and more where several universities are located) will be more aware and more supportive of university-community engagement compared to residents of small villages and towns (with the population from 3,000 to 50 thousand people), remote from universities as centers of knowledge and therefore uninformed of benefits of university-community collaboration. The investigation was also aimed at measuring the level of support for university-community engagement among residents of large cities with many universities and small towns and villages.

The questionnaire in a Google Forms format was designed focusing on three thematic issues (research questions):

1) Public awareness of university-community engagement and its benefits.

2) Attitude to university-community engagement in society at large and among different social groups.

3) Personal interest and commitment of respondents to participate in university-community engagement.

The original questionnaire in Ukrainian is available at Google Drive (https://docs.google.com/forms/d/1JBazlHQzUJCciyPKYGgVAACUp7znGMnb7NOOOGeh2Og/edit?usp=drive_web). Data analysis was conducted using Google Forms instruments and Microsoft Excel 2019.

The questionnaire consists of closed questions only. Seven questions deal with respondents' demographics asking them to identify gender, age, place of residence, level of education, employment, and income. The rest of questions aim to distinguish the overall attitude, awareness, personal interest, and readiness to be involved in university-community engagement.

In answering the questions, the respondents were able to choose between five options: strongly agree; agree; neither agree, nor disagree; disagree; strongly disagree. For readers' convenience, quite often the answers "agree" and "strongly agree", as well as "disagree" and "strongly disagree" are summed up resulting in the cumulative number of those respondents who agree or disagree.

The aggregate data of survey findings are presented in Table A1 (see Appendix).

The pool of respondents represents all administrative regions (oblasts) of Ukraine, except territories occupied by the russian federation; totally 1,050 respondents took part in the survey.

The territorial representation is not proportional to the population living in different regions (oblasts). Nevertheless, the data give the overall

picture of support of university-community engagement across all Ukrainian regions, considering the geographical and cultural differences (east, west, south, north, center). Comparisons of respondents' opinions by region against the total pool of respondents are presented in Table A2 (see Appendix).

The number of respondents who strongly agree that Ukrainian universities must take responsibility and contribute to local and regional development differs between 75% in Cherkasy region and 37% in Odesa region. At the same time, the low percentage of respondents who strongly agree with the above statement in Odesa and other regions of Ukraine is balanced by the number of respondents who simply agree. The accumulative support for university-community engagement (number of respondents who strongly agree and simply agree with the above statement) is minimum in Khmelnytskyi region (76%) and maximum (100%) in Volyn, Kyiv, Kherson and Cherkasy regions.

The data for Chernihiv region (north of Ukraine), Poltava region (center), and Ternopil region (west) demonstrate the same accumulative support to university-community engagement – 89%; similarly, Lviv region (west) and Zhytomyr region (north) have the same metrics – 90% – in favor of university-community engagement.

Women in the pool of respondents predominate over men in the ratio of 68.8% to 31.2%. The respondents represent different age groups (age distribution of survey respondents is shown in Table 1; they vary in the level of education (Table 2), and place of residence (Table 3)). In other words, the pool represents a fairly diverse demographic profile of modern Ukrainian society.

Table 1. Age distribution of respondents

Age group	% in the pool of respondents
18-25	24.6
26-30	5.1
31-40	27.4
41-50	21.7
51-60	9.7
61-70	3.4
71-80	0.7

Table 2. Respondents by level of education

Level of education	% in the pool of respondents
At school	–
Incomplete secondary education	–
Secondary education	0.4
Secondary vocational education	0.7
At a university, bachelor program	23.2
Incomplete higher education	1.5
Bachelor's degree	2.2
In a university, master program	7.8
Master's degree	17.1
PhD student	3.1
Ph.D. degree	28.1
Postdoctoral program	1.8
Habilitated doctor	13.9

Table 3. Respondents by place of residence

Size of settlements (population)	% in the pool of respondents
< 3,000	9.0
3,001-5,000	5.1
5,001-10,000	6.4
10,001-20,000	8.1
20,001-50,000	11.0
50,001-100,000	7.0
100,001-500,000	35.6
500,000-1,000,000	4.5
< 1,000,000	13.5

It was consistent with the prevailing general consensus that a convenience sample is biased; in this case the bias is towards overrepresentation of university community (i.e. academia and students), as peer connections and academic networks were used to distribute the questionnaire broadly. But this drawback is offset by broad regional coverage, extensive representation of age and social groups.

3. RESULTS AND DISCUSSION

The overwhelming majority of respondents agree that Ukrainian HEIs should contribute to social, cultural, and civic development at the local or regional level: 36.4% of respondents agree and 50.4% strongly agree, while only 2.9% disagree and 10.2% have not made up their mind.

