








# “Digital marketing management in Ukrainian SMEs: Tools, barriers and strategic readiness for transformation”

**AUTHORS** Anastasiia Mostova   
Liudmyla Batsenko   
Inna Arakelova   
Roman Halenin   
Nataliia Klietsova   
  
Valeriia Baranova   
Anastasiia Krasovska


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Anastasiia Mostova, Doctor of Economics, Associate Professor, Varna University of Management, Bulgaria; State University of Information and Communication Technologies, Ukraine. (Corresponding author)

Liudmyla Batsenko, PhD, Associate Professor, Royal Agricultural University, United Kingdom; Sumy National Agrarian University, Ukraine.

Inna Arakelova, Candidate of Economics, Associate Professor, Mariupol State University, Ukraine.

Roman Halenin, PhD, Associate Professor, Anglia Ruskin University, United Kingdom.

Nataliia Klietsova, PhD, Associate Professor, University of Hertfordshire, United Kingdom; Sumy National Agrarian University, Ukraine.

Valeriia Baranova, Doctor of Economics, Professor, V.N. Karazin Kharkiv National University, Ukraine; Department of Enterprise Economics and Business Organization, Education and Research Institute of Economics and Law, Simon Kuznets Kharkiv National University of Economics, Ukraine.

Anastasiia Krasovska, MSc in Economics and Business Administration – International Marketing and Management, Copenhagen Business School, Denmark.



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Anastasiia Mostova (Ukraine), Liudmyla Batsenko (Ukraine), Inna Arakelova (Ukraine), Roman Halenin (United Kingdom), Nataliia Klietsova (Ukraine), Valeriia Baranova (Ukraine), Anastasiia Krasovska (Denmark)

# DIGITAL MARKETING MANAGEMENT IN UKRAINIAN SMES: TOOLS, BARRIERS AND STRATEGIC READINESS FOR TRANSFORMATION

## Abstract

This study examines the state of digital marketing management among small and medium-sized enterprises (SMEs) in Ukraine under conditions of prolonged economic instability and wartime disruption. This paper aims to assess the level of digital marketing tool adoption, identify key organizational barriers, and examine how firm-level characteristics influence strategic readiness for digital transformation among Ukrainian SMEs. The study is based on a structured quantitative survey conducted in 2024 among 100 owners and managers of Ukrainian SMEs operating in the service, trade, and manufacturing sectors across several regions of Ukraine affected by differing levels of full-scale wartime disruption, with data analyzed using descriptive statistics and correlation analysis.

The research results show that the basic digital tools are widely adopted, with 98% of SMEs having a website and 79% using online marketplaces for sales, including enterprises from manufacturing, trade, and service sectors. At the same time, the adoption of advanced marketing management tools remains limited: only 19% of enterprises report regular use of CRM systems, 25% use marketing analytics tools, and merely 1% apply email marketing on a regular basis. Strategic digital planning is also weak, as only 11% of surveyed SMEs have a structured digital marketing strategy and 7% report having an SMM strategy. Digital skills among marketing personnel are assessed as low or moderate, with only 15% of respondents indicating a high level of digital competence among staff.

Based on correlation analysis, the findings indicate that digital marketing transformation among Ukrainian SMEs is constrained primarily by organizational and human capital limitations rather than firm size or financial performance, underscoring the need for targeted national support programs to enhance strategic digital capabilities.

## Keywords

digital marketing, SMEs, marketing management, digitalization, readiness, crisis, Ukraine

## JEL Classification

M31, M15, L26

## INTRODUCTION

In a dynamic global economy, the digital transformation of businesses has become a critical factor for resilience, competitiveness, and sustainable growth. Small and medium-sized enterprises (SMEs) play a pivotal role in national economies, including Ukraine, by creating employment, contributing to gross domestic product, and fostering innovation. In Ukraine, SMEs accounted for 99.9% of the total number of enterprises in 2023, generating 55% of GDP and providing 74% of private sector employment (UNDP, 2024a). Their adaptability and flexibility make them essential not only for economic development but also for social stability and recovery from crises.

Under conditions of a full-scale invasion, Ukrainian SMEs have faced unprecedented challenges. As of 2024, cumulative economic losses of SMEs exceeded \$83 billion, while 77% of enterprises reported significant operational disruptions (Payoneer, 2023). The primary challenges include physical destruction of assets, supply chain instability, declining demand, labor displacement, and limited access to financial resources (World Bank, 2024). At the same time, a considerable number of Ukrainian SMEs have resumed operations and shifted their focus toward strategic adaptation, resilience, and long-term planning (UNDP, 2024b).

One of the most effective mechanisms enabling SMEs to adapt to such conditions is the digital transformation of marketing management. Digital marketing management facilitates access to new markets, enhances the efficiency of promotional activities, strengthens brand communication, and supports customer retention. For Ukrainian SMEs, digital marketing is not only a tool for maintaining business continuity but also a key factor of post-crisis competitiveness. The use of tools such as Search Engine Optimization (SEO), Social Media Marketing (SMM), Pay-Per-Click (PPC) advertising, and content marketing enables targeted audience engagement, real-time consumer analysis, and scalable brand development with relatively limited financial investment.

Despite the growing strategic importance of digital marketing for the resilience and competitiveness of small and medium-sized enterprises, empirical evidence on the actual implementation of digital marketing management practices at the firm level remains limited, particularly in crisis and war-affected economies.

Existing studies predominantly focus on general aspects of digital transformation or isolated digital tools. However, insufficient attention is paid to the managerial dimension of digital marketing, including the systematic use of digital tools, organizational readiness, human capital constraints, and strategic decision-making within SMEs.

