"Factors creating favorable conditions for activating innovative entrepreneurship and startups in post-war Ukraine"

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FACTORS CREATING FAVORABLE CONDITIONS FOR ACTIVATING INNOVATIVE ENTREPRENEURSHIP AND STARTUPS IN POST-WAR UKRAINE

Abstract

As global conflicts and hostilities become more prevalent, it is essential to investigate the conditions necessary for the operation and growth of innovative enterprises considering post-war recovery. The paper aims to determine crucial favorable conditions for activating innovative entrepreneurship and startups in the post-war period in Ukraine. The analysis is based on inductive, qualitative data from 24 interviews with the respondents from Ukraine and the Netherlands (eight scientists, ten startup founders and entrepreneurs, two government officials, and four entrepreneurs) to identify a range of favorable factors by utilizing qualitative analysis. The paper used individual, in-depth, semi-structured interviews. The study identified eight constraining aggregate themes (the consequences of war, policy and regulatory system, market and investment, the ecosystem, passive universities, education and skills, internationalization, and culture) and three enabling aggregate themes (the consequences of war, active universities, and the ecosystem) through the grouping of factors from the second-order code. The most significant constraining factor from aggregate themes "the consequences of war" is brain drain (40.63%). Among the eight constraining aggregate themes, 32.55% identified the policy and regulatory system as the main obstacle due to the absence of an effective strategy, ineffective legislation, passive municipalities, and bureaucracy. Moreover, the lack of funds is a critical issue in addressing the consequences of the war, financing startup projects, and creating favorable conditions. The results emphasize constraining and enabling conditions for activating innovative entrepreneurship and startups. Such results are helpful for policymakers to improve the conditions for startup development by overcoming the immediate identified obstacles.

Keywords innovative entrepreneurship, startups, post-war Ukraine,

enabling factors, constraining factors, economic recovery, war impact, entrepreneurship activation

JEL Classification L26, P25, M13, O53

INTRODUCTION

Today's world is characterized by escalating conflicts and wars. The 2023 Global Peace Index revealed a trend of decreasing global peace over the past 15 years, with a 5 percent decline in overall peace and increasing hostilities among different countries (Wikiwand, 2023). Conflicts and wars have catastrophic consequences on society, the economy, and, obviously, on entrepreneurship (Aldairany et al., 2018; Colino, 2012).

While conflicts and wars pose challenges to entrepreneurship globally, these issues are particularly critical for Ukraine due to its ongoing war and the pressing need for post-war reconstruction. Therefore, innovative entrepreneurship and startups should be one of the priorities of reconstructing the Ukrainian economy after the war. Neumann (2020) argues that entrepreneurship and startups play a vital role in this process as they contribute to job creation, innovation, and economic growth.

Additionally, despite all the challenges, Ukraine demonstrates steady development of its startup ecosystem, even in times of war. In 2024, Ukraine climbed three positions in the Global Startup Ranking, securing 46th place (Startup Genome, 2024). Importantly, Ukraine entered Eastern Europe's top ten startup ecosystems, moving up to ninth place, ahead of Latvia and Croatia. This reflects the resilience of Ukrainian entrepreneurs, who continue to create innovative and global startups despite difficult war circumstances.

In this post-war context, it is important to identify and understand the components of favorable conditions that can facilitate innovative entrepreneurship and startups in Ukraine and aid in the country's reconstruction and development (Audretsch et al., 2023). However, one of Ukraine's biggest challenges is its lack of experience or knowledge of creating the conditions for startup development in a post-war period.

Identifying the key factors essential for activating innovation and fostering the development of startups in the post-conflict period is critical. Entrepreneurship in post-conflict situations requires specific approaches that address the challenges posed by limited resources, including financial, human, infrastructure, and informational aspects. A clear understanding of what constitutes a favorable environment for startups in modern Ukraine will provide a solid foundation for making effective decisions. Furthermore, this understanding will assist government authorities in identifying priority tasks and formulating effective strategies to support entrepreneurship and innovative development in the country.

1. LITERATURE REVIEW

Although still limited, the scientific literature on the factors that create favorable conditions for fostering innovative entrepreneurship and startups in post-war countries is steadily increasing. These components are increasingly recognized for their crucial role in driving economic growth and development, particularly in the aftermath of war and conflict (Naudé et al., 2023; Djip, 2014). Ziakis et al. (2022) and Kobeissi and Wang (2009) emphasize that startup success is highly influenced by a combination of factors, including education, access to funding, government policies, human capital, and networking. These provide the foundation for startups to develop and implement their innovative ideas. Recent studies have shed light on several key factors that are essential for entrepreneurial success in such challenging environments. Favorable conditions for activating startup activities are a set of components that collectively create an environment that stimulates the development of startup activities and facilitates the implementation of business operations.

Firstly, investment and funding opportunities are fundamental, as access to capital enables startups to grow and expand their operations (Tripathi et al., 2019). Without sufficient financial resources, it becomes difficult for startups to scale their activi-

ties. Equally important is the presence of supportive policies and regulations (Tripathi et al., 2019; Audretsch et al., 2020) to create a conducive environment by providing incentives, grants, and tax breaks (Oliinyk et al., 2019; Skawińska & Zalewski, 2020). Simplified and streamlined regulatory processes can significantly reduce administrative and bureaucratic hurdles for startups, thereby lowering barriers to entry and fostering a more conducive environment for innovation and entrepreneurial activities (Atherton, 2012). By minimizing cumbersome regulations and streamlining compliance procedures, policymakers can create an ecosystem that enables startups to focus their resources on developing and scaling their innovative solutions rather than navigating complex regulatory frameworks (Dove, 2023; Dzhamankulov et al., 2023). Policymakers must ensure that the regulatory environment still provides necessary protection and oversight to prevent potential misuse or unintended consequences that could undermine the stability and growth of the startup ecosystem. Governments can actively contribute to creating a thriving entrepreneurial ecosystem through well-designed policies and initiatives tailored to the unique needs of post-war regions (Lee, 2019; Saberi & Hamdan, 2019).

