“The relevance of social and environmental commitments for entrepreneurs during wartime: Evidence from GEM Ukraine data”

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THE RELEVANCE OF SOCIAL AND ENVIRONMENTAL COMMITMENTS FOR ENTREPRENEURS DURING WARTIME: EVIDENCE FROM GEM UKRAINE DATA

Abstract

This study examines Ukrainian entrepreneurs' commitment to social and environmental sustainability during the ongoing war and how their actions align with the United Nations Sustainable Development Goals (SDGs). It assesses the impact of economic, social, and infrastructural challenges on sustainability practices during the war, emphasizing the relationship between crisis management and long-term sustainability strategies. The study is based on the Global Entrepreneurship Monitor (GEM) Adult Population Survey (APS) 2023 in Ukraine. This dataset was collected as part of the GEM Ukraine project and reflects the authors' contributions and leadership role in the initiative. Importantly, these results were not included in the GEM Global Report or other publications, which emphasizes the originality and importance of this study. A regression model examines the relationship between the Index of War Impact (IWI) and corporate attitudes toward sustainability, focusing on social and environmental contributions, awareness of the SDGs, and the visibility of socially oriented companies. The results show that economic hardships significantly drive entrepreneurs to prioritize sustainability efforts, while awareness of the SDGs plays a central role in decision-making. In contrast, the social and infrastructural impacts of war have no significant influence on contributions to sustainability. Entrepreneurs in economically challenged regions show a stronger alignment with sustainability goals, indicating adaptive strategies under crisis conditions. This study provides valuable insights for policymakers and stakeholders to promote resilient and sustainable entrepreneurship in war-affected areas. It contributes to the academic discussion on entrepreneurship, sustainability, and resilience in times of crisis.

Keywords entrepreneurship, sustainability, war impact, social responsibility, resilience, Ukraine, environmental commitment

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INTRODUCTION

The ongoing war and political instability in Ukraine create a unique environment to examine the dynamics of entrepreneurship, particularly its social and environmental sustainability. Conflict brings both constraints and opportunities, forcing businesses to adapt their role in society by fostering resilience and innovation (Phillips et al., 2015). In this challenging context, entrepreneurs are driven to sustain their economic activities and contribute positively to the well-being of the community and the environment. This dual focus is critical as it strengthens community resilience and supports both immediate social needs and broader environmental goals.

The relevance of social and environmental priorities becomes increasingly significant in war-affected areas, where entrepreneurs who emphasize sustainability can drive meaningful change. This commitment

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aligns with the United Nations Sustainable Development Goals (SDGs), providing a global framework for addressing complex social and environmental issues amid crises (Rashed & Shah, 2021). In Ukraine, adhering to these goals during war supports immediate community resilience and lays the groundwork for an inclusive and sustainable post-conflict economic recovery.

Entrepreneurial efforts focused on social innovation also offer valuable solutions to the acute challenges posed by war. In this setting, Ukrainian entrepreneurs who prioritize social and environmental issues can foster innovation that addresses unmet needs more effectively than traditional models. This socially driven approach to entrepreneurship is critical in a war context, where resilience is essential for overcoming broader economic disruptions (Phillips et al., 2015). Thus, entrepreneurs in Ukraine play a pivotal role not only in sustaining their own businesses but in reinforcing social stability and environmental commitment.

However, the urgency of survival in times of war can often shift focus away from sustainability, prioritizing immediate needs such as food, shelter, and security over long-term commitments to social and environmental goals (Brück et al., 2016). This tension underscores the complex relationship between conflict and sustainability, as the demands of a crisis can overshadow efforts toward sustainable development. Political instability and infrastructure disruptions also exacerbate this shift, compelling businesses to prioritize profitability and immediate operational needs, making alignment with SDGs challenging (Bruch et al., 2016; Mills & Fan, 2006).

1. LITERATURE REVIEW AND HYPOTHESES

Numerous studies on entrepreneurship, sustainability, and resilience, particularly in economic or geopolitical turmoil contexts, provide a foundation for understanding the role of entrepreneurs' commitment to social and environmental sustainability under external shocks. Broadly, this framework encompasses two main streams: (1) strategic resilience and crisis management and (2) social and environmental focus as a source of resilience.