This positive perception of university-community engagement was confirmed in a series of other questions. The overwhelming majority of respon-

dents were consent with the statement "It is beneficial for local communities to develop joint social projects together with universities and take part in social programs offered by universities". 52.0% agree and 38.7% strongly agree (together 90.7%) that development and implementation of joint university-community projects would be beneficial for local communities.

Another question requested the opinion on whether Ukrainian communities ought to be involved in collaboration with universities via joint social programs. Again, the majority of answers were in favor of this statement: 51.4 % agree and 35.5% strongly completely; only 9.8% have doubts and 3.3% do not think it is rational (1.6% disagree and 1.7% strongly disagree).

Similarly, the majority of respondents believe that the experience of Ukrainian universities can be beneficial for community development, and also believe that the experience of Ukrainian communities can be beneficial for the development of universities (Table 4).

Respondents recognize the reciprocity of university-community engagement: 45.3 % agree and 46.4% strongly agree that local communities and universities can obtain mutual benefit from participation and collaboration in joint social programs; 5.6% are uncertain and only 2.7% disagree with this statement (1.8% disagree and 0.9% strongly disagree).

At the first glance, reginal variability in answering the question whether local communities and universities can obtain mutual benefit from engagement and collaboration may seem considerable: strongly agree with the above statement 37% of respondents in Sumy region and 90% in Kherson region. But this variance is leveled when both groups of respondents (those who strongly agree and agree) are considered: the minimum accumulative figure is 82% of respondents in Sumy regions; the maximum percentage of support (100%) is registered for Volyn, Zhytomyr, Ivano-Frankivsk, Kyiv, Kirovohrad, Poltava, Kherson, and Cherkasy regions. The number of respondents per region who agree/ disagree/have not made up their mind whether local communities and universities can get mutual benefit from participation in social programs is presented in Table A2 (see Appendix).

The respondents demonstrated unanimity in assessing the mutual benefit from university-community engagement for universities and for local communities. The answers to three questions seeking opinion on the benefits of collaboration for both parties demonstrate rather low variance (see Table 5).

While the majority of respondents express generally positive attitude to university-community engagement, they regard today's level of engagement as insufficient (Q 6): only 14.3% think it is sufficient, 2.7% strongly agree and 11.6% agree, while

Table 4. Perception of mutual benefit of university-community engagement

Engagement Impact Score	Strongly agree, %	Agree, %	Neither agree nor disagree, %	Disagree, %	Strongly disagree, %
Experience of Ukrainian universities can be beneficial for community development	39.4	48.4	8.6	2.5	1.0
Experience of Ukrainian communities can be beneficial for universities' development	32.9	49.9	11.9	3.7	1.4
Local communities and universities can mutually benefit from participation and collaboration in joint social programs	46.4	45.3	5.6	1.8	0.9

Table 5. Perception of university-community engagement by men and women

Ukrainian universities must take social responsibility and contribute to social, cultural and communal development within their local or regional environment	Strongly agree, %	Agree, %	Neither agree nor disagree, %	Disagree, %	Strongly disagree, %
Total pool	50.4	36.4	10.2	1.8	1.2
Women	49.5	39.7	8.7	1.4	0.7
Men	52.5	29.1	13.5	2.7	2.2

47.8% disagree and 5.8% strongly disagree (together 53.6%), and 32.1% have not made up their mind.

It is worth mentioning that totally positive perception of university-community engagement is partly overruled when respondents are offered to express their attitude in a reverse way: namely, to answer the question "Should Ukrainian universities focus on the improvement of educational services for the younger generation only?" The answers demonstrated greater variance: the largest proportion of respondents (32.2%) are uncertain, they neither agree nor disagree with the statement, while 18.9% agree and 10,7% strongly agree (together 29.6%); and 29.1 % disagree and 9.2% strongly disagree (together 38.3%). Nearly one third of respondents have not made up their mind as to whether universities should be involved with other activities beyond traditional teaching and learning and another 29.6% consider that they should not.

To check the perception of university-community engagement by different social groups, the question was selected that most fully expose respondents' attitude: "Ukrainian universities have to take social responsibility and contribute to social, cultural, and communal development within their local or regional environment", and comparisons were made between the total pool of respondents and a certain social group, which allowed us to confirm or overrule assumptions formulated at the beginning of the study.

As seen from Table 6, more female respondents (49.4% strongly agree and 39.7% agree, together 89.1%) than male (52.5% strongly agree and 29.0% agree, together 81.5%) believe that universities should contribute to community development, but the variance between men and women and the total pool of respondents is not significant (maximum 10.7% between men and women and 7.4% between men and total pool of respondents). Similarly, the answers to the above question of three age groups were compared against the overall pool of respondents (Table 7).

The survey findings overrule the initial assumption that respondents who represent the older cohort will be less supportive of university-community engagement. The 18-25 age group expressed the minimum support to the above statement – cumulatively 79.4% agree, while in the 41-50 group – 90.2%, and in the 61-70 age group – 88.8% agree with the statement. The maximum variance is noted between age groups of 18-25 and 41-50 (15.3%).