Moreover, access to mentorship and business development programs emerges as a critical component. Experienced mentors are pivotal in guid-

ing startups through challenges, offering the necessary response for making informed decisions (Al Falih, 2020; Geibel & Manickam, 2017). In addition to mentorship, fostering collaboration between industry and academia is crucial. By building partnerships between startups and educational institutions, knowledge transfer and research collaboration are promoted, which in turn drives innovation and boosts entrepreneurial success (Dorofeeva, 2021; Marcon et al., 2024; Löfsten et al., 2023).

Furthermore, infrastructure development cannot be overlooked. Reliable infrastructure, such as transportation networks, power supply, and communication systems, is essential for startups to operate efficiently and access broader markets (Hnatenko et al., 2020). Addressing political instability and fostering social cohesion are equally important in this context. Post-war environments are often marked by political uncertainty and social disruptions, both of which can impede entrepreneurial growth if not addressed properly (Marcon et al., 2024). While post-war environments are often marked by political uncertainty and social disruptions, these challenges can also present unique opportunities for entrepreneurial growth (Dutta et al., 2013; Polishchuk et al., 2024). When properly addressed, the inherent resilience and adaptability required in post-conflict settings can catalyze innovative entrepreneurship and startup development (Joseph et al., 2023). With the right support systems and policy frameworks in place, entrepreneurs in post-war regions can leverage these disruptions to identify novel solutions and capitalize on emerging market needs.

Providing individuals in post-war regions with access to quality education and comprehensive skill-building programs is essential for equipping them with the necessary knowledge, technical skills, and entrepreneurial mindset required for successful venture creation and growth (Biney, 2023; Tatpuje et al., 2022). These educational and training opportunities empower individuals to develop the critical thinking, problem-solving, and business management capabilities that are essential for navigating the challenges inherent in post-conflict entrepreneurship. By investing in human capital development, post-war countries can unlock the potential of their populations and

foster an environment that nurtures innovative startups and drives sustainable economic recovery (Deliana et al., 2019).

These issues need to be addressed to create stable and secure conditions for innovative entrepreneurship and startups. This requires a comprehensive approach that addresses the specific challenges startups face in such contexts.

There is, however, a lack of current studies on the activation of innovative entrepreneurship and startups in the post-war period in Ukraine. In particular, the factors of favorable conditions for startup development and the character of their effect on such conditions in the post-war period are not clear yet (Audretsch et al., 2023; Alekseieva et al., 2023; Fomishyna et al., 2023). The size of the country, its location, and the full-scale war make it complicated to reconstruct, and the challenge is that there is no experience in solving a problem on such a scale. The only experience of the large-scale post-war reconstruction of Europe after World War II does not consider modern conditions and rapid changes (Zablodska et al., 2022; Hryhorian, 2023).

The studies analyzed mainly focus on the factors affecting the development of innovative entrepreneurship and startups in conflict or post-conflict regions. However, the unique challenges and opportunities arising from the massive destruction and economic disruption caused by the all-out war in Ukraine have not yet been fully explored. Further research is needed to investigate how these conditions can be leveraged to create an environment conducive to entrepreneurial growth and economic recovery.

This study aims to determine the crucial factors that could create favorable conditions for innovative entrepreneurship and startups in Ukraine in the post-war period and identify their effect on such conditions.

2. METHODOLOGY

Guided by Gephart (2004) in the qualitative research approach, data were gathered through individual interviews with respondents from various

fields. These interviews aimed to gather inductive data regarding the conditions conducive to activating startups in post-war Ukraine and thoroughly describe phenomena within their specific contexts, aligning with Yin's (2009) approach to descriptive interviews. However, a notable drawback of individual interviews is their limitation in presenting diverse viewpoints and fostering multiple interactions.

Collecting primary data in a war-affected country like Ukraine presents significant challenges for researchers. However, the most reliable data were obtained from the respondents because they were actively engaged in these environments. Consequently, data collection was conducted during August and September 2023. Thus, 24 interviews were conducted with respondents to provide valuable insights into creating favorable conditions for innovative entrepreneurship and startups in post-war Ukraine (Table 1). The information in Appendix A, Table A1, provides an overview of the respondents.

