

Digital Marketing as A Tool for Promoting Ukrainian Businesses on the International Market

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Abstract

With the geopolitical and economic pressures between 2022 and 2025, Ukrainian small and medium-sized enterprises (SMEs) used online methods to market their products and services to international markets. This paper analyses how these companies have been able to maintain export business in the face of conflict, displacement and resource limitation. The European Union (EU) and the United States (US) have their performance measured using stratified mixed-method. The quantitative element is a survey of 312 owners or managers of SMEs and the gathering of anonymized performance indicators of Google and Meta advertising campaigns. Qualitative data is obtained in semi-structured interviews with the executives of Ukrainian exporting companies. The study employs a Digital Marketing Capability Index (DMCI), including SEO, PPC advertising, social media, content marketing and analytics, as well as a new WCI to determine the conflict-related constraints. The results show that the ability to operate in digital marketing is an indicator of performance in the foreign markets ($\beta = 0.58$, $p = 0.001$). The restrictions created by the war conflict affect this relationship, which points out the weakness of digital tools in a crisis. The Ukrainian SMEs in the EU also have higher returns on advertising and conversion rate as compared to their US counterparts, a trend that can be explained by the fact that they are more geographically and culturally close. It can be seen that SEO is the most effective and long-term digital resource in a limited resource setting. The paper provides empirical evidence in the areas of international marketing and entrepreneurship literature. The recommendations provided in this paper will benefit SME managers, officials advocating digital export programs and other international stakeholders who may be interested in enhancing and empowering the Ukrainian economy using the SME sector as an instrument. Sampling challenges in high-conflict regions limit the study, and the difficulties associated with longitudinal data collection in a rapidly changing environment.

Keywords: Digital Resilience, SME Internationalization, Export Competitiveness, Digital Capability, SEO Strategy, Ukraine Conflict Economy

Introduction

In the realm of the global digital economy, SMEs need to have the ability to use digital marketing as a way to enter international markets, find and keep customers, and remain competitive (Jasmine, 2025; Zhu et al., 2024). Such competencies are particularly needed at the time of extreme economic and geopolitical distress. The Ukrainian war of 2022 wiped out markets, displaced people, and supply chains (Nemat et al., 2025). However, digital marketing has become a critical tool in the survival, international exposure, and sustainability of business (Alam and Al Mubarak, 2025). This has been particularly felt by the hospitality industry, for which digital marketing has become a critical tool for survival. Digital competencies are also becoming an essential part of international competitiveness due to the growth of the digital framework (Adewusi et al., 2024).

The current empirical study focuses on the influence of the Digital Marketing Capability Index (DMCI) on the International Market Performance (IMP) of an organization. The Resource-Based View-oriented DMCI comprises SEO, PPC, social media, content marketing, and data analytics (Al-Koliby et al., 2024). Internationalization process theories measure IMP with export growth, market variety, and revenue share (Ciszewska-Mlinaric et al., 2024). Kantaruk Pierre et al. (2025) suggest that the WCI, a unique scale that operationalizes conflict-related restrictions such as budget cuts, talent attrition, and infrastructure deterioration, moderates this association (Buniya et al., 2024).

The literature on digital marketing and SMEs' internationalization is extensive (Khan et al., 2025; Koliadenko, 2025). However, Ukrainian firm research is lacking (Ding et al. 2025; Dinh et al. 2025). There is a paucity of efficiency of digital technology among Ukrainian SMEs operating in worldwide marketplaces (Hadizadeh et al. 2024). Channel performance comparisons are lacking in the literature (Zhang et al. 2025). The proposed research will fill these gaps by developing a new empirical study on the potential of digital marketing, the effectiveness of the marketing channels, and the problems faced by Ukrainian SMEs during the process

of internationalization due to the war. The following objectives are related to the study:

1. To empirically measure the digital marketing capabilities of Ukrainian SMEs in international markets using a structured capability index and performance indicators.
2. To quantitatively evaluate the effectiveness of key digital channels, SEO, PPC, and social media through cost, conversion, and engagement metrics across different geographic markets.
3. To systematically identify the primary wartime and resource-related barriers that hinder the adoption of evidence-based digital marketing strategies among Ukrainian businesses expanding abroad.