Strategic resilience and crisis management emphasize prioritizing immediate survival needs in times of disruption. According to this perspective, organizations concentrate resources on essential functions to navigate turbulent conditions effectively (Bartlett III & Morse, 2020; Lee et al., 2024). Beekman (2023) suggests that during crises, firms often adopt "survival mode," focusing on short-term strategies to maintain stability and continuity. This prioritization is aligned with organizational slack theory, which suggests that firms intentionally hold surplus resources as a buffer against uncertainties (Olszewski, 2022). During crises, these resources are often allocated toward protecting core operations, sometimes at the expense of non-essential activities like social and environmental initiatives (Salunkhe et al., 2023). Furthermore, firms facing external shocks frequently deprioritize long-term strategic goals, including sustainability, in favor of immediate operational demands (Bhattacharyya & Thakre, 2021). For example, Miklian and Hoelscher (2022) found that during crises, companies often scale back sustainability practices to address economic or resource-related challenges.

The second literature stream, focusing on social and environmental considerations as a source of resilience, supports an evolutionary shift toward a socially and ecologically conscious entrepreneurial model. These theories suggest that society naturally progresses toward prioritizing social and environmental concerns over time. Central to this view is the integration of sustainability principles into business, as exemplified by the Triple Bottom Line (TBL) framework introduced by Elkington (1994), which evaluates success across financial, social, and environmental dimensions (R. M. Zaharia & R. Zaharia, 2021). Research in business and social entrepreneurship reinforces this approach (Haldar, 2019; Lim, 2022). Additionally, corporate social responsibility (CSR) has gained prominence, advocating for corporate accountability in social and environmental impacts. CSR posits that firms have

an ethical duty to contribute positively to society and the environment, guided by evolving societal expectations and ethical norms (Ali et al., 2021; Moneva-Abadía et al., 2019).

Additionally, institutional theory suggests that social norms and values shape organizations' approaches to social and environmental issues (Risi et al., 2023). As societal values evolve toward sustainability, organizations are under increasing pressure to adopt socially responsible practices, which can enhance their legitimacy and competitiveness (Martin-de Castro, 2021). Furthermore, the alignment of companies with the United Nations Sustainable Development Goals (SDGs) provides a global benchmark for addressing social and environmental challenges, encouraging corporate commitment to sustainability (Zimon et al., 2020). Research on integrating the SDGs into business practices highlights how entrepreneurs can contribute to global sustainability. Lastly, other theories propose that addressing social and environmental issues can be a source of resilience, helping companies to adapt and even flourish under adverse circumstances. CSR literature, for instance, suggests that firms committed to social and environmental goals build stronger stakeholder relationships, improve employee morale, and attract ethically minded consumers (Taghian et al., 2015).

In crises, such as conflict or economic instability, organizations' resilience may hinge on their ability to address social and environmental issues. Hepfer and Lawrence (2022) underscore the role of organizational flexibility and innovation in turbulent conditions. Similarly, Camillus et al. (2020) suggest that social innovation enables organizations to tackle societal challenges effectively during disruptions. Such resilience and adaptive strategies are vital for both economic recovery and long-term sustainability, providing insights into how to navigate and succeed amid adversity (Nautiyal & Pathak, 2024).

Thus, current literature broadly covers two perspectives: prioritizing survival during crises and leveraging social/environmental focus as a resilience strategy. However, there is limited understanding of how entrepreneurs in ongoing, high-risk environments, such as wartime Ukraine, balance immediate survival needs with long-term commitments to sustainability principles. Furthermore, while concepts like the Triple Bottom Line (TBL), corporate social responsibility (CSR), and institutional theory outline frameworks for sustainable entrepreneurship, they do not fully address the complex dynamics of how these frameworks apply when resources are severely constrained and survival is at stake. There is also a need for context-specific insights into how Ukrainian entrepreneurs align with global goals, such as the UN Sustainable Development Goals (SDGs), in the face of extreme adversity.

