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**CONDUCTING A NATIONAL DIGITAL ADVERTISING CAMPAIGN
UNDER CONDITIONS OF UNCERTAINTY
ПРОВЕДЕННЯ НАЦІОНАЛЬНОЇ ДІДЖИТАЛ РЕКЛАМНОЇ
КАМПАНІЇ В УМОВАХ НЕВИЗНАЧЕНОСТІ**

Summary. *The subject of the study is an analysis of the national advertising campaign of an international brand using digital marketing tools within the framework of strategic marketing communications and brand management; digital marketing tools are considered as part of the company's marketing communications strategy.*

The purpose of the study is to consider the stages of a national advertising campaign, to characterise the features of digital marketing tools; to compare the effectiveness of digital marketing methods used to maximise the coverage of the target audience and promote brand values in the context of strategic marketing communications; to study the issues of evaluating the effectiveness of such digital advertising campaigns.

Research methods. *The study uses the dialectical method of scientific knowledge, the method of analysis and synthesis, the comparative method, the*

method of data generalisation, the method of expert evaluation, and the monitoring method.

Results of the work. This paper defines the place and role of digital tools in the framework of a national advertising campaign in the context of the war in Ukraine and uncertainty in society. Using the example of a relevant advertising campaign of an international brand present in the Ukrainian market, the paper outlines strategies and approaches to conducting national campaigns with the aim of informing, improving the brand image, etc. The paper also considers the issues of evaluating the effectiveness of digital advertising campaigns, provides examples of evaluation using econometric models and include proposals for conducting relevant marketing research. The paper describes the media and analyses their relevance in the modern information field, conducts a comparative analysis of their effectiveness based on the experimental experience of cooperation with representatives of medium and large businesses. Proposals for effective methods of conducting image advertising campaigns and assessing their impact on consumers are presented.

Conclusions. The results of the study are as follows: a set of strategies for effective national digital advertising campaigns that can be applied to international brands in conditions of market uncertainty is identified; possible measures for analysing the effectiveness of the reviewed campaign are proposed.

Key words: digital marketing, national advertising campaign, image advertising, brand management, advertising effectiveness assessment.

Анотація. Предметом дослідження є аналіз національної рекламної кампанії міжнародного бренду засобами діджитал маркетингу в рамках стратегічних маркетингових комунікацій та бренд-менеджменту; розглядаються інструменти діджитал маркетингу як частина комплексу стратегії компанії щодо маркетингових комунікацій.

Мета дослідження – розгляд етапів проведення національної рекламної кампанії, надання характеристики особливостям інструментарію діджитал маркетингу; порівняння ефективності методів діджитал маркетингу, які застосовуються з метою максимального охоплення цільової аудиторії та просування цінностей бренду в контексті стратегічних маркетингових комунікацій; вивчення проблематики оцінки ефективності подібних діджитал рекламних кампаній.

Методи дослідження. У роботі використані діалектичний метод наукового пізнання, метод аналізу і синтезу, порівняльний метод, метод узагальнення даних, метод експертних оцінок, метод моніторингу.

Результати роботи. В даній статті визначено місце та роль діджитал інструментарію в рамках проведення національної рекламної кампанії в умовах війни в Україні та невизначеності в суспільстві. На прикладі відповідної рекламної кампанії міжнародного бренду, що присутній на ринку України, окреслені стратегії та підходи до проведення національних кампаній з метою інформування, покращення іміджу торгової марки тощо. Окремо розглянуто проблематику оцінки ефективності діджитал рекламних кампаній, наведені приклади оцінки із застосуванням економетричних моделей та пропозиції щодо проведення відповідних маркетингових досліджень. Складено характеристику засобам медіа та проаналізовано їх актуальність в інформаційному просторі сьогодення, проведено порівняльний аналіз їх ефективності на основі експериментального досвіду співпраці із представниками середнього та великого бізнесу. Викладено пропозиції щодо ефективних методів проведення іміджевих рекламних кампаній та оцінки їх впливу на споживачів.

Висновки. Результатами проведеного дослідження стали наступні висновки: виокремлено набір стратегій ефективного проведення національної діджитал рекламної кампанії, які можуть бути застосовані

до міжнародних брендів в умовах невизначеності на ринку; запропоновані можливі заходи для аналізу ефективності проведеної кампанії.

Ключові слова: *діджитал маркетинг, національна рекламна кампанія, іміджева реклама, бренд-менеджмент, оцінка ефективності реклами.*

Problem statement. Nowadays, digital advertising provides marketers with unparalleled innovation. In order to achieve great success in this field, it is important to have a thorough understanding of the principles underlying the market and the advantages it can provide. Today, companies have the ability to advertise to specific groups of individuals with customized commercial messages, in designated locations, at predetermined times, and in various formats. Digital advertising offers superior targeting and relevance to consumers, personalized ad content, sales programmed using real-time auctions, and measurement of advertising contacts for individual consumers, considering their various online and offline response behaviours, when compared to traditional advertising. Undoubtedly, the most significant advantage of digital advertising is its ability to be measured. Marketers can accurately determine how many individuals have viewed an advertisement and how many have engaged in other conversion actions. All of these features have resulted in a significant reduction in marketing costs. In 2018, digital advertising revenues reached \$108 billion, an increase of 117% from 2014. [28].