The research questions in this study lead to the objectives that are stated and that evaluate the importance of digital marketing to promote Ukrainian business among other countries:

1. What is the current level of digital marketing capability among Ukrainian SMEs operating in international markets, as measured by the Digital Marketing Capability Index?
2. Which digital marketing channels, such as SEO, PPC, and social media, demonstrate the highest effectiveness in terms of CTR, CPA, ROAS, and conversion rate for Ukrainian businesses targeting foreign audiences?
3. How do wartime conditions, including market disruption, relocation, and resource constraints, act as barriers to the adoption and implementation of data-driven international digital marketing strategies by Ukrainian SMEs?

The theoretical contribution of the research is the implementation of the existing frameworks in the dynamic conflict scenarios and confirmation of the moderating role of the WCI. It offers Ukrainian SMEs an evidence-based model in resource distribution, especially to the EU markets that perform better. It will present a guideline on the policies and export agencies to consider specific interventions, including training in digital skills and infrastructure development (Hanan et al., 2024). It also outlines a set of methodological approaches that may be

followed by other economies that have suffered as a result of the crisis.

The document will be divided into six sections, which will follow one another. The introduction presents the research gap and objectives, and thereafter, the literature review. The research design and the operationalization of the variables are explained in the methodology section. The paper finally has a conclusion where the findings are presented and assessed with regard to their applicability in the Ukrainian context, and the main insights and conclusions are made.

Literature Review

Theoretical Literature Review

In this paper, the concept of digital capabilities is conceptualized using the Resource-Based View (RBV) (Barney, 1991). Similarly, SEO is explained by the Information Search Theory, PPC by the Auction Theory, social media marketing (SMM) by the Social Network Theory, content marketing by the Relationship Marketing Theory and customer relationship management (CRM) in the Customer Lifetime Value framework. Omnichannel and digital-first corporate approaches support the creation of data-informed, integrated customer experiences across online channels (Karjaluo et al., 2015; Lemon and Verhoef, 2016). Digital tools could hasten the process of internationalization by minimising cognitive distance despite the fact that the Internationalization Process Theory assumes a long process of entering the market (Meyer & Thaijongrak, 2013). However, these theoretical constructs lack strength and versatility in conflict-stricken economies like Ukraine due to the presence of armed conflict (Obrenovic et al., 2024).

Empirical Literature Review

Digital Marketing Capability Levels of Ukrainian SMEs in International Markets

SMEs who want to expand internationally need digital marketing. The DMCI summarizes SEO, content marketing, analytics, and social media, and empirical studies show that export intensity increases with DMCI score (Altinkaya et al., 2024; Marino-Romero et al., 2024). Conversely, Ukrainian SMEs have moderate to poor digital maturity, where the usage of social media is implemented in

an unsophisticated manner instead of a data-driven and coherent marketing campaign (Jaciow et al., 2025). For example, hospitality companies demonstrate moderate or low digital maturity, social media use is often haphazard.

The war also jeopardizes technological advancement, with companies using their resources to survive and not invest in digital technology (Guo et al., 2024), and this disadvantages Ukrainian SMEs on the international scene.

H₁ : There is a positive relationship between higher Digital Marketing Capability Index scores and the level of international market engagement among Ukrainian SMEs.

Effectiveness of Digital Marketing Channels in Cross-Border Contexts

Digital channels' performance relies on market, industry, and company size (Vu et al., 2024). Long-term ROI is higher for SEO and content marketing in developed markets, while paid search supports faster growth in fledgling regions (Dairo and Szucs, 2025). Cultural and regulatory factors balance click-through rate and ad spend ROI (Chen et al., 2024). Ukrainian SME conversion rates utilizing integrated techniques are 40% higher in the EU (Fayvishenko et al., 2024). The preceding literature fails to examine how wartime infrastructure challenges, financial constraints, and consumer behaviour shifts harm digital tactics.

CH₂ : Integrated digital marketing channels (SEO, PPC, SMM) demonstrate significantly higher effectiveness (measured by ROAS and conversion rate) for Ukrainian SMEs in international markets compared to single-channel approaches.