This study aims to fill the gap by exploring how Ukrainian entrepreneurs maintain social and environmental commitments under extreme pressures, providing insight into resilience in prolonged conflict. By examining their strategies and motivations, the paper situates Ukrainian entrepreneurs within a dynamic framework of resilience, sustainability, and alignment with global goals, enhancing the understanding of how external shocks impact their commitment to sustainable practices.

Building on prior research findings, the following hypotheses are proposed to examine the impact of war on social and environmental entrepreneurial attitudes:

H1: The intensity of war-related external shocks negatively impacts entrepreneurs' attitudes toward social and environmental contributions.

H2: Awareness of the United Nations Sustainable Development Goals (SDGs) positively influences entrepreneurs' attitudes toward social and environmental contributions during wartime.

2. METHOD

A conceptual framework based on institutional theory is elaborated to examine the impact of war on the social and environmental contribution of entrepreneurs. This approach suggests that broader societal constraints, such as the challenges of war, influence entrepreneurial behavior, particularly concerning social and environmental sustainability. The model integrates several indices,

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including the Index of War Impact (IWI), which quantifies the impact of war on economic, social, and infrastructural dimensions, as well as measures such as the SDG Awareness Index and the Enterprise Social Visibility Index to capture the sustainability attitudes of entrepreneurs.

Based on the literature review, institutional theory seems to be well-suited for this investigation. Institutional theory assumes that organizational behavior is influenced by broader societal norms, values, and expectations, which often include commitments to social and environmental responsibility (Nogueira et al., 2023). This means that entrepreneurs may adapt their social and environmental contributions in response to the increased societal challenges of war as they seek legitimacy and community support.

To model the impact of war on entrepreneurial commitment to social and environmental goals, a composite Index of War Impact (IWI) is defined, and its relationship to entrepreneurs' social and environmental attitudes is examined. This approach quantifies how external shocks affect entrepreneurs' sustainability commitment in a structured, measurable way.

The Index of War Impact (IWI) is a composite index that combines the economic, social, and infrastructural impacts of war. Each sub-index (economic impact sub-index *EIS*, social impact sub-index *SIS*, and infrastructural impact sub-index *IIS*) is weighted to reflect its relative importance.

$$IWI_i = w_E \cdot EIS_i + w_S \cdot SIS_i + w_I \cdot IIS_i, \quad (1)$$

where w_E, w_S, w_I are the weights assigned to the economic, social, and infrastructural impact subindexes in the region *i*, respectively. EIS_i, SIS_i and IIS_i are the normalized values of the respective subindexes in the region *i*.

For variables related to social and environmental contributions, the SDG Awareness Index, and the Enterprise Social Visibility Index, the GEM methodology is suitable due to its recent inclusion of questions on entrepreneurs' integration of social and environmental considerations and SDG awareness into business decisions (Roomi et al., 2021). GEM's globally recognized framework (Fernández-Laviada et al., 2020; Hil et al., 2024) provides a structured approach to assess Ukrainian entrepreneurs' social and environmental commitments during wartime. By using GEM-specific questions on social and environmental engagement, the paper aligns with international standards, allowing for comparative analysis and a deeper contextual understanding of how Ukrainian entrepreneurs address sustainability challenges in line with the United Nations Sustainable Development Goals (SDGs).

Let *SEA* be a measure of the social and environmental contribution attitude of entrepreneurs:

$$SEA_i = \beta_S \cdot SCA_i + \beta_E \cdot ECA_i + \beta_{PR} \cdot PROF_i, \quad (2)$$

where β_S and β_E are the weights assigned to the social contribution attitude and environmental contribution attitude subindexes in the region *i*, respectively. SCA_i and ECA_i are the normalized values of the respective subindexes in the region *i*. $PROF_i$ is share of entrepreneurs who prioritize social and/or environmental impact of their businesses above profitability or growth.