Utilizing social media campaigns presents an organization with the opportunity to not only inform users, understand their evolving information and cognitive needs, receive feedback, and monitor user interest in the organization and its products or services, but also comes with certain challenges. One of the key issues is how to evaluate the efficacy of social media campaigns and how to enhance them in a dynamic environment. This leads to a number of difficulties, including the challenge of reconciling the differing approaches of researchers and

practitioners to evaluate the effectiveness of social media advertising campaigns. Due to the novelty and dynamism of the subject matter, it is difficult for researchers to identify a comprehensive approach. Therefore, such studies typically address the complexity of evaluating the effectiveness of social media advertising campaigns when approaches, factors, and evaluation criteria are in a constant state of flux. Researchers may also have different assessments and interpretations of the factors that influence the effectiveness of social media advertising campaigns. Hence, the question is: how to analyse the results and effectiveness of a national digital campaign, including but not limited to brand image marketing communications? This issue needs to be researched.

Analysis of contemporary studies. The problematics of advertising campaigns that use digital marketing tools is considered by scientists and industry experts in Ukraine and, primarily, in developed Western countries in various aspects: studying social networks and advertisers' opportunities to use their advertising platforms (Ashley, C.; Tuten, T.; Felix, R.; Rauschnabel, P.A.; Hinsch, C; Penni, J.; Killian, G.; McManus, K.), the effectiveness of measuring the results of social media campaigns (Albarran, A.B.; Liu, J.H.; Shi, W.; Elrahman, O.A.; Ban, X.; Reilly, J.M.), effective branding and the "word of mouth" phenomenon (Morhart, F.; Malär, L.; Guèvremont, A.; Morrissey, B.; Gicquel, Y.; Creamer, M.), relationship marketing and brand management on social networks (Keller, K.; Kotler, P.; Sudha, M.; Sheena K.; Khamis. S; Ang. L; Welling. R), measuring the advertising effect and comparing the effectiveness of advertising media (Benes, R.; Lewis, R.A.; Daniel Nguyen; Justin M.R; David H.R.). At the same time, given the lack of a systematic study of digital marketing strategies, including the processes of managing and evaluating advertising campaigns focused on the use of digital tools, the subject requires further research.

Definition of objectives. The purpose of this paper, as a part of scientific research, is to define the stages of a national digital advertising campaign, study

the problems of applying appropriate marketing strategies, and compare the effectiveness of advertising tools within such a campaign.

Presentation of the primary material. The ubiquity and versatility of social media allows organisations to reach their target audience and, using appropriate marketing and communication tools, not only deliver information but also build relationships with customers, establish dialogue, and offer products or services that best meet their individual and ever-changing needs. It is known that almost 50% of the world's population uses social media, which is more than 3 billion users worldwide [14]. Each user spends an average of 2 hours and 25 minutes on social media and messaging [23]. Millennials are online on social media for an average of 2 hours and 38 minutes every day, while Generation Z uses social media for 2 hours and 55 minutes [32]. Social networks are divided not only by topic and purpose, but also by size: Facebook has more than 1.8 billion active users, YouTube – 1 billion, Instagram – 600 million, Twitter – 300 million and LinkedIn – 100 million [8].

In the realm of management and marketing disciplines, social networks have been assigned with the responsibilities of enhancing an organization's or product's image, encouraging users to share the content of an advertising campaign, decreasing marketing costs, and boosting sales [3]. Researchers have identified several benefits of social media for users such as motivating them to be more active, generating and sharing informative content, which can potentially lead to discussions about everyday problems among users [27]. Social media enables the rapid dissemination of information due to the significance of relationships and the frequency of communication. Moreover, social platforms facilitate the acquisition of new skills and self-expression [11], the creation of communities, the establishment of relationships within interest groups, and the exchange of information at various levels. This renders advertising campaigns particularly pertinent to specific audiences [24].

Killian et al. [11] conducted a study that examined the elements contributing to maintaining customer relationships, highlighting key factors that impact the evaluation of social media. These factors encompass the ability to perceive customer needs, develop customer relationships, comprehend the reasons for customers' following, engage customers through creative ideas, and capture and maintain customer attention through entertaining techniques such as contests, games, and other forms. Researchers also place emphasis on the importance of interactivity, allowing customers to control aspects of communication such as time, content, and channel. Albarran [2], in his study, identified significant criteria for measuring social media performance based on aspects such as financial targets, audience reach, awareness, and content management. In evaluating the effectiveness of business-to-consumer interaction, Liu et al. [31; 21] focused on utilizing indicators such as brand awareness (the ratio of the number of brand mentions to the total number of brands and competitors mentioned), consumer engagement (the ratio of the number of reviews, shares, and comments to the total number of views), and brand discussion rate (the ratio of the number of times the brand was mentioned to the total number of users).