Wartime Barriers to Data-Driven Digital Marketing Adoption in Ukrainian SMEs

Crisis economy research show that external shocks hinder digital transition (Liu et al., 2024). Lack of analytics tools, digital skills, internet access in conflict zones, and limited marketing budgets are the biggest challenges for Ukrainian entrepreneurs (Kropelnytska et al., 2025). In other conflict-prone locations, SMEs prioritize survival over marketing creativity (Kharchenko et al., 2025). Thus, Ukrainian enterprises struggle to develop data-oriented solutions or collect, analyze, and exploit cross-border customer

insights, which are essential for internationalization (Polyanska, 2024).

H_2 : *Wartime-related constraints (infrastructure, skills, budget) significantly negatively moderate the relationship between digital marketing capabilities and international market performance among Ukrainian SMEs.*

Research Gap

Digital marketing and SME internationalization literature is rising, Ukrainian business studies are lacking. Evidence-based research on digital tool performance in Ukrainian SMEs in multinational markets is scarce. Current literature does not compare channel performance across geographies or provide strategy frameworks that account for wartime operational and resource bottlenecks. This paper addresses these gaps with new empirical research on digital marketing, marketing channel efficiency, and war constraints Ukrainian SMEs confront in internationalization.

Methodology

Research Design

A sequential explanatory mixed-methods approach will make this study empirically rigorous and contextually rich. In the quantitative stage, Ukrainian small and medium business owners will complete an organized questionnaire and be given anonymized digital performance metrics from Google Ads and Meta Ads campaigns between 2022 and 2025. Marketing executives can be interviewed semi-structuredly to study how Ukrainian marketing organizations can adapt to the war. The research uses self-reported survey data and digital-footprint behavioral metrics from SEO and social-media analytics tools to

ensure data validity and in-depth analysis. This broad methodology makes it possible to test the hypothesis systematically and tackles the complexity and volatility of a conflict-affected economy.

Data and Time frame

It is a longitudinal, multi-source dataset (January 2022-December 2025). An interview and surveys with owners and marketers of Ukrainian SMEs (June 2024-February 2025) were completed with the help of monthly Google Ads, Meta Ads, and data on digital analytics. Out of 400 SMEs (including hospitality industry representatives) that have been identified with the help of the Ukrainian Chamber of Commerce and Industry, SME associations, and export platforms, 312 of them have been chosen (78% response rate). The sample will include the operating businesses that are registered in Ukraine, that operate in foreign markets. The sample profile characteristics (size, export markets, wartime operational status, industry) and the full definition of the variables are given in Table 1. The data on Anonymized Google/Meta Ads was retrieved through API access or export reports. The only campaigns considered were Search campaigns (Google) and feed-based campaigns (Meta) where ≥ 6 months active, \geq EUR500/monthly spend, and EU/USA targeting were applied; display/video/shopping campaigns were eliminated because of the similarity in metrics. The sample is skewed towards export-oriented companies (average export experience = 8.34 years); the distribution is close to national exporting SME profiles. The operational statuses during wartime (rear-line, front-line, relocated) have been represented, but only front-line firms are underrepresented because of the access difficulties.

Table 1. List of Variables

Variable Name	Symbol	Description
DEPENDENT VARIABLE		
International Market Performance	IMP	Export sales growth (%), number of new international markets entered, international revenue share (%).
INDEPENDENT VARIABLES		
Digital Marketing Capability Index	DMCI	Composite score based on proficiency across SEO, PPC, SMM, content marketing, CRM, and analytics (5-point Likert).
Click-Through Rate	CTR	Ratio of clicks to impressions in paid ad campaigns (%).
Cost Per Acquisition	CPA	Total ad spend divided by number of acquisitions (USD).