The SDG Awareness Index (SDGAI) measures the proportion of early stage entrepreneurs in each region who are aware of the 17 United Nations Sustainable Development Goals (SDGs).

$$SDGAI_i = \frac{\sum_{i=1}^{n_i} SDG_i}{n_i}, \quad (3)$$

where $SDGAI_i$ is the SDG Awareness Index for region *i*, SDG_i is a binary variable indicating whether entrepreneur in region *i* is aware of the SDGs (1 if aware, 0 if not aware). n_i is the total number of respondents who are conduct entrepreneurial activity at early stage in region *i*.

Enterprise Social Visibility Index (ESVI) measures the proportion of respondents in each region who agree that they often see businesses primarily aiming to solve social problems.

$$ESVI_i = \frac{\sum_{i=1}^{n_i} SEV_i}{n_i}, \quad (4)$$

where $ESVI_i$ is the Enterprise Social Visibility Index for region i, SEV_i is a binary variable indi-

cating whether respondent in region i agrees that businesses primarily aiming to solve social problems are often seen (1 if agree, 0 if disagree). n_i is the total number of respondents in region i.

To empirically analyze the impact of war on the social and environmental contributions of early-stage entrepreneurs, the following regression model is constructed:

$$SEA_i = \alpha + \beta_1 \cdot IWI_i + \beta_2 \cdot SDGAI_i + \beta_3 \cdot ESVI_i + \varepsilon, \quad (5)$$

where SEA_i represents the social and environmental contribution attitude of entrepreneur in region i, IWI_i is a composite index that combines the effects of economic, social, and infrastructural impacts of war, $SDGAI_i$ denotes the SDG Awareness Index for region i, $ESVI_i$ is the Enterprise Social Visibility Index for region i, α is the intercept term, $\beta_1, \beta_2, \beta_3$ are the coefficients to be estimated, representing the effect of each independent variable on the social and environmental contribution attitude, ε is the error term capturing unobserved factors affecting SEA_i.

The GEM APS data were further complemented by information from the State Statistics Office of Ukraine and the International Organization for Migration (IOM, 2023), which were used to calculate the Index of War Impact. Variables and summary statistics are presented in Table 1. The survey encompassed questions regarding social and environmental considerations in business decision-making, actions to mitigate environmental impacts, efforts to enhance social impacts, and awareness and implementation of the UN SDGs. Descriptive statistics helped identify trends and specific practices related to sustainability priorities among Ukrainian entrepreneurs.

Table 1. Variables used for model estimation

Variable	Description	Source
Dependent variables		
SEA	Social and Environmental Contribution Index is the sum of the Social Contribution Attitude (SCA) and the Environmental Contribution Attitude (ECA)	APS GEM Ukraine 2023 data
SCA	Social Contribution Subindex is calculated as the sum of TEASDG_SOC_HI and TEASDG_STEPS1. This subindex measures the extent to which entrepreneurs actively engage in socially responsible practices and initiatives, reflecting their commitment to addressing social issues through their business activities.	APS GEM Ukraine 2023 data
ECA	Environment Contribution Subindex is calculated as the sum of TEASDG_ENV_HI and TEASDG_STEPS2. This subindex provides a detailed measure of the extent to which entrepreneurs are committed to environmental sustainability, encompassing both their awareness of environmental implications and the proactive steps they have taken to minimize the environmental impact of their businesses.	APS GEM Ukraine 2023 data
PROF	Proportion of survey respondents within a given region who agree or strongly agree with the statement that they prioritize social and environmental considerations over financial performance.	APS GEM Ukraine 2023 data
Initial variables for calculating dependent variables		
TEASDG_SOC_HI	When making decisions about the future of your business, you always consider social implications (agree/strongly agree).	APS GEM Ukraine 2023 data
TEASDG_STEPS1	Have you taken any steps to minimize the environmental impact of your business over the past year?	APS GEM Ukraine 2023 data
TEASDG_ENV_HI	When making decisions about the future of your business, you always consider environmental implications (agree/strongly agree).	APS GEM Ukraine 2023 data
TEASDG_PRI_HI	You prioritize the social and/or environmental impact of your business above profitability or growth (agree/strongly agree).	APS GEM Ukraine 2023 data
TEASDG_STEPS2	Have you taken any steps to maximize the social impact of your business over the past year?	APS GEM Ukraine 2023 data
Independent variables		
IWI	The Index of War Impact (IWI) is calculated as the sum of the Economic Impact Subindex (EIS), the Social Impact Subindex (SIS), and the Infrastructural Impact Subindex (IIS). This composite index provides a comprehensive measure of the overall impact of war on a region, integrating the economic, social, and infrastructural effects into a single metric.	SSSU database