The initial stage of a national digital campaign is to set goals and evaluate the effectiveness of achieving them. Sales and profits are the measure of the effectiveness of most advertising campaigns. A study by Jurgita et al. [9] shows the average expectations of businesses from such campaigns. A survey of 83 business experts found that the average social media advertising campaign lasts more than 30 days. The majority of experts (68%) spend more than €1,000 on average on a social media advertising campaign; more than half of the business representatives (54%) who participated in the survey said that they had more than 7,000 loyal followers before launching a large-scale social media advertising campaign. The study found that the more experience an expert has in running social media advertising campaigns, the more loyal customers they have. For the

majority of experts (64%), it took two to three business days to evaluate the effectiveness of an advertising campaign on social media.

Experts stressed that when evaluating the effectiveness of social media advertising campaigns, they face the problem of the lack of universal tools, and therefore integrate such tools as Facebook Ads Manager and Google Analytics. According to experts, the Facebook Ads Manager platform does not provide an accurate assessment of conversions and sales, and orders can only be seen on the Google Analytics platform, but there is a problem here as well, as rejected orders are also taken into account. For the above reasons, most business managers use measurement systems developed by the organisation or independently, as there is a need to obtain accurate information about how many consumers saw the advertising campaign, how many of them purchased the product or service offered by the organisation, how many of them shared the message, and other aspects. Such evaluation systems pay most attention to the implementation of a plan, the number of sales and the payback of an advertising campaign. [9]. Out of 39 main evaluation factors, company managers identified the key factors for assessing the effectiveness of advertising campaigns on social media: sales, content reach, website traffic, impressions, frequency, relevance score, leads, and audience growth, while the least important for experts were the cost per click and the number of repeat visits (figure 1).

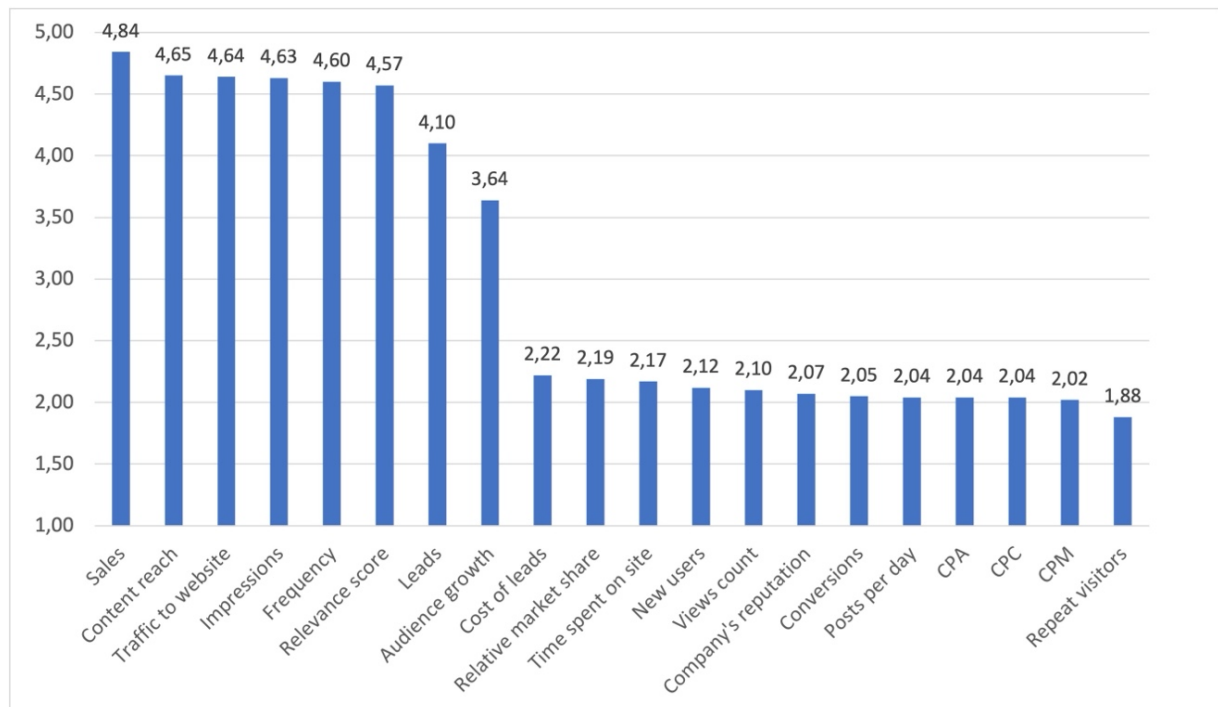


Fig. 1. Factors for managers to evaluate advertising campaigns in social media

Source: based on [9]