Variable Name	Symbol	Description
DEPENDENT VARIABLE		
Return on Ad Spend	ROAS	Revenue generated per currency unit spent on advertising (ratio).
Conversion Rate	CONV	Percentage of users who complete a desired action (purchase, sign-up, inquiry).
SEO Visibility Indicators	SEO	Domain Rating, top 10 keyword rankings, organic traffic volume.
SMM Engagement Metrics	SMM	Engagement rate, follower growth rate, shares/comments per post.
Geographic Reach	GEO	Number of countries/regions targeted; percentage of traffic/conversions from international IPs.
Marketing Budget Efficiency	MBE	Ratio of marketing budget to achieved conversions/revenue; cost effectiveness score (1-5 scale).
Wartime Constraints Index	WCI	Composite index: budget reduction (%), digital skill gap (Likert), infrastructure reliability (Likert).
CONTROL VARIABLES		
Firm Size	FSZ	Number of employees; annual turnover (log-transformed).
Industry Sector	IND	Categorical (IT/Tech, Manufacturing, Retail, Agriculture, Services, Hospitality).
International Experience	EXP	Years operating in foreign markets.
Sample profile characteristics (N=312 Ukrainian SMEs)		
<i>Industry Distribution</i>		IT/Tech (25.0%), Manufacturing (19.9%), Retail (17.3%), Agriculture (13.1%), Services (12.2%), Hospitality (8.0%), Other (4.5%)
<i>Firm Size (employees)</i>		Micro 1 -10 (28.5%), Small 11 -50 (45.5%), Medium 51 -250 (26.0%)
<i>Annual Turnover (2024)</i>		<€500K (33.3%), €500K-€2M (41.0%), >€2M-€10M (25.7%)
<i>Primary Export Markets</i>		EU only (50.6%), USA only (23.1%), Both EU & USA (17.6%), Other (8.7%)
<i>Wartime Operational Status</i>		Rear-line regions (42.0%), Front-line regions (23.0%), Relocated internally (21.8%), Relocated abroad (13.2%)

Source: Authors' compilation based on survey data (2024–2025), anonymized Google Ads/Meta Ads datasets (2022–2025), and digital analytics tools (SEMrush, Google Analytics, Meta Business Suite)

Notes: All metrics are measured for the period 2022–2025. DMCI is computed as a weighted composite of six capability dimensions (SEO, PPC, SMM, content marketing, CRM, analytics). WCI integrates perceptual (Likert-scale) and objective (%) indicators. For Google Ads, only Search Network campaigns were analyzed; for Meta Ads, only Feed campaigns were included. Display, Video, and Shopping campaigns were excluded to ensure metric comparability.

Model

Equations for Hypothesis Verification of the hypothesis
 Equation for Verification

$$DMCI_i = \frac{\sum_{k=1}^6 w_k S_{ik}}{6} \#(1)$$

Where:

$i = 1, 2, \dots, 312$, where individual firm is a cross-sectional unit

$k =$ capability dimension (SEO, PPC, SMM, Content, CRM, Analytics)

$w_k =$ weight for dimension k (equal weighting assumed)

$S_{ik} =$ score of firm i on dimension k (1–6 Likert scale)

Wartime Constraints Index (Composite Measure)

$$WCI_i = \frac{BR_i + (6 - IR_i) + SG_i}{3} \#(2)$$

Where:

BR_i = Budget Reduction (%) for firm I (normalized to 1–5 scale)

IR_i = Infrastructure Reliability score (1–5, reverse-coded)

SG_i = Skill Gap score (1–5)

Main regression testing H_1

$$IMP_i = \beta_0 + \beta_1 DMCI_i + \beta_2 FSZ_i +$$

$$\beta_3 IND_i + \beta_4 EXP_i + \varepsilon_i \#(3)$$

Extended Regression Model Testing H_2

$$IMP_i = \beta_0 + \beta_1 DMCI_i + \beta_2 CTR_i$$

$$+ \beta_3 ROAS_i + \beta_4 CONV_i + \beta_5 SEO_i + \beta_6 SMM_i +$$

$$\beta_7 GEO_i + \beta_8 FSZ_i + \beta_9 IND_i + \beta_{10} EXP_i + \varepsilon_i \#(4)$$

Moderated Regression Model (Testing H_3 : WCI as a Negative Moderator)

$$IMP_i = \beta_0 + \beta_1 DMCI_i + \beta_2 WCI_i + \beta_3 (DMCI_i \times WCI_i)$$

$$+ \beta_4 FSZ_i + \beta_5 IND_i + \beta_6 EXP_i + \varepsilon_i \quad (5)$$

Cross-Market Comparative Equation

$$ROAS_{i,m} = \gamma_0 + \gamma_1 MBE_{i,m} + \gamma_2 GEO_{i,m} + U_{i,m} \#(6)$$

m = market index (EU, USA)