To check the degree of support for university-community engagement among respondents with different levels of education, the pool was divided in-

Table 6. Perception of university-community engagement by different age groups

Ukrainian universities must take social responsibility and contribute to social, cultural, and communal development within their local or regional environment	Strongly agree, %	Agree, %	Neither agree nor disagree, %	Disagree, %	Strongly disagree, %
Total pool	50.4	36.4	10.2	1.8	1.2
Age 18-25	43.5	36.4	14.7	2.7	2.7
Age 41-50	58.7	31.5	7.2	2.5	0.1
Age 61-70	58.3	30.5	5.5	0.2	5.5

Table 7. Perception of university-community engagement by respondents with different levels of education

Ukrainian universities must take social responsibility and contribute to social, cultural and communal development within their local or regional environment	Strongly agree, %	Agree, %	Neither agree nor disagree, %	Disagree, %	Strongly disagree, %
Total pool	50.4	36.4	10.2	1.8	1.2
Respondents with secondary education	41.6	41.6	8.3	0.2	8.3
Respondents with higher education	44.3	41.9	11.2	2.3	0.3
Respondents with PhD degree	65.7	26.7	4.7	1.6	1.3

to three groups: respondents with secondary education (including vocational secondary education), respondents with higher education (including bachelor's and master's degrees) and respondents with Ph.D. degrees. Their answers to the statement "Ukrainian universities must take social responsibility and contribute to social, cultural, and communal development within their local or regional environment" are presented in Table 8.

The assumptions were justified regarding cohorts of respondents with different levels of education: respondents with the highest level of education (PhD degree) agree with the statement most. In this cohort, 65.7% of respondents strongly agree and 26.7% agree (making the total of 92.4%) with the statement that universities should take social responsibility and make their contribution to social, cultural, and civic development of the region or locality. Eventually, the number of respondents who have not made up their mind is the smallest (4.7%) in the cohort with Ph.D. degree.

Another point of interest was the influence of place of residence on the perception of university-community engagement. The survey findings are presented in Table 9.

The survey confirmed the assumption that citizens living in large urban areas with the population over 500 thousand, where several universities are located, are more supportive of university-community engagement compared to residents of small settlements distanced from higher education institutions.

3.1. Awareness of university-community engagement

Despite strong support for university-community engagement, the respondents have indicated that their awareness of existing practices of university-community collaboration, of projects and programs implemented is not sufficient. Only 14.4% agree and 4.4% strongly agree that Ukrainian universities implement enough social programs where local communities are involved, 42.5% disagree and 5.6% strongly disagree with the above statement, while 32.9% survey participants were uncertain.

These replies are aligned with other ones. Only 30.1% agree and 3.7% strongly agree that they are knowledgeable about social programs and services available from universities. Meanwhile, 37.8% disagree and 8.0% strongly disagree with this

Table 8. Perception of university-community engagement depending on the place of residence

Ukrainian universities must take social responsibility and contribute to social, cultural, and communal development within their local or regional environment	Strongly agree, %	Agree, %	Neither agree nor disagree, %	Disagree, %	Strongly disagree, %
Total pool	50.4	36.4	10.2	1.8	1.2
Respondents living in settlements with population less than 3,000	40.4	42.5	12.7	3.4	1.0
Respondents living in settlements with population between 3,001-5,000	45.2	37.7	13.2	3.7	0.2
Respondents living in urban areas with population between 500,001-1,000, 000	59.5	27.6	10.6	2.1	0.2
Respondents living in urban areas with population over 1,000,000	57.1	34.5	5.6	2.1	0.7

Table 9. Awareness of university-community engagement

Awareness indicators	Strongly agree, %	Agree, %	Neither agree nor disagree, %	Disagree, %	Strongly disagree, %
Ukrainian universities provide enough social programs where local communities are involved	14.5	4.4	32.9	42.6	5.6
I am aware of numerous university-community engagement programs	2.0	11.9	26.3	46.6	13.2
I have enough information about social services / social programs provided by universities	3.7	20.3	30.1	37.8	8.1

statement. 13.9% of respondents agree with the statement that they know about many university-community engagement programs. Over half of respondents disagree with this statement (46.6% disagree and 13.1% strongly disagree), while 26.3% could not make up their minds.

3.2. Personal interest and commitment of respondents to participate in university-community engagement

With predominant support for university-community engagement expressed by respondents of the survey, it was interesting to measure the degree of personal readiness to take part in the collaboration between universities and communities. The overwhelming majority of respondents (43.4% agree and 33.5% strongly agree) expressed willingness to participate in projects, programs that encourage and facilitate university-community engagement. 14.1% are hesitant as to their willingness to take part in such initiatives and only 9.1% are not willing to participate (6% disagree and 3.1% strongly disagree).