In the case of a brand image campaign, it is more difficult to determine performance indicators. The objective of image advertising is not merely to inform the consumer of a product's rational characteristics, but rather to shape their evaluation of the product, service, or brand directly or indirectly as a whole. Therefore, conventional evaluation metrics such as sales are not particularly relevant in this context. According to Morhart, Malär, and Guèvremont [25], in order to effectively establish a brand, marketers must have a deep understanding of the authenticity of their branded products or services, as well as the drivers and outcomes associated with it. As such, both scholars and practitioners recognize the importance of authenticity in shaping consumer behaviour and branding strategies.

Let us explore the issues of conducting a national digital campaign on the example of the campaign of brand "A". Company "A" is an actually existing organization, but the name has been changed for commercial security reasons. Before considering the problem of evaluating the effectiveness of the campaign,

it is necessary to understand the specifics of the business of company "A", which sells products with deferred demand (sanitary ware and fittings). This organisation is a representative of an international brand in Ukraine and as a representative does not engage in direct sales; the main function of the organisation is to interact with distributors and importers of goods, as well as brand management in the entrusted market of the country. Sanitary ware cannot be classified as FMCG, as a consumer may re-purchase products once in 5-10 years; many parties influence the purchase decision, including installers (plumbers), store consultants, designers and architects, and the choice of a particular brand at the last stage may be spontaneous and influenced by many factors, including the timeframe for decision-making. That is why company "A" needs its brand to remain "Top-of-mind" for consumers (maximum possible awareness, supported by the necessary brand qualities), and for a period of 5-10 years. All this makes it optimal for the company to conduct long-term image advertising campaigns.

In the context of the war in Ukraine, company "A" decided to conduct a brand image campaign with a social and patriotic context that would be remembered by consumers for a long time. The main goal of the advertising campaign was to highlight the brand's social initiative to support public institutions, vocational education, and ordinary households (through the establishment of special prices for product bundles in Ukraine). The main goal of the campaign was to reach several target groups, namely: professionals in the industry (plumbers, shop assistants), young professionals, and a wide range of consumers interested in home renovation. Given the limited budget (20,000 euros), out-of-home and TV advertising was deemed impractical, so the entire budget was distributed among digital advertising. The target indicators were defined as: coverage, number of ad views, traffic to the website page with information about the social initiative, as well as the number of applications

(leads) from representatives of state-owned utilities to participate in this social initiative.

The following marketing communication channels were selected based on the defined indicators: advertising on Facebook and Instagram, display ads on the Google Display Network (GDN), advertising on YouTube (showing videos about the brand initiative), news on partner portals (industry associations), banner advertising in partners' online stores, and news channels on the Telegram messenger. Telegram channels have replaced press releases, which in the past have shown extremely low coverage per dollar spent.

Since the company buys most of its advertising through intermediaries, working with Telegram channels, without such previous experience, seemed risky to managers. The reason for cooperation was the change in communication channels in society during the war. Sociological studies show that news channels in messengers have come close to the influence of television for the first time in the history of the Ukrainian media market (the so-called "TV nation") [1]. Although this phenomenon can be explained by the war in Ukraine (and the need to get information quickly), the influence of messengers on the media space is growing everywhere. Compared to social networks, messenger users decide who they want to read and in what order (since there is no algorithmic feed), which undoubtedly affects the relevance of information received and a desire to share it. Organisational problems of interacting with Telegram channels should be noted separately, given that Telegram is an anonymous media. The company's managers complained about problems with payments and accounting for advertising purchases; tracking advertising results is also problematic due to the lack of a single advertising account in Telegram systems (analytics is possible through third-party services). In this context, it is also important to choose specific Telegram channels based on the audience to be attracted: general news channels for a wide audience, professional channels to solve problems of attracting specific followers (for example, "Union of plumbers" channel). Company "A" was also

approached by representatives of television for free coverage of the social initiative; this allows this study to compare the results of image advertising on television with its new substitute.

In previous studies by the authors [18], using the example of company "A", it was proved that opinion leaders (bloggers) are extremely important in the complex of digital marketing tools as part of buzz marketing ("word of mouth"). In the case of buzz marketing, the authors follow Morrissey's definition [26]: "Buzz marketing is like a virus, spreading under the best of circumstances with a pre-determined purpose, conveying a message to people who like to surround themselves with products and services that carry that message". At the same time, company "A" did not include bloggers ("influencers") in the list of media for this national campaign. This can be explained, first of all, by the social topic of the national campaign, as well as the emphasised positioning of the brand's "seriousness". It is important to understand that influencer marketing focuses on using influencers on social media to promote a brand's message and reach the target market. Influencers are people who have accumulated a large number of followers on social media and are perceived as authoritative and influential in one or more niche markets [30]. On the one hand, traditional media, and even traditional digital marketing, including sponsored posts, pop-up ads, etc., should, according to researchers, be complemented by influencer marketing if they want to achieve the desired results in the media space [17]. Nevertheless, as we can see, there are some limitations to using this approach.