Moreover, available official statistics in Ukraine mainly capture macro-level indicators of digitalization and internet usage, without reflecting how SMEs practically adopt, manage, and integrate digital marketing instruments into their business activities under conditions of prolonged economic instability and military operations. Importantly, the challenges related to digital marketing adoption among SMEs are not caused by the war itself but represent long-standing structural constraints typical for small businesses, which are observed both before the war and in more stable economic environments, including EU countries.

This lack of firm-level empirical evidence creates a significant research gap, limiting the ability to assess the real state of digital marketing management in Ukrainian SMEs and to develop evidence-based managerial and policy recommendations aimed at strengthening their strategic readiness for digital transformation.

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## 1. LITERATURE REVIEW

### 1.1. International research perspectives

Digital marketing management is an important factor in growth, competitiveness and customer acquisition for SMEs. Implementing tools such as SEO, PPC, Social Media Marketing (SMM), content marketing, email campaigns and CRM systems can significantly increase visibility, efficiency and revenue generation. However, SMEs often face significant difficulties in effectively

implementing these tools, especially in times of economic uncertainty or crisis.

Digital marketing management significantly improves SMEs' performance and understanding of customer needs; however, SMEs often face limited resources and skills that constrain the effective use of digital tools (Sharabati et al., 2024; Munna et al., 2023). Conceptual literature contributes to structuring the rapidly evolving digital marketing landscape by systematizing digital marketing channels and platforms and providing analytical frameworks applicable to SMEs (Peter & Dalla

Vecchia, 2020). Nevertheless, high advertising costs and insufficient technical expertise continue to limit comprehensive implementation of digital marketing solutions.

Early empirical research highlights the selective and uneven adoption of digital marketing channels by SMEs, explaining why small firms often underutilize the strategic potential of digital marketing and adopt digital tools incrementally, focusing primarily on low-cost channels such as websites and social media (Taiminen & Karjaluo, 2015).

Broad international literature confirms these patterns. For instance, customer engagement and digital interaction capabilities are shown to drive sustainable competitive advantage in marketing management (Kumar & Pansari, 2016). Comprehensive frameworks for digital marketing strategy, including omnichannel integration, content governance, and analytics-driven decision-making, have been widely documented in leading marketing scholarship (Chaffey & Ellis-Chadwick, 2019).

Evidence from high-income countries confirms these patterns. Empirical studies report a positive correlation between the use of digital marketing and performance of industrial SMEs in Poland (Rydzewska & Sz wajca, 2024), while research on Irish SMEs during the COVID-19 pandemic reveals low levels of digital marketing confidence and skills, alongside accelerated adoption of social media and e-commerce tools under crisis conditions (O'Neill, 2023). However, the crisis accelerated the adoption of digital marketing, especially social media and e-commerce platforms. These findings highlight the role of crisis conditions as catalysts for digital adoption.

Recent bibliometric evidence indicates a substantial shift in academic attention toward digital transformation of SMEs following the COVID-19 crisis, with digital marketing, e-commerce, and data-driven decision-making increasingly framed as core components of SME resilience (Petropoulou et al., 2024). Empirical evidence from developing economies further supports the positive role of digital marketing adoption for SMEs' sustainability and competitive resilience, particularly in contexts characterized by limited resources and market volatility (Bruce et al., 2023). In parallel,

large-scale meta-analyses emphasize that organizational readiness, managerial capability, and analytical competencies are critical mechanisms linking digital marketing adoption to improved performance outcomes (Kraus et al., 2022; Rialti et al., 2020).

Within this broader digital transformation discourse, earlier research emphasizes the importance of resource fit between organizational capabilities and digital initiatives, demonstrating that misalignment between strategic intent, technological resources, and managerial capacity can significantly limit the effectiveness of digital transformation efforts (Liu et al., 2011).

Personalized advertising, artificial intelligence, and metrics-driven strategies are key trends in contemporary digital marketing (Dwivedi et al., 2021). However, limited access to advanced technologies and a lack of human capital remain critical barriers to the implementation of digital strategies by SMEs.

Recent literature increasingly shifts attention from digital marketing adoption per se toward data-driven strategies, strategic integration, and performance mechanisms in SMEs (Saura et al., 2023). Empirical studies demonstrate that digital marketing adoption and its impact on SME performance are shaped by technological, organizational, and environmental factors, as well as by managerial motivation and perceived usefulness (Abbasi et al., 2022; Fu et al., 2024; Suroso & Rafinda, 2021). Evidence further suggests that well-defined digital marketing strategies enhance customer engagement and financial outcomes, while firm performance often mediates the relationship between digital marketing adoption and sustainable growth (Wu et al., 2024; Dianta et al., 2025).

Su et al. (2023), who found that readiness, perceived benefits, and strategic intent strongly affect the depth of digital tool integration, examine the evolution of digital marketing strategies in SMEs under market pressure in detail. Furthermore, bibliometric evidence shows that social media is increasingly central to SME competitiveness, particularly in enhancing customer relationships and brand visibility (Pellegrino & Abe, 2023).

Recent systematic literature reviews and mapping studies confirm the growing academic interest in digital marketing within the SME context, while simultaneously highlighting methodological fragmentation, limited firm-level empirical evidence, and insufficient attention to strategic integration and performance measurement (Jadhav et al., 2023; Thaha et al., 2021; Cioppi et al., 2023).

## 1.2. Ukrainian context and challenges

Ukrainian research highlights the strategic importance of digital marketing for SMEs, particularly under conditions of prolonged economic uncertainty and structural disruptions. During crisis periods, Ukrainian SMEs rely extensively on social media, SEO, PPC, and email communication to retain customers and maintain brand activity (Oklander et al., 2024). These findings confirm that digital engagement functions as a resilience mechanism, enabling firms to sustain operations and, in some cases, exceed pre-crisis performance levels.