Considering a high degree of personal readiness to promote and facilitate university-community collaborative initiatives expressed by respondents in answering the previous question, their experience in participating in university-community engagement programs is rather low. Only 19.3% disagree and 9.0% strongly disagree (together 28.3%) with the statement "I have no experience of participation in university-community engagement programs". Over half of respondents confirmed that they have no such experience: 33.7% agree and 20.4% strongly agree and 17.7% could not make up their minds (neither agree nor disagree).

This study has some limitations. Its significant limitation, which limits the generalizability of the results, is the time gap between the survey, which was conducted in 2020, and the development of the design recommendations for the third HEI mission model, as well as the fact that this study was conducted before a full-scale war.

In further research, it is necessary to analyze the specifics of the influence of military actions on the functioning of universities, as well as to investigate how military, economic, and social changes affected the willingness of communities to cooperate, in particular, to focus on different groups of stakeholders.

The level of readiness of respondents to participate in programs offered by universities is high. Of course, after the war this level may decline, as changes in population structure and activity can be expected.

The survey confirms predominantly high support for university-community engagement in Ukrainian society. It raises several questions and concerns that HEIs should consider when developing a strategic plan from the perspective of current military circumstances and the prospects for post-war recovery.

Low awareness may indicate that, in general, the respondents do not understand what community engagement entails, but they demonstrate positive attitudes since the term engagement itself and higher education are perceived by them positively. This also can be explained by thew fact that universities focus their cooperation on certain groups of stakeholders (employers in the region and local authorities), which narrows the representation of the community.

Low awareness of respondents regarding university-community engagement can be also explained by the actual lack of activities implemented by universities, as well as by weak communication of university-community engagement activities that actually take place but remain unknown to external communities. These conclusions are aligned with the research findings of Huyghe and Knockaert (2014) explained that rewarding and motivating staff is crucial to enable their participation in such activities. Paoloni et al. (2019) gave the arguments for establishing the university system, and incentive plan for academics who actively promote and participate in HEI's community engagement activities.

The overall positive attitude is further confirmed by the position of different social groups: none of the groups identified among the pool of respondents have demonstrated explicitly the negative attitude to university-community engagement.

Attitude to university-community engagement, though different among men and women, does not show significant variance.

Similarly, other social groups – respondents of different age groups; with different levels of education; residing in rural and urban areas – do not demonstrate significant variance in expressing their opinions on the contribution of universities to social, cultural, and civic development of the territory or region of their location.

There were no regional differences in respondents' support for interaction between universities and the community, despite the stereotype of dividing Ukraine into east, west, south, north and center. All regions showed a high level of support.

Such a positive attitude towards the interaction between universities and the community could arise from a general positive perception of the role and contribution of universities to social development, which traditionally existed in societies: "Universities contribute to society in various ways, both from the point of view of supporting economic development and well-being and encouraging civic and democratic values" (Farnell, 2020, p. 12). It is intuitively clear that the respondents recognize and accept the importance of cooperation between the university and the community.

However, this aspect needs to be studied further now, because given the change in the population structure in different regions, the question of support may change, as well as the priorities that the university in a particular region formed for itself before the war.

Demographic changes are so severe in specific regions that, along with the destruction of infrastructure, they can become a factor that will make post-war progress impossible, even in the case of significant international support. According to estimates by the International Organization for Migration (IOM), since the beginning of the Russian invasion, more than 7 million Ukrainians have been coerced to leave their homes (IOM, n.d.). According to information provided by the Ministry of Social Policy in December 2022, almost 4.9 million Ukrainians officially received the status of internally displaced persons. 30% of them are retirees and people with disabilities. A significant part of the active working population left abroad. Given that the conditions for the end of the war are not even visible at the moment, it is difficult to predict the needs of communities and the possibilities of their involvement.

Reciprocity in university-community engagement is accepted by the majority of respondents, which the authors regard as the positive characteristic of the overall attitude to university-community engagement. Perception of university-community engagement as mutually beneficial practices for university and its external communities is in accord with contemporary concepts, theories of university-community engagement where horizontal cooperation, top-down and bottom-up approaches are equally valuable; mutual obligations of engagement emphasize the responsibility of both partners – higher education institutions and external communities – for collaboration, its progress and results in the short-term perspective and its long-term impact.

The survey does not explain the overall positive attitude to the university-community engagement under the circumstances when the majority of respondents' pool does not know enough about the practices of university-community collaboration, nor takes part in service delivery, social projects or programs implemented by universities.