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Table 1 (cont.). Variables used for model estimation

Variable	Description	Source
EIS	The Economic Impact Subindex (EIS) is calculated based on statistical data reflecting the decrease in the number of profitable enterprises in 2022 as a consequence of the war.	SSSU database
SIS	The Social Impact Subindex is calculated based on the number of internally displaced persons (IDPs). This subindex measures the social disruption and displacement caused by the war, reflecting the extent to which the conflict has affected the population's stability and social fabric.	International Organization for Migration (IOM, 2023)
IIS	The Infrastructural Impact Subindex (IIS) is calculated based on the extent of territory occupied by Russian troops in 2022. This subindex measures the impact of war on the region's infrastructure, reflecting the degree of infrastructural disruption and damage caused by the occupation.	DeepState database
SDGAI (TEASDG_ AWARE1)	Are you aware of the 17 United Nations Sustainable Development Goals?	APS GEM Ukraine 2023 data
ESVI (SOCEN1)	In your country, you will often see businesses that primarily aim to solve social problems (agree/ disagree).	APS GEM Ukraine 2023 data

2.1. Data collection

The GEM Ukraine 2023 data were collected within the broader GEM framework, which investigates entrepreneurial perceptions, motivations, and activities. While classical GEM indicators such as motivations and activity levels were included in both the global GEM framework and Ukraine's national report for 2023 (Apalkova et al., 2024), additional questions on Sustainable Development Goals (SDGs) and social and ecological contributions were not analyzed in these reports. Despite the challenges of war, responses to these questions were successfully collected, offering unique insights into entrepreneurial sustainability commitments during conflict.

Conducted by the GEM Ukraine team, with all authors serving as members, this survey represents the first APS in Ukraine to use GEM's globally recognized methodology. GEM, as the largest ongoing study of entrepreneurial ecosystems, provides a robust framework for analyzing entrepreneurship at national and global levels. Wartime conditions limited the Ukrainian sample to 627 respondents, below the typical GEM standard of 2,000. Nevertheless, the data offered significant insights into social and environmental attitudes within Ukraine's unique context.

Of the 627 respondents, 125 were active entrepreneurs, and 99 of these completed questions on SDG awareness and social and ecological commitments in business decision-making. These responses formed the basis for the regression model and aligned directly with the research objectives. While the sample of 99 entrepreneurs is smaller than ideal due to wartime constraints, it provides a crucial foundation for examining entrepreneurial attitudes in conflict settings.

The respondents, representing diverse regions and sectors, reflect a wide range of perspectives on social and environmental sustainability. Additionally, these 99 responses adhere to GEM's rigorous standards for data analysis, with validated and internationally standardized questions ensuring meaningful insights despite the smaller sample size.

The calculation of dependent and independent variables grouped by megaregions (East, West, Center, North, and South) revealed regional disparities in the impact of war and entrepreneurial commitment to social and environmental sustainability in Ukraine (Table 2).

The Social and Environmental Contribution Index (SECI) is highest in the West (0.71) and lowest in the Center (0.55). This indicates that entrepreneurs in the West are more committed to social and environmental contributions compared to other regions, while those in the Center show the least commitment. The West's high SECI is driven by a strong engagement in socially responsible practices, as reflected in the Social Contribution Subindex (SCS) of 0.71. Conversely, the Center has a notably low SCS score of 0.39, indicating minimal social engagement by entrepreneurs despite being less affected by the war compared to other regions. However, the Center scores highest on the Environmental Contribution Subindex (ECS)

Table 2. Summarized dataset of dependent and independent variables for five regions of Ukraine