A historical analysis by Vinogradova and Nedopako (2021) demonstrates that the evolution of Ukraine's digital marketing ecosystem has been driven by the growing integration of contextual advertising, content marketing, and influencer-based promotion. Their analysis emphasizes that coordinated use of multiple tools is essential for achieving measurable improvements in advertising effectiveness.

Evidence from Ukrainian SMEs suggests that many businesses remain at early stages of digital transformation, where digital marketing is rarely implemented as a strategic and integrated management process (Reshetnyak et al., 2024).

In the context of internationalization, Shymanska and Bondarchuk (2022) show that multi-channel digital communication significantly increases international brand visibility for export-oriented SMEs, particularly through influencers and social networks. However, the absence of performance metrics and coherent digital strategies limits SMEs' ability to scale these efforts effectively.

Empirical research confirms that although most Ukrainian SMEs actively use basic digital instruments such as social networks and contex-

tual advertising, they face persistent difficulties related to strategic planning, performance measurement, and the digital competence of personnel (V. Palii & Y. Palii, 2024; Prodius & Donetskova, 2022). These constraints often result in fragmented and inconsistent implementation, which reduces overall marketing effectiveness.

Empirical evidence from SMEs during the COVID-19 pandemic indicates that digitalization often serves as a reactive response rather than a strategically integrated approach, highlighting the need for more systematic research on digital marketing adoption (Guo et al., 2020). These findings remain relevant for economies facing prolonged instability, where uncertainty continues to shape SMEs' strategic behavior. Studies on MSMEs further indicate that while digital marketing adoption positively influences financial and sustainability performance, the mechanisms behind successful implementation in uncertain environments remain insufficiently understood (Gao et al., 2023).

Additional Ukrainian-language studies further contextualize these challenges by identifying systemic gaps in the development of digital marketing instrumentarium among Ukrainian enterprises, including insufficient integration of analytics, low adoption of CRM systems, and a lack of standardized performance indicators (Shpak & Hrabovych, 2021). These findings align with broader patterns observed in global literature, where organizational readiness and human capital are central to successful digital transformation.

Similarly, Holovachov (2023) analyzes enterprise-level digital marketing strategies and argues that Ukrainian SMEs tend to prioritize short-term promotional activities over long-term strategic digital investments. This results in limited scalability and hinders the formation of structured, data-driven digital marketing management systems.

The role of business analytics in SMEs' digital marketing highlights the importance of analytical capabilities for effective strategy execution, yet these aspects remain underexplored in recent empirical studies (Yurchenko, 2025).

Krymska (2025), who demonstrates that content quality and interaction intensity on platforms such as Facebook and Instagram directly influence customer loyalty and SMEs' competitiveness, provides complementary insights. Meanwhile, Kovalchuk et al. (2023) document the rapid expansion of digital marketing tools during the COVID-19 pandemic, including QR codes, SMS campaigns, chatbot marketing, and augmented reality elements, indicating gradual diversification of digital practices among Ukrainian firms.

Practical studies demonstrate that SMEs are increasingly engaging in digital marketing activities. However, comprehensive empirical frameworks measuring their effectiveness are scarce (Bubenets et al., 2025).

Although social media has become a central tool in SMEs' digital marketing, research largely focuses on individual channels rather than integrated marketing strategies, leaving a gap in understanding holistic adoption processes (Kabanova et al., 2024; Ugolkova, 2021).

Taken together, these studies reveal that while Ukrainian SMEs increasingly adopt digital tools, their progress remains uneven and constrained by limited strategic capacity, insufficient digital skills, and the absence of unified methodological approaches to evaluating digital marketing ROI. This underscores the need for empirical research that systematically examines the real scope of digital marketing adoption and its relationship with organizational characteristics.

Despite the well-documented benefits of digital marketing management for SMEs, Ukrainian enterprises face substantial constraints in realizing this potential in practice. The SMEs encounter substantial barriers to the effective implementation of digital marketing management. These barriers include financial constraints limiting investments in advertising and digital technologies (Vinogradova & Nedopako, 2021; Prodius & Donetsko, 2022), shortages of qualified digital marketing specialists and insufficient digital skills among personnel (V. Palii & Y. Palii, 2024; ITU, 2021), infrastructural limitations, particularly in war-affected or rural re-

gions (Kovalchuk et al., 2023), as well as strategic uncertainty and resistance to innovation (O'Neill, 2023).

### 1.3. Research gap

Despite extensive academic attention to digital marketing and digital transformation, a significant gap remains in firm-level empirical research on the practical implementation of digital marketing management in SMEs. Existing studies predominantly focus on conceptual frameworks, individual digital tools, or macro-level indicators of digitalization, while providing limited firm-level evidence on how SMEs manage, integrate, and operationalize digital marketing tools in everyday business practice. Earlier reviews already pointed to significant research gaps in the field of digital marketing and SMEs, identifying a lack of longitudinal studies, firm-level data, and contextual analyses in existing research (Pradhan et al., 2018). These limitations remain partially unresolved, particularly in emerging and transition and crisis-affected economies, where uncertainty, resource constraints, and structural disruptions substantially influence managerial priorities and digital investment decisions. In the Ukrainian context, empirical research on digital marketing management in SMEs remains fragmented and insufficient. Available studies often emphasize general trends in digitalization or e-commerce development but rarely examine the scope, intensity, and strategic coordination of specific digital marketing tools such as SEO, social media marketing, analytics, CRM systems, or email marketing. Despite the growing interest in digital marketing, systematic empirical studies at the SME level remain limited, pointing to a significant research gap in understanding adoption patterns and performance outcomes (Coman et al., 2020). Recent conceptual frameworks highlight emerging approaches to digitalization and AI adoption in SMEs, yet empirical validation of these models is still lacking (Proietti & Magnani, 2025).