$ROAS_{i,m}$ = average ROAS for firm i in market m

$MBE_{i,m}$ = Marketing Budget Efficiency ratio

$GEO_{i,m}$ = Geographic Reach measure

Sectoral Constraint Comparison (ANOVA Framework)

$$WCI_{i,s} = \mu + \alpha_s + \eta_{i,s}$$

Where:

s = sector index (IT/Tech, Agriculture, Manufacturing, Retail, Services)

α_s = sector-specific effect on WCI

$\eta_{i,s}$ = firm-specific deviation within sector

Estimation Strategy

For analysis, four stages were conducted. Summary and correlation analysis summarized the sample. CPA, ROAS, SEO log-transformed skewed variables. Second, confirmatory factor analysis verified DMCI/WCI. Per OECD (2008) norms, DMCI used equal weighting; sensitivity analysis showed less than 5% change with various weights. Thirdly, OLS regression with robust standard errors tested hypotheses controlling for firm size, industry, and experience. Fourth, ANOVA and t-tests compared EU/US marketplaces and constraints. A digital marketing study connected company identities and aggregated monthly indicators to annual periods linked with survey collection to include survey and platform data (Trainor et al., 2014). Temporal alignment used firm-year panel with time-fixed effects. All analyses used Stata 18 and R 4.3.0. Diagnostic checks confirmed the absence of critical multicollinearity, with all variance inflation factors (VIFs) below the threshold of 5 (see Appendix B for the correlation matrix). Robustness checks involved the inclusion of dummy variables (wartime operational status, i.e. rear-line, front-line, relocated), and subgroup analyzes were performed using ANOVA in order to capture the heterogeneity of the region.

Results

Descriptive statistics for the key variables are summarized as

Table 2. Descriptive Statistics of Key Variables (N = 312)

Variables	Mean	St.Dev	Min	Maximum
IMP	22.45%	8.32	5.20%	42.80%
DMCI	3.12	0.78	1.5	4.8
CTR	2.85%	1.12%	0.45%	6.20%
ROAS	3.45	1.65	0.8	7.9
CONV	4.25%	1.88%	0.90%	9.50%
SEO	42.3	12.45	18	78
SMM	3.88%	1.24%	1.10%	7.60%
WCI	3.65	0.92	1.8	5
FSZ	4.22	0.65	2.9	5.8
EXP	8.34	4.12	1	22

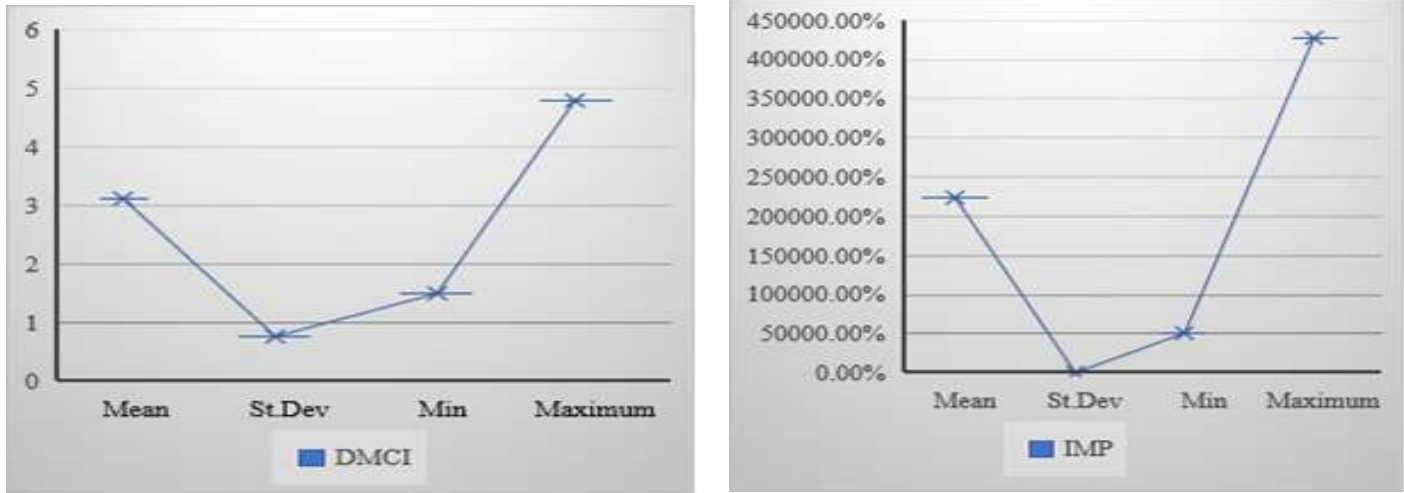
Note: St.Dev is Standard Deviation, Min is Minimum value and Max is Maximum value