Table 1. Socio-demographic profile of respondents

| Characteristics | Variable | (%) |
|---|--|------|
| Gender | Male | 67.0 |
| | Female | 33.0 |
| Age | Late 20s | 29.0 |
| | Early 30s | 4.0 |
| | Early 40s | 50.0 |
| | Early 50s | 17.0 |
| Professional background/ Occupation | Academics and researchers | 33.0 |
| | Entrepreneurs and startup founders | 42.0 |
| | Government and public sector | 8.0 |
| | Industry professionals and consultants | 17.0 |

A total of two interviews were conducted face-to-face, while the remaining 22 interviews were carried out online using Zoom software. The average duration of the interview is approximately 40 minutes. The respondent's group consisted of eight females and 16 males. The participants had a varied age distribution: seven were in their late 20s, 1 in their early 30s, 12 in their early 40s, and four in their early 50s. They were categorized into four main groups based on their professional backgrounds and current occupations. Academics and researchers comprised 33% of the participants, totaling eight interviewees. Entrepreneurs and

startup founders represented the largest group, accounting for 42% of the sample, with ten interviewees. Government and public sector representatives comprised 8% of the group, totaling two interviewees. Lastly, industry professionals and consultants constituted 17% of the sample, with four interviewees. As Appendix A, Table A2 indicates, a single interview guide was used to conduct individual interviews. Follow-up questions were employed to delve deeper into the conditions necessary for activating startup development. All interviews were voice-recorded and transcribed verbatim.

Data analysis was conducted using established qualitative data analysis techniques, specifically comparative thematic analysis, as Gioia et al. (2013) outlined. The Gioia method employs open and axial coding to identify, analyze, and report patterns within data.

To analyze the interview data, the Happy Scribe software was used to transcribe the audio recordings and manually code the data using Excel. A total of 1,000 minutes of interviews were transcribed using Happy Scribe, and subsequently, 212 key quotes were identified for detailed coding. The main selection criterion was the direct relevance of quotations to the core research question, focusing on factors that enable or constrain innovative entrepreneurship and startups in post-war Ukraine. Quotations with detailed insights, vivid examples, and comprehensive explanations were selected based on their information-rich nature.

Initially, key quotes were analyzed and coded into first-order codes, summarizing responses regarding favorable conditions for startup development in post-war Ukraine. To reduce interpretations or personal assessments, first-order coding was conducted following the principles of open coding, which emphasizes the vocabulary and terminology utilized by the respondent. For instance, the quotation, "universities are very important because universities have a continuous inflow and outflow of innovative values" was coded as "universities create innovative values." This initial step resulted in the generation of 397 codes. The stages of qualitative analysis in the research are illustrated in Figure 1.

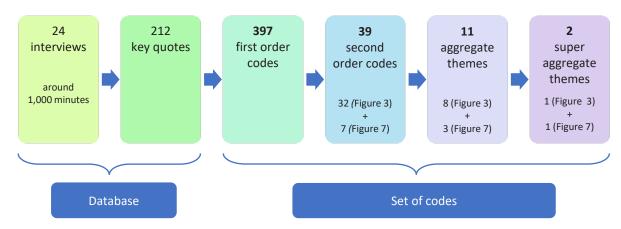


Figure 1. Stages of qualitative analysis of the research

Second, the repeating first-order codes across the groups were organized into second-order codes (factors) using axial coding, focusing on repetition and commonalities. This led to the development of the eight aggregate themes representing the constraining conditions (the consequences of war, policy and regulatory system, market and investment, the ecosystem, passive universities, education and skills, internationalization, and culture) and the three aggregate themes of enabling conditions for activating innovative entrepreneurship (the consequences of war, active universities, and the ecosystem) (Figures 3 and 7).

3. RESULTS AND DISCUSSION

The qualitative analysis clearly identified key factors that create favorable conditions for developing innovative activities and startups in post-war Ukraine. Based on the qualitative interviews, the research findings highlight two super aggregate themes in creating favorable conditions for innovative entrepreneurship. First, the respondents identified the aggregate themes that constrain startup activation (Figure 3), such as the consequences of war, policy and regulatory system, market and investment, the ecosystem, passive universities, education and skills, internationalization, and culture. Second, some aggregate themes emerged that enabled their activation even during wartime (Figure 7), which include the consequences of war, active universities, and the ecosystem. Each of these aggregate themes consists of factors (second-order codes), which detail and explain their essence based on data from the respondents' interviews. It was found that the most

significant restraining factor is the policy and regulatory system. All experts highlighted that a key priority for the state should be developing a comprehensive strategy to foster and support startups and innovative entrepreneurship in Ukraine. In addition to war and military threats, there was the need for access to and availability of financial resources to introduce the development of the environment for startups, financing different stages of startups, and supporting initiatives to activate innovative entrepreneurship. The qualitative research process revealed that universities play a crucial role as stakeholders in the startup ecosystem. They have the potential to act as a bridge between businesses and students who aspire to start their own ventures and test innovative ideas.

The qualitative analysis results show that the fullscale war and its consequences have severely impacted startups and innovative entrepreneurship in Ukraine. This constraining aggregate theme includes several key factors. The most significant is personnel outflow due to migration, or brain drain, which accounts for 40.63% of the overall factor structure. This is followed by the loss of human capital during hostilities, representing 21.88% (Figure 2). Speaker 4 argues, "History shows that when a country, any country, faces a military event in connection with a war, it, first of all, leads to the loss of the so-called golden generation, when the most productive labor force goes forward to the front lines to defend their country." The difficulty in finding qualified specialists due to population migration, with approximately 4.5 million of the working population abroad, is a significant challenge, as 26% of startups cite personnel leakage as a major issue stemming from migration due to a

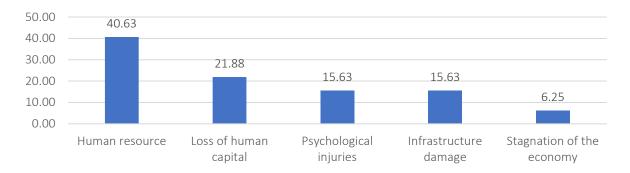


Figure 2. Constraining factors that are included in the consequences of war, %

war in Ukraine (UNHCR, 2023). Hausmann and Nedelkoska (2018) and Pozniak (2023) assert that the war has led to a major brain drain in Ukraine.