Additional challenge is the absence of a unified methodological approach to assessing digital marketing effectiveness and return on investment in SMEs. Official statistics provided by national institutions mainly capture indicators

of internet access or online sales and do not reflect firm-level adoption of digital marketing tools, strategic readiness, or human capital constraints. As a result, policymakers and SME support institutions lack comprehensive evidence on the actual drivers and barriers of digital marketing transformation.

Addressing these gaps, the present study provides empirical evidence based on a structured survey of Ukrainian SMEs, focusing on the adoption of digital marketing tools, organizational and managerial barriers to their effective use, and the relationship between enterprise characteristics and the level of digital marketing transformation. The study contributes to the literature on digital marketing management in crisis contexts and offers practical insights for enhancing the strategic readiness and competitiveness of SMEs in emerging and transitional economies.

The aim of this study is to examine the adoption of digital marketing tools by Ukrainian SMEs and to analyse the relationship between firm characteristics, digital competencies, and the level of digital marketing implementation.

#### 1.4. Research hypotheses

Building on the identified gaps in the literature and the empirical context, this study formulates the following hypotheses:

*H1: Among Ukrainian SMEs, digital tools that require fewer technical and strategic investments, such as websites and basic social media profiles, are more widely adopted than advanced tools such as email marketing, affiliate marketing, or structured social media marketing (SMM) strategies.*

*H2: The lack of a clearly defined digital marketing strategy and insufficient digital skills among marketing personnel constitute significant internal barriers that limit the effective use of digital marketing tools.*

*H3: Larger and more experienced SMEs demonstrate higher levels of digital marketing tool adoption than smaller or newer enterprises.*

## 2. METHODOLOGY

### 2.1. Research design

The study adopts a quantitative research design grounded in existing academic literature on digital marketing management in SMEs. Theoretical assumptions derived from prior research were empirically tested using primary data collected from Ukrainian SMEs.

To achieve the research objective, a quantitative approach was employed using an online questionnaire administered to Ukrainian SMEs across different sectors. The survey captured data on the use of digital marketing tools and platforms, strategic marketing practices, and digital competencies of marketing staff.

The research procedure consisted of questionnaire design, online data collection, data screening, descriptive statistical analysis, and correlation analysis (Ghauri & Grønhaug, 2005). Descriptive statistics were applied to identify patterns in digital marketing tool adoption, while correlation analysis was used to examine relationships between firm-level characteristics (size, revenue, sector, and operational experience) and the level of digital marketing implementation.

This approach allows for an assessment of how Ukrainian SMEs apply digital marketing tools under conditions of economic uncertainty.

This research design enables the collection of structured and measurable data reflecting actual marketing practices in SMEs. The use of an online survey facilitated coverage of geographically dispersed enterprises, including those operating under conditions of military and logistical disruption.

This design is suitable for exploratory and explanatory purposes, focusing on measurable marketing behavior and the application of specific tools in the SME environment (Urbach et al., 2009).

Although this study applies a single-method quantitative approach, its focus on observable and quantifiable digital marketing practices provides a solid basis for empirical analysis.

Future research can complement these findings with qualitative methods (e.g., interviews or case studies) to gain a deeper understanding of the managerial motivations and organizational culture that influence digital transformation (Hinings et al., 2018; Cioppi et al., 2023).

The selected quantitative design and correlation analysis were chosen specifically to test the proposed hypotheses regarding differences in digital marketing tool adoption and the influence of firm-level characteristics.

## 2.2. Data collection methods

This study is based on a quantitative research design, with data collected through an online questionnaire aimed at assessing the level of digital transformation in the marketing activities of SMEs in Ukraine. The target audience was business owners and employees of SMEs operating in Ukraine (UNDP, 2024a; World Bank, 2024). Respondents included business owners, top managers, and marketing staff, as these groups are directly involved in strategic and operational marketing decision-making within SMEs. The survey focused on enterprises working with Ukrainian clients in any sector of the economy.

The questionnaire was developed based on contemporary academic literature and existing digitalization frameworks, drawing on selected indicators commonly used in the Digital Intensity Index and DESI, adapted to capture digital marketing practices at the firm level in Ukrainian SMEs. The questionnaire consisted of 16 closed-ended questions covering the use of digital marketing tools and strategies. The questions were designed to assess the use of digital marketing tools and practices, such as CRM systems, SEO, SMM, content marketing, PPC advertising, social media strategies, email marketing, marketing analytics and content creation technologies (Rydzewska & Szwajca, 2024; Cioppi et al., 2023). Some questions are focused on the implementation of specific digital marketing tools, elements of strategic planning (e.g., the presence of a digital marketing or SMM strategy), and digital competencies of marketing staff (Prodius & Donetskova, 2022; Cioppi et al., 2023). These

specific questions were selected to capture both the intensity of digital marketing adoption and the strategic competencies of marketing personnel. Their structure and content reflect the most common and impactful tools used by SMEs, allowing the survey to measure both frequency and effectiveness of digital marketing practices.

A three-point ordinal scale was used for each question with the following response options:

- regularly used – the tool is used systematically and consistently within the framework of business operations;
- occasionally used – the tool is used irregularly or without strategic planning;
- not used – the tool is not used at all due to lack of resources, knowledge, or resistance to change.