The use of endorsements has been a long-standing marketing tactic for influencing public opinion. It is a tool that has been utilized by politicians to shape political agendas and by advertisers to promote their products and services [15]. The concept behind this approach is that individuals perceive these public figures as role models, and as a result, are more likely to believe them and support their ideas. Endorsements can be a cost-effective and efficient way for companies to develop and maintain a good reputation [13; 15]. However, given the current

context of the war in Ukraine, characterized by uncertainty and strong societal divisions, company "A" may find it challenging to identify an influencer who would not pose additional reputational risks, such as potential association with controversial political views or past controversial publications. In general, there is a significant difference between consumers who see advertising on social media and consumers who receive advertising messages from influencers; in previous studies by the authors [18], the conceptual framework for working with opinion leaders was defined, as shown in figure 2. The following hypotheses were put forward:

- advertising posts from influencers generate more followers than direct advertising using social media tools;
- advertising posts from influencers generate more sales than direct advertising using social media tools;
- there is a significant difference in the intentions of consumers who see direct advertising and those who see advertising posts from influencers.

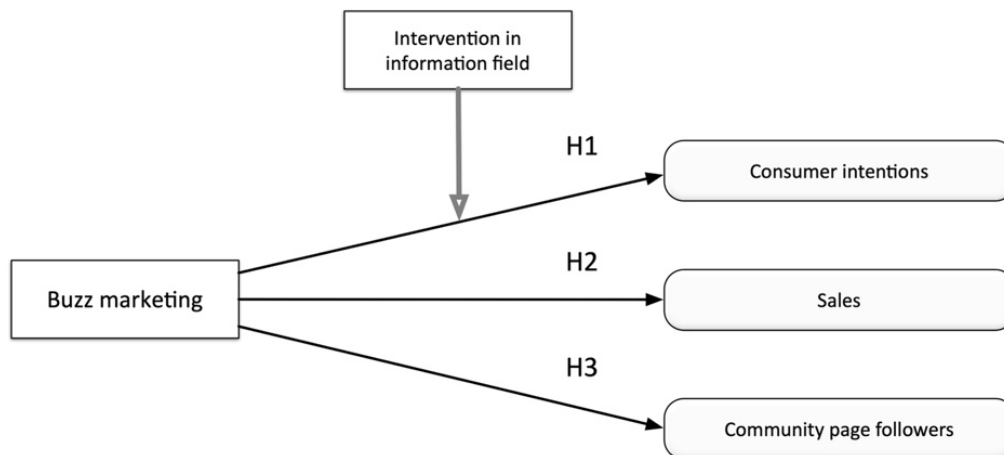


Fig. 2. The impact of buzz marketing campaigns in the context of cooperation with opinion leaders

Source: compiled by the authors

In particular, the authors proved that the best option in terms of attracting a larger audience for a brand is precisely tuned targeted direct advertising through social media. With this in mind, the hiring of influencers was excluded from the

planning process of the national digital campaign serving the brand of company "A".

In general, the idea of relationship marketing, which is clearly evident in this campaign, is to "build mutually beneficial long-term relationships with key customers in order to earn and retain their business" [16, p. 20]. To build and maintain such relationships, marketers need to understand the needs and goals of customers and respond to them. The ability of social media (and now also messengers) to effectively segment the market is one of the reasons for their effectiveness. Consumers can customise their pages and accounts so that the information they receive is relevant to them. Social media also makes it easier for marketers to reach influencers, even without prior sponsorship, as mentioned above. This phenomenon, of course, applies not only to Ukraine, but to the entire developed world: in the digital age, more and more people in Western countries are looking for new ways to communicate with like-minded people; citizens are more interested in meeting their needs for greater respect and self-fulfilment [16].

The national digital campaign of company "A", which is the subject of this study, lasted 3 months, in a time of reduced business activity and, consequently, less competition at advertising auctions. The total budget was 20,000 euros (including advertising agencies' fees), and the results are presented in Table 1. The budget allocation and coverage result by channel are shown in figures 3a and 3b.