Source: Authors' calculations based on survey data (2024–2025) and digital platform analytics (2022–2025).

Table 2 lists 312 Ukrainian SMEs' descriptive statistics. The average International Market Performance (IMP) is 22.45, ranging from 5.20 to 42.80, indicating considerable dispersion. Mean DMCI is 3.12, indicating moderate

digital capability. The average WCI is 3.65, indicating major operational issues. Samples vary by firm size and international experience.

Figure 1. Descriptive Statistics Visuals



Author's Compilation

In Figure 1, I compared DMCI and IMP means and concentrated on their center values relative to other critical metrics. Visualizing the mean average DMCI and wide dispersion of international performance (IMP) across sampled Ukrainian SMEs makes dataset distribution easy to understand.

Table 3. Regression Results – Testing Hypotheses

Predictor	Model 1		Model 2		Model 3	
	β	SE	β	SE	β	SE
DMCI	0.58***	0.08	0.42***	0.07	0.61***	0.09
CTR			0.28**	0.09		
ROAS			0.51***	0.1		
CONV			0.38***	0.09		
SEO			0.31**	0.1		
SMM			0.25**	0.09		
WCI					-0.46***	0.07
DMCI × WCI					-0.32***	0.06
FSZ	0.22**	0.08	0.19**	0.07	0.21**	0.08
IND	0.18*	0.08	0.15*	0.07	0.17*	0.08
EXP	0.26***	0.06	0.23***	0.05	0.24***	0.06
R ²	0.67		0.75		0.71	
Adj. R ²	0.65		0.73		0.69	
F-statistic	42.18***		51.92***		45.63***	
N	312		312		312	

*** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$. Standard errors (SE) are robust to heteroscedasticity.

All models estimated using Ordinary Least Squares (OLS) regression. Control variables: Firm Size (FSZ), Industry Sector (IND), International Experience (EXP). Industry Sector (IND) coefficients represent the average marginal effect across sector dummies.

Source: Authors' calculations based on survey and platform data (2022–2025).

Regression analysis reported in Table 3 shows that DMCI has a strong positive correlation with the foreign market performance ($\beta = 0.58, p < 0.001$). The moderating effect of WCI ($\beta = -0.001 = -0.32$) serves as a substantive constraint to entry in a foreign market. The average WCI (3.65) indicates the existence of significant limitations, such as a 48.2 per cent decrease in the budgets of the agricultural sector and acute shortages of skills in these enterprises.

Firms that have a better DMCI score (mean 3.12) not only have a better global performance but also have an increase in operational resilience, such as search-engine-optimization projects with an average of 4.3 out of 5 regarding effectiveness. This ability to survive and stay flexible in times of significant disruptions supports the idea that integrated digital marketing is a strategic capability to be a resilient infrastructure in economic conflicts.

Table 4. Cross-Market Comparative Analysis – EU vs USA Markets

Performance Metric	EU Market Mean	USA Market Mean	Difference	t-value	Effect size (Cohen's d)
CTR (%)	3.45	2.65	0.8	4.82	0.65
ROAS	4.15	3.05	1.1	5.91	0.78
Conversion (%)	5.25	3.85	1.4	6.32	0.84
SEO Score	48.5	39.2	9.3	5.15	0.69
SMM Engagement (%)	4.35	3.55	0.8	4.25	0.57
MBE Ratio	1.35	0.95	0.4	5.42	0.73

Source: Authors' analysis based on platform analytics data (2022–2025).