The three-point ordinal scale allows for standardization of responses and comparability across enterprises. The questionnaire followed a logical sequence to ensure clarity, avoid respondent fatigue, and improve data quality (Malhotra et al., 2020).

Digital marketing adoption variables were operationalized as sixteen indicators (X1–X16), each representing the use or availability of a specific digital marketing tool or practice. The full questionnaire is provided in Appendix A for reference. These variables included CRM systems, online sales channels, market research activities, digital skills of marketing personnel, website availability, social media presence, marketplace use, digital marketing and SMM strategies, internet and affiliate advertising, social media advertising, marketing analytics, email marketing, e-commerce performance analytics, and content and design tools. Each variable was measured using the three-point ordinal scale described above, reflecting the frequency and intensity of tool usage.

To support the analysis of relationships between enterprise characteristics and digital marketing adoption, the study considered five key firmographic indicators:

Y1 – number of employees;

Y2 – annual revenue;

Y3 – net income;

Y4 – sector of the economy (industry, trade, services);

Y5 – period of market activity (years).

These firmographic variables were measured using open-ended and multiple-choice questions and were used for subsequent correlation analysis.

The relationships between variables were examined using descriptive statistics and correlation analysis.

The questionnaire was administered via Google Forms and distributed via social media platforms (Facebook, LinkedIn, Instagram) and messengers (Telegram, Viber). Relevant online communities for entrepreneurs and professional networks were selected (Saunders et al., 2016; Veal, 2018). This approach allowed for broad coverage within a limited timeframe and in the context of logistical constraints caused by the war (O'Neill, 2023).

The survey was conducted from February 2024 to March 2024, covering SMEs operating in various regions of Ukraine, including both displaced and non-displaced areas, to ensure representativeness of the current business environment. The study did not differentiate enterprises by proximity to frontline zones, focusing instead on firm-level digital marketing practices. This timeframe was chosen to capture current digital marketing practices under ongoing military and economic disruptions, while including a mix of displaced and non-displaced enterprises ensured representativeness of the broader Ukrainian SME sector.

The estimated time to complete the questionnaire was 10-15 minutes. 100 valid responses were collected and included in the final data set. The final sample represented SMEs using digital technologies, across a range of economic sectors, locations (both displaced and non-displaced) and sizes of operations (UNDP, 2024b).

Digital marketing adoption variables were operationalized based on the frequency of use of specific tools and strategies, while firm-level characteristics served as explanatory variables. These variables enabled the examination of associations between organizational attributes and levels of digital marketing implementation.

The study was conducted in accordance with ethical research standards for studies involving human participants. Participation in the survey was voluntary, and informed consent was obtained from all respondents prior to data collection. The questionnaire did not collect any personal identifiers, ensuring anonymity and confidentiality of responses. The collected data were used exclusively for academic research purposes and stored securely.

Limitations of the study include potential self-selection bias due to voluntary participation, as well as logistical constraints caused by ongoing military disruptions. These factors may affect generalizability of the results and should be considered when interpreting the findings.

### 3. RESULTS AND DISCUSSION

The online survey was completed by 100 respondents, consisting of Ukrainian SME owners and employees operating across various sectors of the economy. Among the surveyed enterprises, 50% were from the service sector, 23% from trade, and 27% from manufacturing. The descriptive analysis aims to reveal the general trends in the adoption of digital marketing tools, as well as to identify the most significant gaps in the digital transformation of marketing within SMEs. The reported use of online marketplaces reflects firm-level engagement in digital sales channels across the entire sample, including manufacturing SMEs that sell standardized or B2B-oriented products through online platforms, rather than sector-specific sales models.

The results indicate that CRM systems remain underutilized: only 19% of respondents reported regular use. The low level of adoption can be attributed to financial constraints and the absence of affordable CRM solutions tailored to the needs

and budgets of Ukrainian SMEs (Sharabati et al., 2024; Prodius & Donetsko, 2022). Consistent with Munna et al. (2023), our study found low adoption of CRM systems among SMEs, while the widespread use of websites aligns with findings by Vinogradova and Nedopako (2021) regarding basic digital channels.

In contrast, online sales channels are more widely adopted. Approximately 46% of respondents regularly sell goods or services online via websites or marketplaces. A notable 98% of businesses reported having a website, while 79% maintain a marketplace store that supplements or replaces a traditional e-commerce website. However, only 53% of businesses have an active social media presence, indicating underdeveloped brand-building and online promotion strategies. Similar to Sharabati et al. (2024), our results show that SMEs prioritize low-cost, low-complexity digital tools such as online sales channels and social media profiles, reflecting global trends in SME digitalization.

Digital skills remain a significant barrier to transformation. Only 15% of respondents rated their marketing personnel's digital skills as high, and just 7% reported that their employees receive any form of structured digital training. Only 3% hire employees with formal education in digital technology. These figures highlight a critical human capital gap that limits the effective implementation of digital tools (V. Palii & Y. Palii, 2024; Munna et al., 2023). In line with Prodius and Donetsko (2022), the limited digital skills among marketing staff emerged as a critical barrier to implementing advanced tools like email marketing and analytics systems.

With respect to marketing strategy, the data reveals considerable weaknesses. Only 11% of SMEs have a structured digital marketing strategy, and 7% have an established SMM strategy. Consequently, digital marketing efforts are often sporadic, uncoordinated, or entirely absent, leading to inefficiencies and missed growth opportunities (Vinogradova & Nedopako, 2021; Cioppi et al., 2023). Unlike some prior studies suggesting strong links between firm size and digital adoption (Sharabati et al., 2024), our analysis indicates that size and revenue play only a minor role in the Ukrainian SME context, highlighting the importance of contextual factors.