Variables	East	West	Center	North	South
Number of APS					
TEA	30	31	18	32	14
Total	163	180	81	130	73
Dependent variables					
SEA	0.64	0.71	0.55	0.58	0.60
SCA	0.67	0.71	0.39	0.59	0.56
ECA	0.72	0.70	0.76	0.71	0.67
PROF	0.78	0.67	0.69	0.77	0.69
Initial variables for calculation dependent variables					
TEASDG_SOC_HI	0.63	0.74	0.56	0.63	0.57
TEASDG_STEPS1	0.67	0.74	0.83	0.66	0.64
TEASDG_ENV_HI	0.53	0.71	0.50	0.44	0.57
TEASDG_PRI_HI	0.78	0.67	0.69	0.77	0.69
TEASDG_STEPS2	0.71	0.68	0.22	0.55	0.55
Independent variables					
IWI	–1.33	–0.10	–0.16	–0.24	–0.82
EIS	–0.24	–0.08	–0.15	–0.27	–0.29
SIS	–0.69	–0.02	–0.01	0.03	–0.17
IIS	–0.41	0.00	0.00	0.00	–0.35
TEASDG_AWARE1	0.21	0.22	0.12	0.19	0.17
SOCEN1	0.20	0.24	0.19	0.11	0.19

with 0.76, reflecting a strong commitment to environmental sustainability. The South has the lowest ECS score at 0.67. The highest proportion of entrepreneurs prioritizing sustainability over profitability is in the East (0.78), closely followed by the North (0.77), while the West has the lowest proportion (0.67).

The impact of the war varies significantly across regions. The East experiences the most severe war impact with an Index of War Impact (IWI) of –1.33, while the West is least affected with an IWI of –0.10. The South and North suffer the highest economic impacts, with Economic Impact Subindex (EIS) scores of –0.29 and –0.27, respectively, whereas the West is least economically affected with an EIS of –0.08. The East endures the highest social impact, as shown by the Social Impact Subindex (SIS) score of –0.69, while the North shows a slightly positive value (0.03), indicating less disruption and significant relocation of people to this region. In terms of infrastructural impact, the East and South are most affected, with Infrastructural Impact Subindex (IIS) scores of –0.41 and –0.35, respectively, while other regions show no reported infrastructural impact.

Awareness of the 17 United Nations Sustainable Development Goals is fairly consistent across regions, with the highest awareness in the West (0.22) and the lowest in the Center (0.12). Businesses aiming to solve social problems are most visible in the West (0.24) and least visible in the North (0.11).

3. RESULTS

To test the proposed hypotheses on the impact of war and SDG awareness on entrepreneurs' social and environmental contribution attitudes, Pearson correlation and regression analysis were conducted.

The correlation analysis (Table 3) reveals that the economic impact of the war (EIS) has a significant positive correlation with the proportion of entrepreneurs prioritizing social and environmental considerations over profitability (PROF). Awareness of the SDGs (TEASDG_AWARE1) is significantly correlated with higher social and environmental contributions (SEA, SCA, and ECA). Other war impact subindexes (IWI, SIS, and IIS) show weak and non-significant correlations with the dependent variables, suggesting a complex and possibly indirect influence of war on entrepreneurial sustainability practices.

The regression analysis presented in Table 4 further examines the impact of war and awareness

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Table 3. Pearson correlations

Variables	Pearson Correlation				Sig. (2-seitig)				N
	SEA	SCA	ECA	PROF	SEA	SCA	ECA	PROF	
IWI	0.059	0.023	0.048	0.088	0.560	0.820	0.635	0.385	99
EIS	0.168	0.113	0.114	.209*	0.097	0.266	0.261	0.038	99
SIS	0.023	–0.002	0.024	0.042	0.822	0.987	0.810	0.678	99
IIS	0.027	0.000	0.026	0.051	0.790	1.000	0.797	0.615	99
TEASDG_AWARE1	.287**	.295**	.257*	0.106	0.008	0.006	0.018	0.335	85
SOCEN_1	0.031	–0.034	0.085	0.025	0.763	0.737	0.401	0.803	99

Note: **. The correlation is significant at the 0.01 level (2-sided). *. The correlation is significant at the 0.05 level (2-sided).