All respondents indicated that the infrastructure has experienced significant damage. Reliable transportation networks, power supply, and communication systems support startups' efficient operation and effective market access (Ven, 2015; Bandura et al., 2022; Zhuvahina, 2022). The Rapid Damage and Needs Assessment, released by the World Bank (2023), estimates that the cost of reconstruction and recovery will reach \$486 billion over the next decade. Additionally, the war caused significant economic stagnation due to business uncertainty and dangers. Speaker 20 argues, "Therefore, the war directly affects this state and the context of predictability, and its predictability affects the economic activity of the population as well." Another important factor is the psychological injuries (15.63%) experienced by the population in the post-war period. Establishing a clear plan of action and support systems is essential to help military personnel transition to civilian life (Ayissi, 2020; Uehling, 2019). This includes opportunities to become employees or encourage them to start their businesses.

Ukraine's policy and regulatory system are significant constraints on the development of startups and innovative entrepreneurship, both now and in the post-war period, accounting for 32.55% of all factor influences. The frequency of word repetitions and mentions of specific elements was analyzed to identify the most important components of favorable conditions perceived by respondents (Figure 4). The war's impact was excluded from the analysis when evaluating each factor's weight. This is because it is an exogenous

factor that is difficult to predict and regulate. Its influence is substantial, and it received the highest number of mentions across all interviews, which could skew the overall results. Experts consistently cited it as a catastrophic factor, emphasizing that ensuring peace and security for the country, its population, and entrepreneurs is a critical priority.

The challenges posed by an underdeveloped ecosystem (15.10%) significantly hinder the growth of startups, nearly on par with issues related to the market situation and the state of investments (14.77%). Additionally, there is a notable gap in education and skills among aspiring entrepreneurs who wish to establish innovative businesses, carrying a weight of 14.09%. It is particularly interesting to highlight the important role of passive universities in promoting innovative entrepreneurship, which contributes 13.9% to the overall factor structure. The remaining two factors, internationalization and culture, each account for approximately 5%.

A detailed explanation of the factors that serve as components of the aggregated themes identified through the qualitative analysis was provided. Thus, several issues are included in 4re they want to go to, but they should not be involved in the implementation too much." Respondents highlighted two crucial elements when developing a strategy: the involvement of all market stakeholders in the creation of the document and thorough discussion of its contents. Additionally, they emphasized the importance of establishing financial support to implement the strategy. Without adequate financial backing, the implementation of any initiatives or plans would not be feasible, as noted by the respondents during the interview.

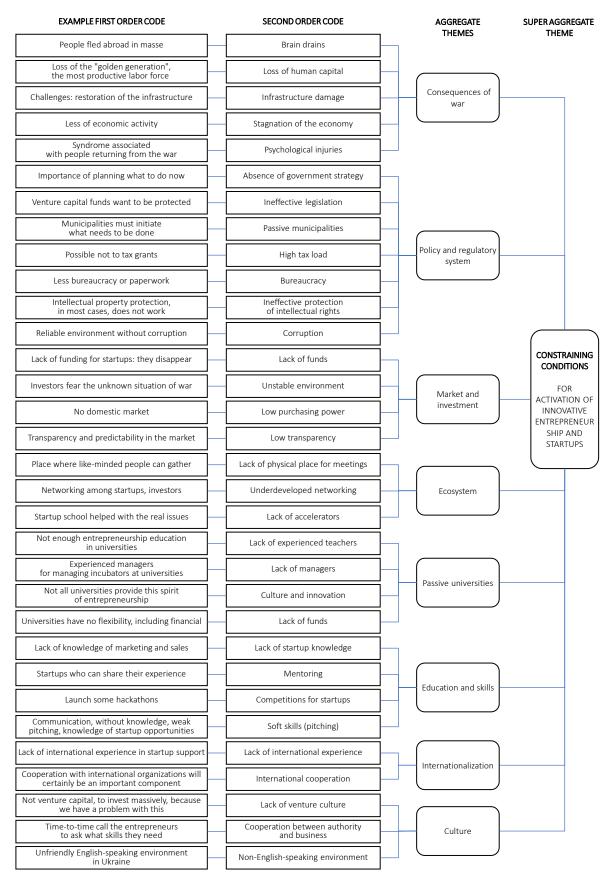


Figure 3. Constraining conditions for activation of innovative entrepreneurship and startups in post-war Ukraine

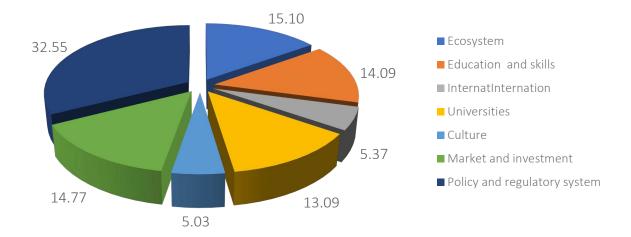


Figure 4. Aggregate themes that are included in the constraining conditions for activation of innovative entrepreneurship and startups, %