Poor experience in participation in university-community engagement programs that was informed by most respondents can be the result of the lack or not varied universities' activities in this sphere, which has resulted in limited opportunities for the community to engage in such activities

But the limited participation of the external stakeholders needs to be recognized. A plenty of research illustrated that stakeholders tended to be passive in university collaboration. De La Torre et al. (2018) emphasized that SMEs demonstrated weak cooperation with HEIs, due to their view of universities as primarily providers of teaching. A similar finding was demonstrated by Pugh (2017) for governments and authorities, and Balduzzi and Rostan (2016) for specialized organizations that would be interested in learning, researching, and/or exchanging knowledge.

The main reason for such a situation is the lack of awareness of an HEI's strategies to communicate with different stakeholders at different levels. Being the centers of knowledge where knowledge is generated and accumulated for the benefit of wider society, HEIs often disseminate new knowledge and culture to specific audiences in an unclear manner (Smith, 2013). This causes mistrust and provokes a lack of external stakeholder engagement (De La Torre et al., 2018).

The survey revealed an overall encouraging attitude toward university-community engagement among Ukrainian society: university-community engagement was predominantly regarded as a matter of mutual benefit, a rather beneficial practice; citizens were ready to get involved and contribute to social change and their expectations of the potentially transformative power of university-community collaboration are rather high.

This raises the issue of further scenarios for university-community engagement in post-war recovery, seeking effective stakeholder involvement. The combination of top-down and bottom-up approaches to building university-community engagement seems appropriate and demands pragmatic practices, benefiting universities, communities, and society at large.

CONCLUSIONS

Russia's unprovoked aggression against Ukraine created a new unique case and conditions for higher education and its impact on wartime and postwar regional development. The prospect of post-war reconstruction of Ukraine has already become one of the most discussed problems both in the world and in the country, focusing on the search for the most adequate model of fulfilling the third mission of higher educational institutions (HEIs) in the process of regional reconstruction. Considering the humanitarian consequences of the destruction of infrastructure, huge damage to the environment, loss of population, business potential, it is extremely difficult for universities to lead regional development, to become centers that will focus the processes of regional reconstruction around themselves.

According to the survey conducted, the majority of respondents believe that universities should contribute to the development of the community. Also, the respondents demonstrated unanimity in assessing the mutual benefit of university-community interaction for both universities and local communities. Despite the strong support for the involvement of the university in the community, the respondents noted that they need to be sufficiently aware of the existing practice of cooperation between the university and the community, about implemented projects and programs. The survey results showed poor participation experiences combined with willingness to participate in activities offered by HEIs. This fact should be considered when forming a model of higher education institutions, in particular, to identify groups of interested parties and carry out a needs assessment.

However, a significant limitation of this study is the time gap between the survey, which was conducted in 2020, and the development of recommendations for the design of the third HEI mission model. Another limitation is that this study was started even before the Russian aggression and was focused on the readiness of universities to engage with the community in Ukraine. However, due to the war, which radically changed the conditions and affected the ability of both universities and most communities to work, research now obviously needs to find answers to the following question: "How can the model of community involvement be considered within the university's third mission, given the pre-war readiness of universities for productive community and modern military challenges?". Universities operating in regions of active war will face many challenges related to psychosocial support and research initiatives that document the impact of war on society and evaluate the effectiveness of engagement programs. This data is important in itself, as it can inform future strategies and contribute to a broader understanding of the issues facing the community. For such universities, it is more expedient to focus on involving the public. Regions that have not experienced such devastation, mined areas, and largely preserved

populations may need to develop initiatives that promote long-term resilience, economic stability, and community resilience. Therefore, specific stakeholder groups require a customized approach to ensure knowledge sharing and the effectiveness of the university model. The results of the survey support this idea due to the high personal interest and willingness of the respondents to participate in the involvement of the university and the community.

AUTHOR CONTRIBUTIONS

Conceptualization: Olena Melnyk, Olena Orzhel, Yuriy Danko, Iryna Skliar, Olena Lytovchenko.
Data curation: Olena Melnyk, Yuriy Danko.
Formal analysis: Olena Melnyk, Olena Lytovchenko.
Funding acquisition: Iryna Skliar.
Investigation: Olena Melnyk, Olena Lytovchenko.
Methodology: Olena Orzhel, Olena Melnyk.
Project administration: Olena Orzhel, Olena Melnyk.
Resources: Iryna Skliar, Olena Lytovchenko.
Software: Olena Melnyk.
Supervision: Olena Melnyk, Yuriy Danko.
Validation: Olena Melnyk, Yuriy Danko, Iryna Skliar.
Visualization: Olena Melnyk, Yuriy Danko.
Writing – original draft: Olena Orzhel, Olena Melnyk.
Writing – review & editing: Olena Melnyk.