Table 1

Results of the advertising campaign by media

Media	Forecast	Results	Budget, euro	Price per result, euro
Facebook and Instagram, awareness and engagement (all audiences)	834K reach/month	2.457 mln reach, 6.055 mln impressions, 233K ThruPlay views	3 300 (without VAT and fees)	0.85/1000 reached, 2/1000 ThruPlay views
Facebook campaign to receive applications from B2G	-	329 leads, 3 397 clicks, 187.8 reach, 868.3 impressions	525 (without VAT and fees)	1.18/lead from Facebook, 0.11/clicking link

(representatives of state institutions)				
Telegram channel "Київ реальний", more than 900K followers	no experience or ability to predict	387 600 views, 1 300 reposts, 3 000 reactions	715	1.84/1000 views
Telegram channel "Perepichka", more than 480K followers	no experience or ability to predict	89 400 views, 584 reposts, 2 610 reactions	975	10.9/1000 views
Google display ads campaign (GDN)	4.55 mln impressions, 13K clicks, 684 real visits	14.7 mln impressions, 59K clicks, 2.1K real visits	4 667	0.07 CPC, 0.40% CTR, 0.32/1000 impressions
YouTube ads campaign	7.46 mln impressions, 2.24 mln views, 7.4K clicks, 187 real visits	4.2 mln impressions, 1.507 mln views, 13.7 clicks, 951 real visits	2 333	0.16 CPC, 0.56/1000 impressions
Advertising within a Rozetka commercial partner	-	unknown	500	unknown
Stories on the TV channel + YouTube channel of this media outlet	5 TV airings (9.5 mln monthly viewers of TV channel)	950 views (YouTube channel)	special offer (charity)	-
Industry union and media	-	unknown	900	unknown
Press releases in leading online news outlets (cancelled)	(results of previous campaigns are given)	200-300 views/press release	500-800/media	2.5-2.7/view

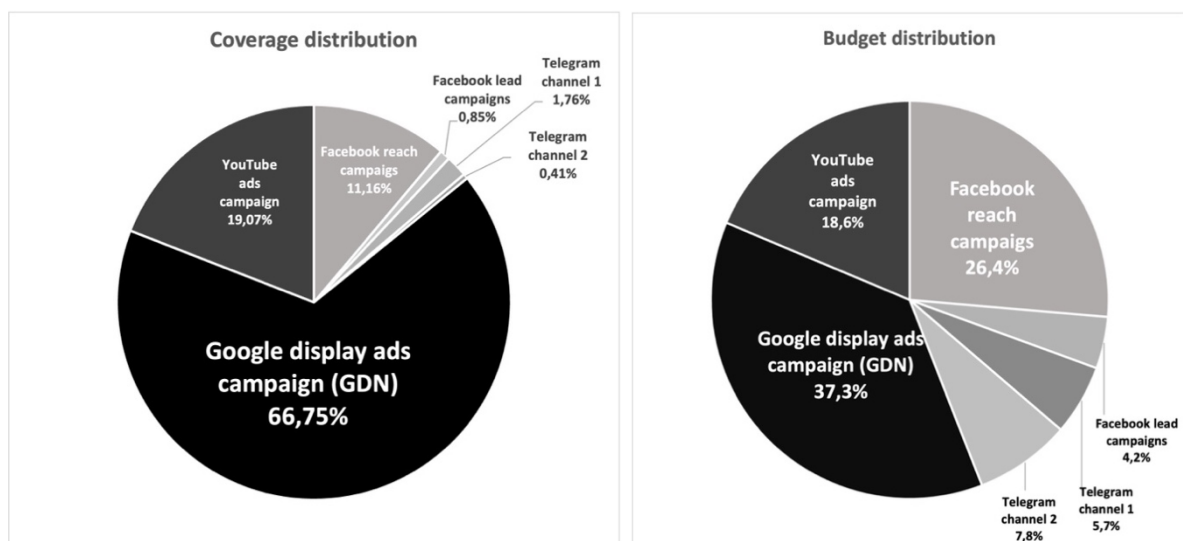


Fig. 3a and 3b. Breakdown of coverage and budget by campaigns

Source: compiled by the authors

Although the campaign lasted for 3 months, it was expected to have a long-lasting effect; this was also facilitated by the open-ended nature of the announced social initiative from company "A". It is worth noting that the advertising was differentiated for several non-overlapping audiences: installers (plumbers, industry specialists) and sales consultants; designers and architects; future specialists, students and their parents; those interested in homes renovation.

As can be seen from the results, press releases in leading online news outlets (such as tsn.ua, bykvu.com) cannot come close to other means in terms of effectiveness per unit of budget spent, so the need for their use in a campaign aimed at raising awareness of target audiences is extremely questionable. Also, for technical and organisational reasons, it is extremely difficult to measure the results of some media (for example, the number of viewers who watched a TV story on the air), which further complicates evaluation of the campaign.

The significant role of the mainstream news channels of Telegram messenger in the new, crisis-ridden information field is also evident; for the first time, a communication channel that approaches the effectiveness of national television in terms of coverage has become available on Ukrainian media market, and it is available with a much smaller budget, although it is associated with some organisational difficulties in purchasing advertising. According to the authors, the role of this media, especially in brand image campaigns, will only grow.