of the 17 United Nations Sustainable Development Goals (SDGs) on the Social and Environmental Contribution Index (SEA). The results indicate that the economic impacts of war (EIS) significantly and positively influence entrepreneurs' social and environmental contributions, suggesting that economic hardship may encourage entrepreneurs to adopt more socially responsible and sustainable practices. Additionally, SDG awareness is strongly linked to higher social and environmental contributions, highlighting the importance of promoting SDG knowledge among entrepreneurs. In contrast, the social (SIS) and infrastructural (IIS) impacts of war, as well as the visibility of socially focused businesses (SOCEN_1), do not show significant effects on SEA in this model, suggesting a limited role for these factors in influencing sustainable contributions. Overall, the findings underscore the key role of economic factors and SDG awareness in shaping sustainability practices among entrepreneurs in war-affected regions.

The results were unexpected for Hypothesis 1 (H1), which posited that higher war-related shocks would negatively impact entrepreneurs' social and environmental attitudes. The data demonstrated a significant positive effect of economic impacts (EIS) on these attitudes, indicating that economic challenges might actually strengthen rather than reduce entrepreneurs' commitment to social and environmental contributions. Thus, Hypothesis 1 was not supported. This finding suggests that economic hardships may act as a catalyst, motivating entrepreneurs to focus more on social and environmental initiatives as a means of addressing community needs and securing social legitimacy during challenging times. It highlights the adaptive strategies employed by entrepreneurs in crisis contexts, where external shocks are met with proactive efforts to align business practices with sustainability goals. This result underscores the complex relationship between crisis conditions and entrepreneurial behavior, warranting further investigation into the factors driving such resilience and adaptability.

Hypothesis 2 (H2), which proposed that awareness of the SDGs positively influences social and environmental attitudes during wartime, was supported. The positive association between SDG awareness and SEA confirmed that entrepreneurs who were informed about the SDGs were more likely to prioritize social and environmental contributions in their business practices.

Thus, the findings reveal that while the economic impacts of war encourage social and environmental contributions, SDG awareness further ampli-

Table 4. Impact of war and awareness of the 17 United Nations Sustainable Development Goals on the Social and Environmental Contribution Index

Independent Variable	Coefficient	Standard Error	Beta	T	P-Value
(Constant)	3.227	0.387		8.34	<.001
EIS	3.746	1.782	0.245	2.102	0.039
SIS	1.516	1.456	0.254	1.041	0.301
IIS	–2.387	2.34	–0.261	–1.02	0.311
TEASDG_AWARE1	1.452	0.481	0.322	3.018	0.003
SOCEN_1	–0.146	0.258	–0.061	–0.565	0.574

Note: a Dependent variable: SEA.

fies these efforts. Together, these results suggest that both economic hardship and alignment with a global sustainability framework can motivate Ukrainian entrepreneurs to adopt responsible practices, integrating their business activities with broader societal and environmental goals despite the challenges of conflict.

4. DISCUSSION

4.1. Comparison with existing literature

The findings of this study on Ukrainian entrepreneurs' commitment to social and environmental sustainability during the war are both consistent with and different from the existing literature.

Economic difficulties due to war significantly increase entrepreneurs' social and environmental commitment, supporting theories that crises drive companies toward social responsibility (Al-Omoush, 2024; Bansal et al., 2023) and aligning with concepts of organizational resilience (Ma et al., 2018) and slack (Olszewski, 2022). The strong positive correlation between awareness of the SDGs and higher social and environmental contributions underlines the importance of integrating the SDGs into business practices (Zimon et al., 2020; Rashed & Shah, 2021). The emphasis on social and environmental concerns aligns with the concept of social innovation, which is essential for addressing challenges in times of war (Phillips et al., 2015; Camillus et al., 2020).

However, in contrast to some studies highlighting significant social and infrastructural effects on entrepreneurial behavior (Mills & Fan, 2006; Bruch et al., 2016), these results show that these factors did not have a significant impact on the Social and Environmental Contribution Index (SEA). Economic factors and awareness of the SDGs play a greater role in shaping sustainability practices in Ukraine. In addition, the visibility of socially oriented companies did not have a significant impact on the SEA, in contrast to the literature suggesting a strong impact on entrepreneurial ecosystems (Taghian et al., 2015).