Further findings are consistent with international evidence that SMEs often face financial, human capital, and strategic constraints that hinder comprehensive digital marketing transformation (Cioppi et al., 2023; V. Palii & Y. Palii, 2024), and include:

- 37% of SMEs regularly use internet advertising;
- 36% regularly use tools for content creation and digital design;
- only 25% consistently use marketing analytics tools, such as Google Analytics or CRM-based analytics;
- 19% use affiliate marketing strategies (e.g., influencer promotion);
- 13% regularly use social media advertising;
- mere 1% utilize email marketing regularly, indicating significant underuse of one of the most cost-effective marketing channels.

These patterns align with previous findings on SME digitalization, suggesting that Ukrainian SMEs prioritize low-cost and low-complexity digital solutions, while postponing the adoption of more integrated and analytics-driven marketing systems.

Descriptive statistics were calculated to summarize the central tendencies and variability in tool adoption, while correlation analysis was conducted to examine potential associations between firmographic characteristics and digital marketing adoption. This approach allows identification of patterns and key gaps in SMEs' digital marketing practices.

Table 1 summarizes descriptive statistics for each digital tool. High relative variability and notable standard deviations for several items (e.g., SMM strategy: SD = 0.59; email marketing: SD = 0.32) indicate inconsistency in adoption rates across the SME sector. The coefficient of variation is particularly high for tools like email marketing (CV = 3.56) and SMM (CV = 2.10), confirming the fragmented nature of digital marketing transformation in Ukraine.

**Table 1.** Descriptive statistics for digital marketing tool adoption among Ukrainian SMEs

Variable No.	Survey question (abbreviated)	Mean	Most representative answer	Variance	Standard deviation	Coefficient of Variation
X1	Use of CRM systems	0.48	Not used	0.64	0.80	1.66
X2	Online sales via website or marketplace	1.41	Online turnover ≈ 50%	0.35	0.59	0.42
X3	Online research of market environment	1.06	Occasionally used	0.48	0.69	0.65
X4	Digital skills level of marketing personnel	1.02	Medium	0.28	0.53	0.52
X5	Availability of company website	1.96	Yes	0.08	0.28	0.14
X6	Presence on social media platforms	1.06	Occasionally used (partial use)	1.01	1.00	0.95
X7	Availability of an online store on a marketplace	1.58	Yes	0.67	0.82	0.52
X8	Existence of a digital marketing strategy	0.49	No	0.47	0.69	1.41
X9	Use of internet advertising	1.15	Occasionally used	0.57	0.76	0.66
X10	Use of affiliate marketing	0.66	Not used	0.61	0.78	1.18
X11	Existence of a structured SMM strategy	0.28	Not used	0.35	0.59	2.10
X12	Use of social media advertising	0.46	Not used	0.51	0.72	1.56
X13	Use of marketing analytics tools	0.98	Occasionally used	0.52	0.72	0.74
X14	Use of email marketing	0.09	Not used	0.10	0.32	3.56
X15	Use of analytics systems for e-commerce performance tracking	0.82	Partially covers processes	0.43	0.66	0.80
X16	Use of design and content creation tools	1.12	Occasionally used	0.59	0.77	0.69

*Note:* Mean is the average score across all responses for each item (0-2 scale). Most representative answer is the qualitative category corresponding to the mean (rounded or interpreted). Variance/standard deviation measures the spread of responses. Coefficient of Variation (CV) indicates the relative variability; higher CV suggests greater inconsistency among respondents.

Although many Ukrainian SMEs have embraced digital channels for sales and communications, systematic digital marketing transformation remains limited due to financial, technical, and human resource barriers. The lack of strategic planning, low adoption of analytics, and weak internal competencies significantly hinder the potential benefits of strategic readiness for digital transformation.

To examine the relationship between enterprise characteristics and the level of digital marketing transformation, a correlation analysis was conducted. The goal was to test whether variables such as firm size, revenue, profitability, sector, or time on the market are significantly associated with the use of digital tools.