Furthermore, the legislative framework, accounting for 23.71%, adds complexity to the startup landscape, according to qualitative analysis. The complexity of business registration, particularly for foreign citizens, alongside a high level of state intervention, frequent inspections, and inconsistent legislative norms, significantly hinder startup operations (Doruk & Söylemezoğlu, 2014). An ongoing factor noted by respondents is the passive role of municipalities (16.49%), which further weakens the regulatory environment. There is a lack of active communication and understanding of the specific challenges faced by young entrepreneurs and startups, as Speaker 14 mentioned. Startup founders have emphasized the importance of promoting and sharing information about their projects. They also seek support in building networks and integrating into the business community within their region. Additionally, the significant tax load, which stands at 12.37%, greatly affects the conditions for founding startups compared to other factors. It includes the taxation of grant funds, complicates financial management, and deters startup development. Coupled with this is the pervasive issue of bureaucracy (4.12%). The substantial administrative burden, characterized by excessive accounting documents, duplicated permit requirements, and the necessity for personal involvement in bureaucratic processes, inhibits startup activities and stifles innovation (Mitchell & Koopman, 2014). In the words of Speaker 16, "... so first they should create a very friendly environment framework which is regulatory framework should be very easy for any start upholder or idea holder to open their startup without going through bureaucracy or paperwork."

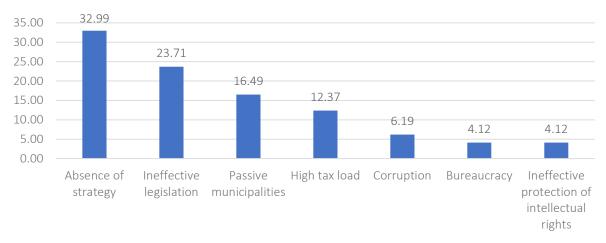


Figure 5. Constraining factors that are included in the aggregate theme "policy and regulatory system", %

Another critical challenge is the ineffective protection of intellectual property rights. Often based on innovative ideas and technologies, startups are particularly vulnerable to intellectual property theft. The lack of strong legal protections and the complicated, lengthy processes to register patents and other intellectual rights increase the insecurity startups face in post-war Ukraine. Finally, corruption remains a profound barrier to developing a transparent and favorable environment for startups. Speaker 1 argues that "It is important that there should create a reliable environment. There should not be cheating, there should not be corruption, and that is very important." Therefore, this lack of trust not only hampers the growth of domestic startups but also drives Ukrainian entrepreneurs to seek better conditions abroad.

The Ukrainian market and investment, which constitutes 14.77% of the factors in Figure 4, presents several significant challenges for startups and innovative entrepreneurship. These challenges particularly include issues related to the lack of funds, unstable environment, low purchasing power, and low market transparency (Figure 3). These challenges, identified by respondents, are especially pronounced during the ongoing wartime conditions in Ukraine. The results of the qualitative analysis demonstrate that one of the most pressing issues is the substantial lack of funding available for startup projects at various stages of development. For example, Speaker 5 emphasizes that "Now there is a problem with the fact that startups are born, they make prototypes, and then, due to lack of funding, they disappear." Given the highrisk nature of startup activity, with a considerable chance of failure and loss of investment, securing funds becomes even more challenging, particularly in the volatile environment of wartime Ukraine. In scientific literature, this factor is also described as one of the most important for the development of innovative entrepreneurship. For instance, Tripathi et al. (2019) and Skawińska and Zalewski (2020) argue that the scarcity of financial resources makes it exceedingly difficult for entrepreneurs to develop ideas, create prototypes, and scale their businesses in the market.

The instability of the market environment further exacerbates these challenges. The ongoing military threat significantly complicates long-term forecasting and adds numerous risks to the market conditions. These risks include business relocation, increased competition, and uncertainty in the viability of startup projects. In addition to the unstable environment, low purchasing power among the population poses another substantial hurdle for startups. The full-scale war and resulting population migration have severely impacted consumer demand. Many startups struggle to find customers, with 47% of startup projects reporting a lack of orders due to wartime market restrictions (Gradus Research Company, 2023). Decreased household incomes have shifted consumer priorities toward essential needs, leaving less disposable income for innovative products and services. This shift further constrains the market opportunities available to startups. Moreover, the low transparency of the Ukrainian market presents significant barriers to startup activities. According to Speaker 6, "As soon as these rules of the game appear, Ukrainian accelerators and funds will come here and begin to appear, foreign accelerators and funds will begin to enter because they are interested in this market."

Another constraining aggregate theme, with a specific weight of 15.10%, is that the Ukrainian startup ecosystem faces significant challenges due to its underdeveloped, primarily localized, and regional nature rather than being cohesive at the national level. The lack of development in the ecosystem can be added to the lack of physical meeting spaces. In Ukraine, there is a noticeable shortage of places where entrepreneurs can meet in person to discuss ideas, exchange knowledge, and collaborate on innovative solutions. Startup founders noted that the scarcity of physical spaces hampers the development of startups, limiting opportunities for technology transfer and stifling the generation and implementation of creative solutions. Without these vital spaces for interaction, the flow of ideas and the collaboration necessary for startup growth are significantly restricted. Another critical challenge is the underdeveloped networking within the Ukrainian startup ecosystem. Effective networking is essential for the growth of startups, as it facilitates collaboration, knowledge sharing, and access to valuable resources (Marcon et al., 2024). As Speaker 4 suggested, "The most important thing to do here is to keep people in the same territory as long as possible. The most important

thing is that people work with each other, drink coffee and beer, eat, and thus transfer knowledge." Thus, the absence of robust networking opportunities makes it difficult for startups to address existing problems, find the necessary specialists, and build the connections essential for their success. Furthermore, the shortage of accelerators in Ukraine presents a significant barrier to the development of startups. In the study, respondents argue that accelerators play a crucial role in providing professional support and investment opportunities, which are essential for establishing, operating, and scaling startup projects. The insufficient number of accelerators means that many startups lack access to the guidance and resources they need to navigate the complexities of launching and growing a business (Löfsten et al., 2023). As a result, many startups seek out acceleration programs in Europe or the USA, where larger accelerators provide the necessary support to help them scale and grow their businesses effectively.