The last stage of a national digital campaign is evaluation of its results; at this stage, business representatives face major challenges that need to be addressed. 75% of marketers from companies that manage international brands said that measuring the effect of advertising is the main "threat to digital advertising budgets today" [4]. The effectiveness of advertising remains an inadequately researched topic by economists due to the insufficient offline data that firms and researchers have access to in order to measure its actual influence on consumer buying behaviour. The empirical testing of advertising theories with crucial implications for competition is even more challenging. The digital era

offers an unprecedented opportunity to bridge this information gap thanks to two factors:

- 1) at the moment, data on ad delivery and purchases at the individual level can still be linked and made available to advertisers;
- 2) ad delivery can be randomised at the individual level, creating the variability needed to identify cause and effect relationships.

The ease of data collection in online advertising has led to the fact that advertising campaigns usually provide precise quantitative data, such as click-through rates (CTRs). As a rule, CTR is only an intermediate indicator of the real result of interest to the advertiser, which is an increase in the number of purchases by consumers, both in the present and in the future. At the same time, many performance measurement concepts assume that if a consumer does not click on an advert, it has no impact on their behaviour. In addition, these same measurement systems assume that if a consumer clicks on an ad and subsequently purchases a product, that conversion is likely due to that particular ad (i.e., last-click attribution). Such an assumption seems particularly questionable in cases such as search advertising, where advertising is often already targeted at those consumers who are most likely to purchase the advertised product, using so-called conversion queries (as opposed to display ads such as on Google GDN).

A study by Lewis and Nguyen [19] proves that display (banner) ads can increase the number of keyword searches for the advertised brand. Some click-throughs on sponsored links are mistakenly attributed solely to search advertising, but while the targeted impact on search queries can be documented, the researchers cannot say whether search advertising is better or worse in terms of conversion rates when it is combined with display ads. A similar experiment on a much larger scale could answer this question, but advertising to 5-10 million people is not available to the advertiser in this study, company "A".

When an advertiser enters the online auction fray, it has to fight for the attention of consumers. In general, the cost of a typical digital campaign per

person is quite low. On average, banner campaigns that show several ads per day to the target audience cost about 1-2 cents per person per day. Television advertising, which is shown once to one person per day, can be more expensive. This can also explain the fact that the TV channel that cooperated with company "A" also has a developed YouTube channel, that is because advertisers see prospects in this media. It is worth noting that even an aggressive campaign usually receives only a small percentage of the daily advertising impact on the consumer. Consumers see a lot of ads a day, and probably only a small fraction of them are relevant enough for a particular person to influence their behaviour. The relatively modest average impact per person makes it difficult to assess cost-effectiveness. Further complicating the situation is the fact that for many advertisers, sales at the individual level are quite volatile. For example, the impact on sales of sanitary ware in the high end of the price spectrum can be either thousands of dollars or close to zero. There are also many other categories, such as consumer electronics, air travel, real estate, and others, which also have unstable consumption patterns. The exception is certain goods sold through direct sales channels [20].

Let us consider two well-known econometric equations in this context. The first is the R^2 of the regression of y on x , which shows the share of sales dispersion explained by advertising (for a more detailed explanation, see Lovell M. [22]):

$$R^2 = \frac{\sum_{i \in U} (\bar{y}_U - \bar{y})^2 + \sum_{i \in E} (\bar{y}_E - \bar{y})^2}{\sum_i (y_i - \bar{y})^2} = \frac{2N \left(\frac{1}{2} \Delta \bar{y} \right)^2}{2N \hat{\sigma}^2} = \frac{1}{4} \left(\frac{\Delta \bar{y}}{\hat{\sigma}} \right)^2$$

The second equation is a t -test to test the hypothesis that there is no influence of advertising:

$$t_{\Delta \bar{y}} = \frac{\Delta \bar{y}}{\hat{\sigma}_{\Delta \bar{y}}} = \sqrt{\frac{N}{2}} \left(\frac{\Delta \bar{y}}{\hat{\sigma}} \right)$$

In both cases, the standard regression equation is related to the relationship between the average sales impact and the standard deviation of sales between consumers. In the following hypothetical example, we calibrate the values using

the approximate median values from several advertising campaigns run on Google Ads by commercial partner of company "A" – a sanitary ware retailer selling products that were specially priced as part of a social initiative by company "A" (an initiative promoted by company "A"). For the sake of simplicity, we will consider several advertising campaigns as a single experiment.