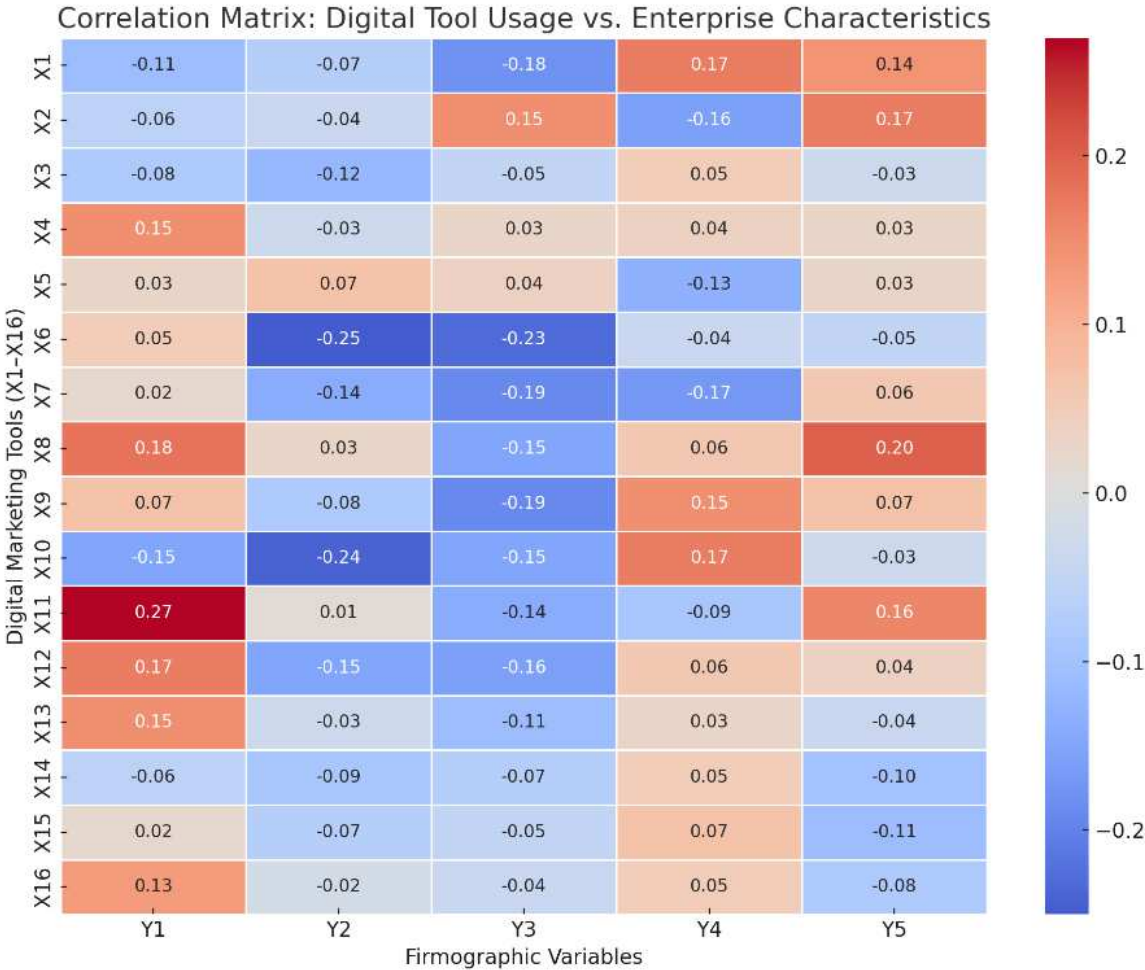
Digital marketing adoption variables (X1–X16) were matched with each firmographic factor (Y1–Y5). The resulting correlation matrix is visualized in Figure 1.

According to the key findings, weak positive correlations exist between having SMM strategy (X11) and number of employees ( $r = 0.27$ ) and years in business ( $r = 0.16$ ). A slight positive correlation exists between digital marketing strategy (X8) and

number of employees ( $r = 0.18$ ) and years in business ( $r = 0.20$ ). Negative or near-zero correlations exist for most other variables, including revenue and net income, suggesting that financial performance is not a primary driver of digital marketing tool adoption. Minimal correlation exists between sector of the economy (Y4) and any digital tool, implying that digital adoption patterns are not sector-specific. These results do not support a substantively meaningful relationship between firm size, financial metrics, or sector and the level of digital marketing transformation.

The analysis confirms that Ukrainian SMEs are actively using digital technologies for basic functions like web presence and online sales, but face serious limitations in adopting strategic, data-driven digital marketing tools. Human capital deficits, lack of strategy, and low investment in analytics and content systems emerge as key bottlenecks.

Furthermore, the absence of strong correlations between firm characteristics and tool adoption implies that digital transformation challenges are widespread and not limited to a specific size or sector of SME (Sharabati et al., 2024; Prodius & Donetskova, 2022). These findings reinforce the need for national-level support programs, affordable digital solu-



Note: Bold values indicate the strongest correlations (although still relatively weak). Most coefficients are between -0.25 and 0.27, indicating weak to very weak correlations. Negative values suggest inverse relationships between digital tool usage and firmographics. The matrix reveals no statistically strong relationships, which supports the conclusion that digital transformation is not significantly driven by enterprise size, sector, or financial indicators, but likely by other contextual or strategic factors.

Figure 1. Correlation matrix between digital marketing variables (X) and firm characteristics

tions, and workforce reskilling to enhance market- ing competitiveness in Ukraine’s SME sector.

This study was guided by three research questions and corresponding hypotheses developed to explore the adoption, barriers, and enterprise-specific factors affecting strategic readiness for digital marketing transformation among Ukrainian SMEs. Based on the descriptive statistics and correlation analysis presented earlier, the following conclusions can be drawn regarding the confirmation or rejection of each hypothesis.

H1: Among Ukrainian SMEs, digital tools that require fewer technical and strategic investments (such as websites and social media

profiles) are more widely adopted than advanced tools such as email marketing, affiliate marketing, or SMM strategies.

The findings from the descriptive statistics support this hypothesis. Digital tools with low technical complexity and financial barriers, such as websites (mean = 1.96), marketplace stores (1.58), and basic social media presence (1.06), show high levels of adoption. In contrast, more advanced or strategic tools, such as email marketing (mean = 0.09), SMM strategy (0.28), and affiliate marketing (0.66), are used significantly less frequently. These results suggest that while SMEs are willing to adopt basic digital tools for visibility and sales, they face challenges in implementing complex or

resource-intensive marketing strategies. Thus, *H1* is fully supported.

*H2: The lack of a clearly defined digital marketing strategy and insufficient digital skills among marketing staff are key limiting factors in the effective use of digital marketing tools by SMEs.*

The data confirm that organizational constraints significantly hinder digital transformation. Only 11% of businesses have a digital marketing strategy, and 7% have an SMM strategy. The mean value for the “digital marketing strategy” item is only 0.49, and for “SMM strategy” just 0.28, indicating that the majority of respondents lack formal planning in this area. Furthermore, the mean level of digital skills among staff is moderate (mean = 1.02), with only 15% of SMEs reporting high digital literacy among their marketing personnel. The limited adoption of key tools such as CRM (0.48), analytics (0.98), and social media advertising (0.46) reinforces the interpretation that digital tool use

is sporadic and uncoordinated. Therefore, *H2* is strongly supported.