Continuing with the discussion about the ecosystem and its participants, the research findings show that universities (13.09%) should become a strong bridge between state authorities, regional authorities, entrepreneurs, and young startups and serve as centers for training and development, are currently not fully fulfilling these functions (Dorofeeva, 2021).

The respondent's opinions were divided regarding the effectiveness of universities in Ukraine, with some identifying active universities performing well in this area, while the majority pointed out that most institutions are ineffective in stimulating startup development (Figure 6). In the qualitative analysis, only 25.64% of the mentions indicated that universities in Ukraine are active and effective in promoting the development of inno-

vative entrepreneurship and fostering an entrepreneurial culture among students. In contrast, 74.36% of the codes were linked to barriers that hinder universities' ability to effectively support the growth of startups and innovative entrepreneurship. Therefore, most respondents consider universities in Ukraine to face several significant challenges that limit their ability to support the development of entrepreneurial skills and innovation. These challenges include a lack of experienced teachers (15.38%), a lack of management (20.51%), a lack of entrepreneurial culture (23.08%), and a lack of funds (15.38%).

Respondents have mentioned that some universities lack experienced teachers with entrepreneurial experience or the necessary qualifications to provide high-quality entrepreneurship training. Without practical knowledge in this field, it becomes difficult to inspire and equip students with the skills required to pursue entrepreneurial ventures (Deliana et al., 2019). Both the literature and respondents support the idea that only individuals with firsthand entrepreneurship experience can effectively teach and mentor students in developing their entrepreneurial abilities, which is crucial for fostering innovation and startup activity in Ukraine. In addition to the shortage of qualified teachers, the lack of competent managers at universities poses another challenge. Weak management and unqualified administrators restrict the ability of universities to evolve in line with international standards. As Speaker 4 emphasized, "... the management in most universities is not capable. That is, if we are talking about a startup, then a unit must be created, which is recruited by employees who must understand their functional responsibilities and should be engaged in this." This lack of strong leadership diminishes the institutions' competitiveness on both the national and

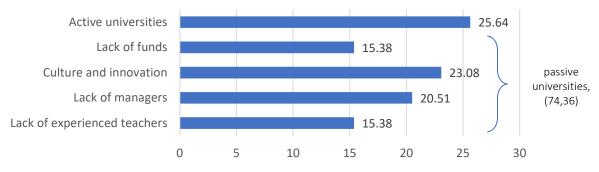


Figure 6. Passive and active universities in the conditions for startup development in Ukraine, %

global stages, further limiting their capacity to support startup culture and innovation.

Furthermore, the low entrepreneurial culture and innovation within universities create an unfavorable environment for generating new ideas. A weak culture of entrepreneurship reduces the opportunities for students to stay up to date with the latest technologies and innovations. Lastly, the lack of sufficient funding exacerbates these issues. Without adequate financial resources, universities cannot invest in laboratories, purchase essential equipment, or develop the necessary infrastructure to support the testing of innovative ideas and the creation of prototypes. This shortage of resources significantly hampers the ability of students and faculty to engage in hands-on, practical entrepreneurial activities, further limiting the potential for innovation (Biney, 2023). The respondents in their interviews, especially young startup founders, admitted that the development of startups in Ukraine is significantly hindered by a lack of education and essential skills, which leads to costly mistakes and inefficient use of resources. Startup founders often face challenges due to limited knowledge of running startups, a lack of mentoring support, limited startup competitions, and inadequate soft skills. Speaker 10 presents a crucial point: "I would say that what hurts me is the educational component. Training in the usual sense, which is typical of how to build a startup, but more in-depth. How to properly allocate finances, then the second aspect is signing contracts, maintaining documentation, maybe some basics of basic accounting." Having proper guidance and adequate helps startups in the early stage to overcome challenges more effectively and identify the optimal strategies for growth (Tatpuje et al., 2022).

It was determined that there is a lack of competition, events, and collaboration within the startup ecosystem in Ukraine. Speaker 9 says, "It is clear that it should be, first of all, financing of these very organizations that support and organize competitions for startups and courses." The lack of sufficient competition, conferences, and hackathons for startups limits product development, the exchange of information, and a disconnection from modern trends. In addition to these challenges, the development of soft skills, such as pitching and

negotiation, is often overlooked. Startups must be able to present their products confidently, conduct effective negotiations, and engage with stakeholders in a professional manner.