ACKNOWLEDGMENT

REFERENCES

1. Abreu, M., Demirel, P., Grinevich, V., & Karataş-Özkan, M. (2016). Entrepreneurial practices in research-intensive and teaching-led universities. *Small Business Economic, 47*(3), 695-717. https://doi.org/10.1007/s11187-016-9754-5

2. Balduzzi, G., & Rostan, M. (2016). Organizing the 'productive transformation of knowledge': linking university and industry in traditional manufacturing areas. *Tertiary Education and Management, 22*(1), 19-35. https://doi.org/10.1080/13583883.2015.1120340

3. Brož, V., Pace, D., Gahir, B., Draper, T., & Cavagnetto, S. (2023). Do not mention Russia: A theoretical framework for bank penalties due to economic sanction violations and policy implications. *Banks and Bank Systems, 18*(2), 161-176. https://doi.org/10.21511/bbs.18(2).2023.14

4. Calcagnini, G., Favaretto, I., Giombini, G., Perugini, F., & Rombaldoni, R. (2016). The role of universities in the location of innovative start-ups. *The Journal of Technology Transfer, 41*(4), 670-693. https://doi.org/10.1007/s10961-015-9396-9

5. Centre for Economic Policy Research (CEPR). (2022). *Rebuilding Ukraine: Principles and policies* (Paris Report). Edited by Y. Gorodnichenko, I. Sologoub, and B. Weder di Mauro. Centre for Economic Policy Research. Retrieved from https://cepr.org/system/files/publication-files/178114-paris_re-

port_1_rebuilding_ukraine_principles_and_policies.pdf

6. Chanphirun, S., & Van Der Sijde, P. (2014). Understanding the concept of the entrepreneurial university from the perspective of higher education models. *Higher Education, 68,* 891-908. https://doi.org/10.1007/s10734-014-9750-0

7. Clarysse, B., Tartari, V., & Salter, A. (2011). The impact of entrepreneurial capacity, experience and organizational support on academic entrepreneurship. *Research Policy, 40*(8), 1084-1093. https://doi.org/10.1016/j.respol.2011.05.010

8. Compagnucci, L., & Spigarelli, F. (2020). The Third Mission of the university: A systematic literature review on potentials and constraints. *Technological Forecasting and Social Change, 161,* 120284. https://doi.org/10.1016/j.techfore.2020.120284

9. Council of Europe Portal. (2022). *Council of Europe Action Plan for Ukraine "Resilience, Recovery and Reconstruction" 2023–2026.* Adopted by the Committee of Ministers on 14 December 2022 at the 1452nd meeting of the Ministers' Deputies. Retrieved from https://search.coe.int/cm/Pages/result_details.aspx?ObjectId=0900001680a96440.

10. De La Torre, E. M., Agasisti, T., & Perez-Esparrells, C. (2017). The relevance of knowledge transfer for universities' efficiency scores: an empirical approximation on the Spanish public higher education system. *Research Evaluation, 26*(3), 211-229. https://doi.org/10.1093/reseval/rvx022

11. De La Torre, E. M., Pérez-Esparrells, C., & Casani, F. (2018). The policy approach for the Third Mission of Universities: the Spanish Case (1983–2018). *Regional and Sectoral Economic Studies, 18*(1), 13-33. Retrieved from https://www.usc.es/economet/reviews/eers1812.pdf

12. Farnell, T. (2020). *Community engagement in higher education: trends, practices and policies* (NESET Report). Luxembourg: Publications Office of the European Union. https://doi.org/10.2766/071482

13. Giuri, P., Munari, F., Scandura, A., & Toschi, L. (2018). The strategic orientation of universities in knowledge transfer activities. *Technological Forecasting and Social Change, 138,* 261-278. https://doi.org/10.1016/j.techfore.2018.09.030

14. Gupta, N., Mitra, P., & Supra, B. (2023). Enhancing portfolio resilience during crisis periods: Lessons from BRICS indices and multi asset strategies. *Investment Management and Financial Innovations, 20*(4), 99-111. https://doi.org/10.21511/imfi.20(4).2023.09

15. Huyghe, A., & Knockaert, M. (2014). The influence of organizational culture and climate on entrepreneurial intentions among research scientists. *The Journal of Technology Transfer, 40,* 138-160. https://doi.org/10.1007/s10961-014-9333-3

16. International Organization for Migration (IOM). (n.d.). *Data and Resources.* Retrieved from https://ukraine.iom.int/data-and-resources

17. Jäger, A., & Kopper J. (2014). Third mission potential in higher education: Measuring the regional focus of different types of HEIs, *Review of Regional Research, 34*(2), 95-118. https://doi.org/10.1007/s10037-014-0091-3

18. Jreisat, A. (2023). Dynamics of oil price shocks in Latin American stock markets during global turbulence: A nonlinear autoregressive distributed lag analysis. *Investment Management and Financial Innovations, 20*(4), 350-359. https://doi.org/10.21511/imfi.20(4).2023.28