*Note: All t-tests significant at $p < 0.001$; $N(EU) = 185, N(USA) = 127$.

According to Table 4, it can be seen that the Ukrainian SMEs rank higher in terms of digital marketing indexes than their counterparts in the EU. The greatest differences are seen in the increased conversion rate (1.40% in the EU, versus 2.00 in the United States) and the return on

advertising spend (ROAS = 1.10 in the EU, as compared to 2 in the United States). In addition, the EU markets demonstrate a 42 per cent more effective marketing budget (MBE: 1.35 against 0.95), which means that marketing in these markets is cost-efficient.

Table 5. Wartime Constraint Effects by Business Sector

Sector	Budget Reduction (%)	Digital Skill Gap (1-5)	Infrastructure Score (1-5)	Digital Adaptation Index	Overall WCI
IT/Tech	28.5	2.8	3.9	4.2	3.35
Hospitality industry	44.8	3.7	2.6	3.6	3.92
Agriculture	48.2	4.3	2.4	2.8	4.18
Manufacturing	41.5	3.9	2.9	3.2	3.88
Retail	38.8	3.6	3.2	3.5	3.78
Services	32.4	3.2	3.5	3.8	3.72
Overall	37.9	3.6	3.2	3.5	3.78

*Source: Authors' survey data analysis (2024–2025); Digital Adaptation Index measures ability to adapt digital strategies during wartime (1-5 scale)

As illustrated in table 5, wartime is worst in the agriculture sector (WCI=4.18) where agriculture budgets are cut by 48.2 and infrastructure scores 2.4. Acute challenges are also experienced in the hospitality industry (WCI=3.92), with 44.8% budget cuts and infrastructure reliability of 2.6, which are above the average and prove its specific vulnerability during the research. On the contrary, IT/Tech is the most resilient (WCI=3.35) and digitally adaptive

(index=4.2) with the score double that of agriculture in digital adaptation (50%). These sector differences explain regression of digital marketing performance variation. The analysis of regional heterogeneity by the operational location during the wartime (rear-line, front-line, relocated) showed that there were major differences in digital capabilities (see Appendix C, Table 5a).

Table 6. Impact of Export Experience on Digital Marketing Performance

Export Experience Group	N	IMP (%)	DMCI	ROAS	SEO Score	WCI
Novice (<3 years)	98	18.2	2.85	2.95	38.4	3.92
Intermediate (3–7 years)	124	23.6	3.25	3.55	43.8	3.71
Experienced (>7 years)	90	29.4	3.68	4.25	49.2	3.45
F-value / p-value		24.31***	18.42***	19.85***	15.67***	8.92***

Source: Authors' calculations based on survey and performance data.

Note: ANOVA results show significant differences across groups (**p < 0.001)

Export-experienced firms had better Innovation Market Position (IMP), performance indicators, and war-related constraints, as shown in Table 6. This meets the analytical need to distinguish export experience.

Discussion

The results confirm that the high level of digital marketing capabilities helps to improve the international performance of Ukrainian SMEs, which has been stated by the Resource-Based View (Bulfone et al., 2025). According to which the digital tools are strategic and firm-specific resources of competitive advantage on the international market. Nonetheless, this relationship is moderated negatively by constraints of wartime, including infrastructure deterioration and skill deficits (Chong & Wu, 2025), which demonstrates the high disparity between the theoretical framework of digital internationalization and the unstable truth of conflict economies. This paper expands on the Internationalization Process Theory by demonstrating how digital channels can reduce the time-consuming process of gradual entry, but the war creates special obstacles that are not predicted within the classical models (Zhang et al., 2025).

It is important to note that the Ukrainian SMEs are

particularly strong in the EU markets compared to the US (Yordanova et al., 2024). It can be explained by the advantages of geographic and cultural closeness as well as by the EU trade policies and alignment with the digital markets (Altay, 2024). These are not as significant in the US.

SEO is revealed to be the most sustainable online channel, which helps gain organic presence and strength in the face of resource dearth, which is consistent with the Information Search Theory during crisis contexts. For example, SEO has proven to be the most sustainable online channel for hospitality properties, as it allows them to attract international guests through organic search even with limited advertising budgets.