The next constraining aggregate theme is internationalization, which includes two factors: lack of international experience and international integration. Lack of international experience is a major barrier for Ukrainian companies and startups when entering global markets. Insufficient awareness of global practices, standards, and business models limits their ability to adapt to foreign requirements and approaches. This results in difficulties in understanding the needs of international consumers, choosing the right tools for effective market entry, and avoiding potential mistakes that could reduce risks and improve competitiveness. Based on the qualitative analysis, explaining the constraining factor of international integration highlights the lack of full transparency in the Ukrainian business environment and a reputation as an unreliable partner on the international stage, which complicates Ukraine's integration into the global economy. Ukraine's startup ecosystem suffers from insufficient openness and transparency, reducing the country's credibility as a reliable partner in the global market (Tomaschuk, 2022). This creates barriers to attracting foreign investments, establishing partnerships, and securing financial and technical assistance. Moreover, what has emerged from the interviews is that respondents have a lack of international experience and limited exposure to effective international tools and models, significantly hindering progress. From the research, of all 24 respondents, only six respondents named countries whose experience can be adapted to Ukrainian realities. Furthermore, only two respondents gave partial examples that would be interesting to use for Ukraine. Without building a reputation as a trustworthy partner, Ukrainian startups face diminished opportunities for securing the external resources necessary to activate and scale their operations. The prevalence of corruption undermines confidence in the Ukrainian market among international investors and partners (Lecuna et al., 2020).

Finally, the last constraining aggregate theme is culture. Several key factors contribute to this cultural stagnation, including the lack of a venture

capital investment culture, insufficient cooperation between the government and businesses, and the absence of an English-speaking environment. For example, Speaker 2 explains, "It seems to become clear that it is necessary to move abroad because there is no investor; they do not give money. But I think that a significant part of our problems, if we put aside all the judicial problems, then it is a problem of culture and a problem of the market." Therefore, the lack of a venture capital culture is an obstacle. In Ukraine, young entrepreneurs often face significant hurdles due to the lack of funding from venture capitalists, which limits their ability to grow and scale innovative ideas. Another issue is the insufficient cooperation between local government institutions and businesses. In successful ecosystems, cooperation between government municipalities, local institutions, and private enterprises plays a key role in supporting startup activities (Ven, 2015). Additionally, the lack of English language skills complicates negotiations and limits the ability of Ukrainian startups to engage with global partners. Furthermore, the absence of an Englishspeaking environment makes it difficult for foreign respondents or specialists to participate in the development of projects, further isolating Ukrainian startups from the international market.

In summary, respondents identified these factors as significantly hindering the activation and growth of innovative entrepreneurship and startups in post-war Ukraine.

Having concluded the analysis of constraining conditions, the enabling conditions that already support the activation of startups in postwar Ukraine based on the qualitative research should be present. These enabling factors can be categorized into three aggregate themes: the consequences of war, the active universities, and the current startup ecosystem (Figure 7).

While the war has undoubtedly posed numerous challenges, it has also opened avenues for significant reforms and the development of new markets. According to the Gradus Research Company (2023), 18% of surveyed startups in Ukraine began their activities after the onset of the full-scale war. This demonstrates that startups are more adaptable and resilient, as they can swiftly adjust to changing circumstances and new conditions. The war has, therefore, provided a chance for reforms, driving Ukraine toward global changes aligned with European values. In addition, the consequences of war have led to new market opportunities, particularly in security and military technology fields. As new security challenges arise, startups are well-positioned to develop and test innovative prototypes in real-world conditions, opening up avenues for businesses to reorient their activities. In Ukraine, the war has prompted entrepreneurs to engage in innovative thinking, resulting in the development of new military and health technologies and solutions that could potentially transform the startup landscape.

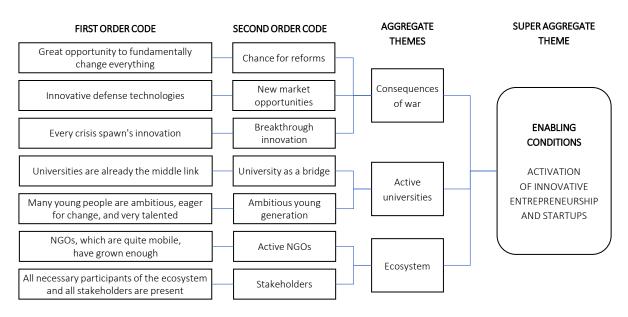


Figure 7. Enabling conditions of innovative entrepreneurship and startups in post-war Ukraine

Another enabling aggregate theme for startup activation in post-war Ukraine is the role of active universities. The respondents identified several universities, both private and state-run, as key players in bridging the gap between the business sector and students. These institutions offer startup schools to train young entrepreneurs and act as a vital connection point for fostering collaboration between students and the business community. A notable factor contributing to the success of these universities is the ambition and energy of the younger generation.

The third enabling aggregate theme is the presence of essential elements within Ukraine's startup ecosystem. Components such as training courses, startup schools, and acceleration programs are already established, providing a solid foundation for startup success. However, despite the existence of these components, the ecosystem is not yet fully developed or large enough to support the implementation of large-scale, breakthrough projects and research. Speaker 11 claims, "The Ukrainian ecosystem can be compared to soil that has the basic components needed for plants to grow, but it is too thin to support large and well-developed plants."

Additionally, active NGOs in Ukraine significantly contribute to the ecosystem's development by attracting international investments for educational and practical startup programs. Subsequently, the respondents identified these factors as potential opportunities and favorable conditions already existing in Ukraine for the development of startups.

While this study targets the Ukraine experience, a possible question for future researchers could be how to replicate this study in other post-conflict and transition economies, including Eastern Europe. Moreover, future studies should incorporate quantitative methods, such as large-scale surveys and statistical analyses, to complement the qualitative findings to validate the insights and provide a more comprehensive understanding of the startup ecosystem. Accordingly, future researchers are suggested to take the findings as a possible point for departure by extending insights into new territories and exploring the longterm impacts of the proposed recommendations. Future research should investigate the specific factors that help startups and innovative entrepreneurs overcome challenges during wartime, thereby enhancing their resilience.