19. Kitagawa, F., Barrioluengo, M. S., & Uyarra, E. (2016). Third mission as institutional strategies: between isomorphic forces and heterogeneous pathways. *Science and Public Policy, 43*(6), 736-750. https://doi.org/10.1093/scipol/scw015

20. Kozmenko, S., & Ostapenko, L. (2022). The war year 2022 is a year of trials for the journal and the publishing house. *Problems and Perspectives in Management, 20*(4), 653-656. https://doi.org/10.21511/ppm.20(4).2022.49

21. Kozmenko, S., Danko, Y., & Kozlovskyi, S. (2023). Academic management in war conditions: Chronicles of aggression and resistance experience of Ukrainian universities. *Problems and Perspectives in Management, 21*(2-si), 1-3. https://doi.org/10.21511/ppm.21(2-si).2023.01

22. Lopatina, H., Tsybuliak, N., Popova, A., Bohdanov, I., & Suchikova, Y. (2023). University without Walls: Experience of Berdyansk State Pedagogical University during the war. *Problems and Perspectives in Management, 21*(2-si), 4-14. https://doi.org/10.21511/ppm.21(2-si).2023.02

23. Muscio, A., Ramaciotti, L., & Rizzo, U. (2017). The complex relationship between academic engagement and research output: evidence from Italy. *Science and Public Policy, 44*(2), 235-245. https://doi.org/10.1093/scipol/scw057

24. OECD. (2017). *OECD Reviews of Integrity in Education: Ukraine 2017.* Paris: OECD Publishing. https://doi.org/10.1787/9789264270664-en

25. OECD. (2022a). *Environmental consequences of the war in Ukraine and prospects for a green reconstruction.* Retrieved from https://www.oecd-ilibrary.org/environment/environmental-impacts-of-the-war-in-ukraine-and-prospects-for-a-green-reconstruction_9e86d691-en

26. OECD. (2022b). *Social policies for an inclusive recovery in Ukraine.* Retrieved from https://www.oecd-ilibrary.org/docserver/506fcefb-en.pdf

27. OECD. (2023). *OECD-Ukraine: A reinforced partnership.* Retrieved from https://www.oecd.org/ukraine-hub/en/

28. Ostapenko, L., Vorontsova, A., Voronenko, I., Makarenko, I., & Kozmenko, S. (2023). Coverage of the Russian armed aggression against Ukraine in scientific works: Bibliometric analysis. *Journal of*

International Studies, 16(3), 9-33. https://doi.org/10.14254/2071-8330.2023/16-3/1

29. Paoloni, P., Cesaroni, F., & Demartini, P. (2019). Relational capital and knowledge transfer in universities. *Business Process Management Journal, 25*(1), 185-201. https://doi.org/10.1108/BPMJ-06-2017-0155

30. Perkmann, M., & Schildt, H. (2015). Open data partnerships between firms and universities: The role of boundary organizations. *Research Policy, 44*(5), 1133-1143. https://doi.org/10.1016/j.respol.2014.12.006

31. Pinheiro, R., Karlsen, J., Kohoutek, J., & Young, M. (2017). Universities' Third Mission: global discourses and national imperatives. *Higher Education Policy, 30,* 425-442. https://doi.org/10.1057/s41307-017-0057-5

32. Plastun, A., Laichuk, S., Rudenko, L., Guzenko, T., & Mashyna, Y. (2023). Assessing the impact of the russian invasion on the competitiveness in the Ukrainian insurance market. *Insurance Markets and Companies, 14*(1), 72-84. https://doi.org/10.21511/ins.14(1).2023.07

33. Pugh, R. (2017). Universities and economic development in lagging regions: 'Triple helix' policy in

Wales. *Regional Studies, 51*(7), 982-993. https://doi.org/10.1080/00343404.2016.1171306

34. Razinkova, M., Nebaba, N., Korneyev, M., Yakovenko, T., & Bohorodytska, A. (2023). Assessment of Ukraine's external debt burden under geopolitical instability. *Public and Municipal Finance, 12*(2), 67-81. https://doi.org/10.21511/pmf.12(2).2023.06

35. Secundo, G., Massaro, M., Dumay, J., & Bagnoli, C. (2018). Intellectual capital management in the fourth stage of IC research: a critical case study in university settings. *Journal of Intellectual Capital, 19*(1), 157-177.