The goal of the partner's advertising campaign was to increase sales by 5% during the two weeks of the campaign, which we will consider as a "period of influence" of interest. During this period, the advertiser's customers make an average purchase of \$80, and the standard deviation is \$350 (based on data from the advertiser for this advertising medium). The cost of the campaign was \$0.3 per customer, which equates to 20-100 banner ads at \$2-10 CPM (cost per thousand), and the gross margin (the markup on the cost of goods sold as a percentage of a price) is assumed by the advertiser to be around 8%. A 5% increase in sales means an additional \$4 per person, which is a net profit of \$0.32 per person. The goal of this advertising campaign was therefore to achieve a 7% return on investment (ROI): $\$0.32/\$0.3 = 1.07$. In this example, the advertiser is tasked with evaluating the \$0.32 difference in sales between the treatment and control groups against a \$350 standard deviation in sales. The ratio is very low: 0,00091. From the findings above, it follows that R^2 is equal to:

$$R^2 = \frac{1}{4} \cdot \left(\frac{0,32}{350} \right)^2 = 0,00000021$$

That is, even for a successful advertising campaign with a normal ROI, the advertiser expects an R^2 of only 0.00000021. This would require a very large N to detect any impact of the ad, let alone an accurate confidence interval. The low R^2 value for operations on variable x in our hypothetical randomised trial has serious implications for observational studies such as controlled variable regression analysis and other econometric techniques. A very low level of endogeneity of variables can seriously distort estimates of advertising effectiveness. If the partial correlation R^2 is very small, as in the case of advertising effectiveness, a small

error can easily turn into an economically significant impact on the coefficient estimates.

Regrettably, the sales of many advertised products and services are so volatile that even experiments with millions of unique users may not be sufficient to reject the null hypothesis that the advertising campaign had no impact on consumer behaviour. Measuring the impact on sales, particularly for long-term image advertising, can be challenging. Although digital advertising's ability to track the customer journey and link it to purchasing behaviour data at the customer level makes it easier to assess advertising effectiveness, this is not the case with brand image advertising. Consequently, further research is necessary to explore applied econometric methods in this context.

To create a system of values related to the brand through marketing communications, a national digital company should conduct quantitative marketing research. It is advisable to conduct further measurements of attitudes among target groups to determine how the attitude towards the brand has changed. This will enable a more accurate assessment of the effectiveness of the applied digital tools with a minimum budget, and in a way that is understandable for the company's managers. Obviously, such a survey of audiences needs to be measured, so it is a quantitative study.

To effectively utilize branding, a company must assess the value of its brand, commonly referred to as brand equity. Brand equity can be evaluated directly through questionnaires or indirectly through choice models or changes in stock prices. Conjoint analysis is a popular technique used by major international brands to measure brand equity and the value of product components [33]. Using conjoint analysis, an analyst can draw a conclusion about the respondents' assessment of attributes based on the preferences they give to different products; according to the authors, this quantitative method, however, cannot be used specifically for a brand image campaign. The main task of the study in this context is to obtain accurate, statistically reliable quantitative data, since it is necessary

not only to obtain opinions and assumptions, but to find out the exact quantitative values of the studied indicators, given that the necessary hypotheses about consumer behaviour have already been formed. The three primary methods for obtaining a quantitative assessment of attitudes or behaviour in a target population are direct measurement, questionnaires, and interviews (either face-to-face or over the phone).

The authors of this study suggest that companies managing international brands in Ukraine should consider omnibus surveys as an optimal method in terms of budget and comprehensive analytical data in the context of instability and socio-political upheaval caused by the war. Designed primarily as a tool to "take the temperature" based on demand or sentiments and to provide preliminary answers to pressing questions, omnibus surveys are, according to researchers [29; 5], ideal for providing greater speed and cost-effectiveness; they are particularly useful for:

- providing quick answers to questions of direct interest to the brand;
- obtaining information on a topic that is too short to require a separate survey;
- simple questions, such as consumer choice or social topics, where it can be assumed that respondents have a broad understanding of the subject matter and the implications of certain answer choices (e.g., a social initiative promoted by company "A");
- providing a sample of respondents for further research (subject to respondents' consent, as personal information, for instance, of individual salespeople or plumbers, should not be linked to survey responses);
- testing and piloting questions.

The analysis of the omnibus data by the managers of company "A", arranged after the end of advertising in all media, can be considered as the end of the cycle of this national campaign in question.

Key findings. Evidence of the digital advertising campaigns effectiveness is growing, but data on digital campaigns is still rarely systematically documented and made public. The initial stage of a national digital campaign should be to set goals and evaluate the effectiveness of their achievement. Since the task of a brand image communication campaign is to form a consumer's value assessment of a product or service and the brand itself, the typical factors for evaluating effectiveness should be revised. During the reviewed national digital campaign, it was found that press releases in online media cannot come close to other means of communication in terms of effectiveness; the role of news channels in the Telegram messenger has significantly increased in the current conditions in Ukraine.

The effectiveness of brand-building digital campaigns remains under-researched because the impact of image advertising on consumer purchasing behaviour in the long term is difficult to measure. The ability of digital advertising to analyse a buyer's journey and link it to purchase behaviour data makes it easier to measure the effectiveness of digital campaigns, but this is not the case with brand image advertising. The search for applied econometric methods in the context of measuring national digital campaigns effectiveness requires further research. To analyse the results of such campaigns, it is advisable to conduct quantitative marketing research using methods outside the framework of digital marketing.

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