CONCLUSION

The study aimed to determine the factors necessary for creating favorable conditions for activating innovative entrepreneurship and startups in post-war Ukraine and to analyze their potential effects on the country's economic recovery.

Ukrainian startups' key challenges include the consequences of war, an ineffective policy and regulatory system (32.55%), underdeveloped markets and lack of investments, passive universities, inadequate skills development and education, a lack of internationalization, and cultural barriers. Among these, the absence of a comprehensive national strategy and bureaucracy, corruption, lack of funds and brain drain emerged as critical obstacles. Therefore, addressing these issues through a well-designed national strategy is essential. Despite these challenges, on the positive side, enabling factors such as active universities, training programs, acceleration initiatives, and new market opportunities in military technology, healthcare, and infrastructure demonstrate significant potential for innovation and growth in these sectors.

The strength of this study lies in its detailed analysis of both the barriers and enablers for innovative entrepreneurship in a post-war context. The findings suggest that (1) developing a clear and inclusive government strategy, including addressing regulatory challenges and streamlining bureaucratic processes, (2) addressing funding and brain drain, and (3) leveraging the potential of universities and local ecosystems are pivotal for fostering innovative entrepreneurship.

Future research should focus on quantitatively evaluating the resilience of Ukrainian startups and the effectiveness of proposed strategies and exploring how these findings could be applied to other post-conflict regions. Understanding the long-term impacts of enabling conditions will provide valuable insights into building sustainable ecosystems that support innovation, economic recovery, and regional stability. These findings offer practical guidance for policymakers shaping Ukraine's post-war rebuilding strategies and contribute to the broader understanding of fostering innovative entrepreneurship in challenging environments.

AUTHOR CONTRIBUTIONS

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Data curation: Oksana Khymych. Formal analysis: Oksana Khymych.

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APPENDIX A

Table A1. An overview of the respondents

| Current Professional Position | Group | |
|--|--|--|
| Full Professor | Academics and Researchers | |
| Startup co-founder | Entrepreneurs and Startup Founders | |
| Head of the Department, Full Professor | Academics and Researchers | |
| Head of the Department, Full Professor | Academics and Researchers | |
| Full Professor | Academics and Researchers | |
| Head of the project of young scientists | Academics and Researchers | |
| Full Professor | Academics and Researchers | |
| Entrepreneur and founder of an IT company, startup mentor, and respondent in business process optimization | Industry Professionals and Consultants | |
| Managing Partner at Angel One Fund, CEO at CfE: Center for Entrepreneurship | Entrepreneurs and Startup Founders | |
| Chief Innovation Officer, Head of Committee, The Respondent Committee on the Development of AI | Industry Professionals and Consultants | |
| Businesswoman, ex-head of the Department | Academics and Researchers | |
| Founder and owner of a shop selling women's clothes | Entrepreneurs and Startup Founders | |
| Co-founder and co-owner of a startup in the field of bicycle | Entrepreneurs and Startup Founders | |
| Co-founder and co-owner of a startup in the field of countering Russian disinformation | Entrepreneurs and Startup Founders | |
| Co-founder and co-owner of a startup in the field of digitalization of cultural heritage | Entrepreneurs and Startup Founders | |
| Co-founder and co-owner of a startup in the field of smart cat collar | Entrepreneurs and Startup Founders | |
| Head of the IT Department of the Student Government | Industry Professionals and Consultants | |
| Head of the Regional Development Department | Government and Public Sector Representatives | |
| National Academy of Sciences of Ukraine | Academics and Researchers | |
| Founder and owner of a company for entrepreneurship education support | Entrepreneurs and Startup Founders | |
| Founder of NGOs | Industry Professionals and Consultants | |
| Civil servant, Regional Development Agency | Government and Public Sector Representatives | |
| Startup co-founder "StepShot", PhD in Informational Technologies | Entrepreneurs and Startup Founders | |
| Co-founder and co-owner of a startup at the intersection of Web3 and AI | Entrepreneurs and Startup Founders | |

Table A2. Interview guide for the research

| Туре | Question Guide for the individual interviews with the respondents |
|--|---|
| Main question | How can we create favorable conditions for activating innovative entrepreneurship and startups in Ukraine's post-war period? |
| Depending on how the interview developed, possible follow-up questions were asked – if relevant and/or necessary | What specific challenges do you think Ukraine will face in the post-war period to boost startups? And how will these challenges differ from the usual peaceful environment? |
| | Considering your research, what industries or sectors would you see as having the most promising potential for startup growth in the post-war period in Ukraine? |
| | The next question is, based on your opinions, what are the main components of a favorable environment that Ukraine should focus on for the development of startups? |
| | Which market participants and institutions have the greatest influence on forming a favorable environment? |
| | What tools would the government use most effectively to create a favorable environment? |
| | Actions of foreign governments in promoting the development of startups – Have you encountered anything like this? |
| | How do you assess the state, its role, and the state's priority actions? |
| | What is the role of local authorities, what tools can they use, or how can they influence the environment to strengthen and boost startup activity? |
| | Can you emphasize or mention some successful ecosystems or international experiences that create a favorable environment for startups? |
| | Can a university become a bridge between young people and ideas, to guide what to do or where to go? |