36. Shiel, C., Leal Filho, W., do Paço, A., & Brandli, L. (2016). Evaluating the engagement of universities in capacity building for sustainable development in local communities. *Evaluation and Program Planning, 54,* 123-134. https://doi.org/10.1016/j.evalprogplan.2015.07.006

37. Smaliukienė, R., Vedlūga, T., & Giedraitytė, V. (2023). Initiatives, public trust, and citizen engagement during crises: A comparative analysis across Baltic states. *Problems and Perspectives in Management, 21*(4), 189-201. https://doi.org/10.21511/ppm.21(4).2023.15

38. Smith, D. N. (2013). Academics, the 'cultural third mission' and

the BBC: forgotten histories of knowledge creation, transformation and impact. *Studies in Higher Education, 38*(5), 663-677. https://doi.org/10.1080/03075079.2011.594502

39. Towards a European Framework for Community Engagement in Higher Education (TEFCE). (2020). *Project.* Retrieved from https://www.printfriendly.com/p/g/tfaDRz

40. Vasyltsiv, T., Levytska, O., Shushkova, Y., Voronko, O., & Kohut, M. (2023). Competitiveness of regional labor markets as a determinant of international migration: A nexus empirical study. *Problems and Perspectives in Management, 21*(4), 678-695. https://doi.org/10.21511/ppm.21(4).2023.51

41. Zakharova, O., & Prodanova, L. (2023). A university displaced twice: Irreversible and erroneous losses of human capital. *Problems and Perspectives in Management, 21*(2-si), 123-132. https://doi.org/10.21511/ppm.21(2-si).2023.15

42. Zhuravka, F., Nebaba, N., Yudina, O., Haponenko, S., & Filatova, H. (2023). The hospitality market in Ukraine: War challenges and restoration possibilities. *Innovative Marketing, 19*(1), 140-150. https://doi.org/10.21511/im.19(1).2023.12

APPENDIX A

Table A1. Survey results (aggregate data)

Do you agree with the following statements?	Strongly agree, %	Agree, %	Neither agree, nor disagree, %	Disagree, %	Strongly disagree, %
1. Ukrainian universities must take social responsibility and contribute to social, cultural, and communal development within their local or regional environment	50.4	36.4	10.2	1.8	1.2
2. Ukrainian universities must pay their attention only to improving educational services for young generation	10.7	18.9	32.2	29.1	9.2
3. It is useful for local communities to develop joint social projects and take part in social programs provided by universities	52.0	38.7	6.1	2.3	0.9
4. Ukrainian universities provide enough social programs where local communities are involved	4.4	14.4	32.9	42.5	5.6
5. I would like to participate in common programs that facilitate university-community engagement	33.5	43.4	14.1	6.0	3.1
6. Nowadays, the interaction between Ukrainian universities and their external social surrounding is sufficient	2.7	11.6	32.1	47.8	5.8
7. I am aware of numerous university – community engagement programs	2.0	11.9	26.3	46.6	13.1
8. I do not have enough experience of participation in university-community programs	20.4	33.7	17.7	19.3	9.0
9. I have enough information about social services/social programs provided by universities	3.7	20.3	30.1	37.8	8.0
10. Ukrainian communities should be involved in collaboration with universities via joint social programs	35.5	51.4	9.8	1.6	1.7
11. Ukrainian universities' experience can be useful for local community development	39.4	48.4	8.6	2.5	1.0
12. The experience of Ukrainian communities can be useful for the development of universities	32.9	49.9	11.9	3.7	1.4
13. Local communities and universities can mutually benefit from participating in social programs	46.4	45.3	5.6	1.8	0.9

Table A2. Perception of mutual benefit of university-community engagement per region

Region	Strongly agree, %	Agree, %	Neither agree, nor disagree, %	Disagree, %	Strongly disagree, %
Vinnytsia region	47.3	47.3	5.2	0	0
Volyn region	69.2	30.7	0	0	0
Dnipropetrovsk region	54.5	36.3	4.5	0	4.5
Donetsk region	58.8	38.2	0	0	2.9
Zhytomyr region	80.0	20.0	0	0	0
Transcarpathian region	44.4	44.4	5.5	5.5	0
Zaporizhzhia region	50.0	43.7	6.2	0	0
Ivano-Frankivsk region	66.6	33.3	0	0	0
Kyiv region	52.9	47.0	0	0	0
Kirovohrad region	55.5	44.4	0	0	0
Luhansk region	50.0	35.7	7.1	7.1	0
Lviv region	36.8	47.3	5.2	10.5	0
Mykolaiv region	36.3	54.5	9.0	0	0
Odesa region	54.1	41.6	4.1	0	0
Poltava region	43.4	56.5	0	0	0
Rivne region	47.6	49.7	2.5	0	0
Sumy region	36.9	45.5	13.2	2.3	1.9
Ternopil region	45.6	50.6	2.4	0	1.2
Kharkiv region	52.8	43.8	2.2	1.1	0
Kherson region	90.0	10.0	0	0	0
Khmelnytskyi region	38.0	47.6	0	14.2	0
Cherkasy region	62.5	37.5	0	0	0
Chernivtsi	64.2	28.5	5.8	0	0
Chernihiv region	50.0	42.8	0	7.1	0
The city of Kyiv	46.8	46.8	2.1	4.2	0