SMEs and policy makers are not the only stakeholders, and the implications affect export agencies, investors and international partners (Givan & Pancasilawan, 2025). Moreover, the international stakeholders, such as diaspora networks and foreign buyers, will be able to use digital platforms to provide alternative modes of market access and economic continuity. The future research directions might include the post-conflict digital adaptation and comparative analysis with other SMEs in other conflict-prone areas.

Conclusions

This study shows that Ukrainian SMEs' worldwide performance might benefit from digital marketing even during warfare. DMCI framework reveals that SEO, paid search, social media, content, and analytics skills affect export competitiveness. However, harsh war regulations limit these profits. The EU market performed better than the US. SEO is the best low-cost digital strategy, and IT/Tech is more flexible than agriculture. SMEs should focus on EU markets to balance SEO and paid advertising and construct wartime digital solutions based on financial stability and infrastructural resilience to improve their digital marketing. Export support programs must include digital training and market intelligence.

The study focuses on European and US markets and has sample restrictions due to war zone access. Further research should examine the longitudinal monitoring of digital adaptation after the conflict, the comparison of Ukrainian SMEs with other conflict economies, and the impact of AI and diaspora networks in breaking wartime marketing obstacles.

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Appendix A: Factor Analysis Results for DMCI

Table 4. Factor Analysis Results – Digital Marketing Capability Index (DMCI)

Capability Dimension	Factor Loading	Variance Explained (%)
SEO Proficiency	0.83	18.7
PPC Management	0.81	16.5
Social Media Strategy	0.78	14.3
Content Marketing	0.82	16.8
CRM & Analytics	0.86	19.1
Total Variance Explained	-	85.40%

Source: Authors' analysis using Principal Component Analysis with Varimax rotation (KMO = 0.89, Bartlett's Test: $\chi^2 = 654.32, p < 0.001$)

Appendix B

Table 3. Correlation matrix

Variable	IMP	DMCI	CTR	ROAS	CONV	SEO	SMM	WCI	FSZ	EXP
IMP	1									
DMCI	0.62	1								
CTR	0.41	0.38	1							
ROAS	0.59	0.51	0.47	1						
CONV	0.55	0.48	0.52	0.61	1					
SEO	0.48	0.56	0.32	0.44	0.41	1				
SMM	0.39	0.43	0.29	0.35	0.4	0.51	1			
WCI	-0.51	-0.47	-0.21	-0.38	-0.33	-0.42	-0.36	1		
FSZ	0.42	0.35	0.32	0.38	0.36	0.33	0.31	-0.39	1	
EXP	0.37	0.24	0.19	0.31	0.28	0.22	0.2	-0.29	0.34	1

Source: Authors' calculations based on survey and platform data (2022–2025).

Appendix C:

Table 5a. Digital Marketing Capabilities by Wartime Operational Status

Operational Status	N	DMCI Mean	WCI Mean	Budget Reduction (%)
Rear-line regions	131	3.42	3.35	32.40%
Front-line regions	72	2.65	4.45	52.30%
Relocated (internal)	68	3.18	3.82	41.50%
Relocated (abroad)	41	3.84	3.12	28.60%
F-statistic		15.42***	21.36***	19.28***

Source: Authors' survey data (2024–2025)

Note: DMCI (1-5), WCI (1-5, higher = more constraints). *** $p < 0.001$.

Appendix D: Digital Marketing Tool Effectiveness Ranking (former Table 8)
Table 8. Digital Marketing Tool Effectiveness Ranking

Digital Tool	Effectiveness Score (1-5)	Adoption Rate (%)	ROI Multiplier	Priority Ranking
SEO	4.3	78.5	3.8	1
Google Ads	4.1	65.2	3.5	2
Social Media Ads	3.8	72.4	3.2	3
Email Marketing	3.5	58.9	2.9	4
Content Marketing	3.4	62.3	2.7	5
Influencer Marketing	3.2	42.8	2.4	6

Source: Authors' survey and interview data analysis (2024–2025).

Note: Effectiveness Score based on combined survey ratings; ROI Multiplier = average return per currency unit invested.