While some articles suggest that conflict shifts the focus to immediate survival needs over long-term sustainability (Brück et al., 2016; Al-Makura, 2021), the results show that Ukrainian entrepreneurs continue to prioritize social and environmental contributions. This suggests a nuanced balance between short-term and long-term priorities in conflict areas.

Overall, this study is consistent with the broader literature on economic hardships and awareness of the SDGs driving sustainability practices while challenging assumptions about social and infrastructural impacts in conflict zones. These findings contribute to the understanding of the unique dynamics in Ukraine and have implications for the promotion of sustainable entrepreneurship in conflict zones.

4.2. Implications of findings for policymakers

The findings highlight the need for targeted policy measures to support the social and environmental sustainability of Ukrainian entrepreneurs amid conflict. Strengthening economic resilience through financial aid and stimulus programs is crucial as the economic impact promotes sustainable practices. Promoting awareness of the SDGs through nationwide campaigns and education can further integrate sustainability into business practices.

Facilitating social innovation through resources, networks, and innovation hubs can help address social and environmental challenges. Developing and rehabilitating infrastructure is essential to aligning with long-term sustainability goals.

The strengthening of institutional stability and the creation of long-term political framework conditions offer continuity for sustainable entrepreneurship. Promoting corporate social responsibility (CSR) through incentives and recognition programs can improve stakeholder relations and attract socially conscious consumers.

Balancing immediate humanitarian needs with long-term sustainability is crucial for a stable business environment. Coordinating humanitarian aid and sustainable development ensures that immediate needs are met while promoting long-term goals.

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Ongoing research and data collection on the impact of war are essential for informed policymaking. Investing in ongoing research will help monitor evolving needs and adapt policies to support sustainable business practices. Implementing these policies will foster resilient, innovative and sustainable entrepreneurship in Ukraine and support both immediate recovery and long-term development.

CONCLUSION

The aim of this study was to investigate the commitment of Ukrainian entrepreneurs to social and environmental sustainability in the midst of the ongoing war. The results show that economic hardship significantly motivates entrepreneurs to adopt socially responsible and sustainable practices. This underscores the importance of economic factors and awareness of the United Nations Sustainable Development Goals (SDGs) in shaping entrepreneurial behavior. Despite the serious challenges posed by the conflict, Ukrainian entrepreneurs continue to emphasize social and environmental contributions and demonstrate resilience and adaptability even under adverse conditions.

While economic factors and awareness of the SDGs play a significant role in promoting sustainability, other war-related impacts – particularly social and infrastructural disruption – do not significantly influence the Social and Environmental Contribution Index (SEA). This finding emphasizes that economic drivers and global sustainability frameworks influence corporate commitment to sustainability in conflict situations.

This study improves the understanding of how extreme external shocks, such as war, influence corporate commitment to sustainability and provides valuable insights for policymakers, practitioners, and researchers seeking to support sustainable entrepreneurship in conflict-affected regions. However, the relatively small sample size of the study, resulting from 99 fully completed APS GEM Ukraine surveys of entrepreneurs, is a limitation that may affect the generalizability of the results and requires cautious interpretation. In addition, the use of self-reporting has the potential for bias, such as social desirability or inaccuracies in respondents' perceptions.

Future research should address these limitations by increasing the sample size and including more diverse data sources. With the planned increase to 2,000 GSP observations in 2024, a more robust data set will allow for comprehensive analysis and the inclusion of additional factors such as industry-specific variables, regional economic conditions, and differential access to resources. Furthermore, longitudinal studies could assess changes in entrepreneurial behavior over time as external conditions change, providing deeper insights into resilience and sustainability practices in dynamic conflict environments.

In summary, while this study provides valuable insights into entrepreneurial commitment to social and environmental sustainability during war, an expansion of research will further clarify the factors driving sustainable entrepreneurship in conflict-affected regions. This knowledge is crucial for the development of targeted strategies and support mechanisms to promote sustainable entrepreneurial ecosystems in Ukraine and in similar contexts worldwide.

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