*H3: Larger and more experienced SMEs (measured by number of employees and years on the market) show higher adoption of digital marketing tools than smaller and newer enterprises.*

Correlation analysis reveals only weak positive associations between firm size (measured by number of employees and years of operation) and the use of some digital tools. For example, there is a modest correlation between having a structured SMM strategy (X11) and the number of employees ( $r = 0.27$ ), and between tool use (X12-X13) and years in the market ( $r = 0.16-0.20$ ). At the same time, correlations between digital tool use and financial indicators (revenue, net income) were weak or negative. These results suggest that while size and longevity may play a minor role, they are not decisive factors in digital marketing transformation. As such, *H3* is only partially supported.

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## CONCLUSION

This study aimed to assess the level of digital marketing management among Ukrainian small and medium-sized enterprises (SMEs), identify key organizational barriers to digital marketing adoption, and examine the relationship between firm-level characteristics and strategic readiness for digital transformation under conditions of prolonged economic instability.

The results demonstrate that digital marketing management in Ukrainian SMEs remains partial and fragmented. While basic tools such as websites and online marketplaces are widely adopted across the sample, the use of advanced and strategically integrated instruments remains limited. This indicates a predominance of operational rather than strategic approaches to digital marketing implementation.

The findings indicate that the primary constraints on digital marketing transformation among Ukrainian SMEs are organizational and human-capital related. Firm size, sector, and financial indicators do not demonstrate a substantively meaningful relationship with the level of digital marketing transformation, pointing to systemic rather than firm-specific limitations.

Prolonged economic instability and wartime conditions further intensify these constraints by limiting SMEs' capacity for long-term planning, investment in digital transformation, and retention of qualified personnel. In this context, the adoption of basic digital marketing tools reflects adaptive behavior aimed at maintaining business continuity under crisis conditions.

This study has several limitations. The survey focused on SMEs with an existing level of digital presence, which may bias the results toward more digitally active firms. Besides, the sample structure and reliance on self-reported data may limit the generalizability of the findings. These constraints should be considered when interpreting the results.

Future research may extend these findings by incorporating qualitative methods, longitudinal designs, and objective performance indicators to better capture the dynamics of digital marketing management and strategic transformation in SMEs. Such studies would further enhance the understanding of how managerial capabilities and organizational readiness shape digital competitiveness in emerging and transitional economies.

## AUTHOR CONTRIBUTIONS

Conceptualization: Anastasiia Mostova, Liudmyla Batsenko, Inna Arakelova, Roman Halenin, Nataliia Klietsova, Valeriia Baranova, Anastasiia Krasovska.

Data curation: Anastasiia Krasovska.

Formal analysis: Nataliia Klietsova.

Investigation: Anastasiia Mostova, Liudmyla Batsenko, Roman Halenin, Nataliia Klietsova, Anastasiia Krasovska.

Methodology: Anastasiia Mostova, Inna Arakelova, Valeriia Baranova.

Project administration: Anastasiia Krasovska.

Resources: Liudmyla Batsenko, Inna Arakelova.

Validation: Liudmyla Batsenko.

Visualization: Anastasiia Mostova, Roman Halenin.

Writing – original draft: Anastasiia Mostova, Liudmyla Batsenko, Inna Arakelova, Roman Halenin, Nataliia Klietsova, Valeriia Baranova, Anastasiia Krasovska.

Writing – review & editing: Anastasiia Mostova, Inna Arakelova, Valeriia Baranova.

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## APPENDIX A

**Table A1.** Questionnaire for online survey to assess digital marketing adoption by SMEs in Ukraine

Questions	Response options	Score
1. Does your company use CRM systems?	Regularly, yes	2
	Indeed, but not regularly	1
	No	0
2. Does your company use online sales (marketplaces, websites, or mobile applications)?	Yes, the online turnover stands at >50%	2
	Yes, the online turnover amounts to 50%	1
	No	0
3. Does your company conduct business environment research online (competitors, target audience, etc.)?	Regularly, yes	2
	Indeed, but not regularly	1
	No	0
4. What is the level of digital skills among the company's personnel?	High	2
	Medium	1
	Low	0
5. Does your company have a website?	Yes	2
	No	0
6. Does your company have a business profile on social media?	Yes	2
	No	0
7. Does your company have an online store on a marketplace?	Yes	2
	No	0
8. Does your company have digital marketing strategy?	Yes, and it's done regularly	2
	Yes, but the execution of the strategy is not regular	1
	No	0
9. Does your company use Internet advertising?	Regularly, yes	2
	Indeed, but not regularly	1
	No	0
10. Does your company use affiliate marketing?	Regularly, yes	2
	Indeed, but not regularly	1
	No	0
11. Does your company have SMM strategy?	Yes, and it's done regularly	2
	Yes, but the execution of the strategy is not regular	1
	No	0
12. Do you use social media advertising?	Regularly, yes	2
	Indeed, but not regularly	1
	No	0
13. Does your company use marketing analytics (Google Analytics, CRM systems, etc.)?	Regularly, yes	2
	Indeed, but not regularly	1
	No	0
14. Does your company use email marketing?	Regularly, yes	2
	Indeed, but not regularly	1
	No	0
15. Does your company use analytics systems for planning e-commerce metrics and tracking results (Google Analytics, etc.)?	Yes, it encompasses all processes and channels of electronic commerce	2
	Yes, it partially covers the processes and channels of electronic commerce	1
	No, the analytics are done manually	0
16. Does your company use tools for design, content writing, etc.?	Regularly, yes	2
	Indeed, but not regularly	1
	No	0