

MEASURING DIGITAL ADVERTISING EFFECTIVENESS ON FACEBOOK AS PART OF A NATIONAL BRAND ADVERTISING CAMPAIGN

Bohdan Kolesnyk¹, Iuliia Kostynets²

¹Postgraduate student, Kyiv National University of Technologies and Design, Kyiv, Ukraine, e-mail: bogkolesnik@gmail.com, ORCID: <https://orcid.org/0000-0003-0912-3835>

²Doctor of Science (Economics), Associate Professor, Professor of the Department of Marketing, Economics, Management and Administration, National Academy of Management (Kyiv, Ukraine); Visiting Researcher at the Department of Business Administration, esp. Marketing, Heinrich-Heine-Universität (Düsseldorf, Germany), e-mail: yulia.kostynets@gmail.com, ORCID: <https://orcid.org/0000-0001-6427-675X>

Citation:

Kolesnyk, B., & Kostynets, I. (2023). Measuring digital advertising effectiveness on facebook as part of a national brand advertising campaign. *Economics, Finance and Management Review*, (3), 68–82. <https://doi.org/10.36690/2674-5208-2023-3-68-82>

Received: September 07, 2023

Approved: September 29, 2023

Published: September 30, 2023



This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC BY-NC 4.0\) license](https://creativecommons.org/licenses/by/4.0/)



Abstract. The subject of the study is the problem of assessing the effectiveness of digital activations (advertising campaigns) on Facebook and social media in general; finding ways to measure the impact of digital activations and the causal link of online information campaigns on a brand. The purpose of the study is to find out whether it is possible to reach the necessary target groups as part of a national brand image campaign using Facebook advertising; to monitor key indicators, results, and outcomes; to formulate key Facebook indicators that can be demonstrate the effectiveness of online campaigns; to study the issues of assessing the effectiveness of such digital advertising campaigns. This paper uses the dialectical method of scientific cognition, the method of analysis and synthesis, the comparative method, the method of data generalization, the method of expert evaluation, and the monitoring method. This paper defines the place and role of Facebook activations in the digital toolkit as part of a national advertising campaign in the context of the war in Ukraine and uncertainty in society. On the example of a relevant advertising campaign of an international brand present on Ukrainian market, the authors outline strategies and approaches to conducting national campaigns to inform and improve the brand image. The study also considers assessment of the brand impact of a Facebook advertising campaign, provides examples of efficiency assessment and proposals for conducting relevant marketing research. The authors characterize Facebook metrics, its algorithm for evaluating advertising on this platform and conduct a comparative analysis of approaches to Facebook advertising methods based on the experimental experience of cooperation with representatives of medium and large businesses. Proposals for analysing the effectiveness of digital campaigns on Facebook are presented. The results of the study are as follows: a set of strategies for effective conduct of a national digital advertising campaign on Facebook is identified, which can be applied to international brands in the face of market uncertainty; possible measures for analysing the effectiveness of a campaign are proposed.

Keywords: Facebook advertising campaign, digital marketing, image advertising, brand management, measuring advertising effectiveness.

JEL Classification: M30, M37

Formulas: 0; **fig.:** 1; **tabl.:** 3; **bibl.:** 19

Introduction. Social media campaigns have become particularly relevant due to their ability to reach millions of people quickly and inexpensively. Digital campaigns are typically distributed in the form of ads on social media sites such as Facebook, Instagram, TikTok, Twitter (less popular in Ukraine but also worthy of attention), YouTube and LinkedIn, or through ads placed on websites or search engines. The ubiquity and versatility of social media allows organisations to reach their chosen target audience and, using the right marketing and communication tools, not only deliver information but also build relationships with customers, establish a dialogue, and offer products or services that best suit their individual and ever-changing needs. It is known that almost 50% of the world's population uses social media – more than 3 billion users worldwide (Hootsuite, 2021). Each user spends an average of 2 hours and 25 minutes on social media and messaging (Mander, 2019). Due to the novelty and dynamism of the subject, it is difficult for researchers to agree on a single approach. Researchers can assess and interpret the factors that influence the effectiveness of social media advertising campaigns in different ways. Hence, the question is: how to analyse the results and measure national digital campaign effectiveness on Facebook in relation to marketing communications and brand management? This issue needs to be researched.

Literature review. The problematics of advertising campaigns that use digital marketing tools is considered by scientists and industry experts in Ukraine and, primarily, in developed countries in various aspects: studying social networks and advertisers' opportunities to use their advertising platforms (C. Ashley, 2015; T. Tuten, 2015; R. Felix, 2017; P. A. Rauschnabel, 2017; C. Hinsch, 2017; J. Penni, 2017; G. Killian, 2015; K. McManus, 2015), the effectiveness of measuring the results of social media campaigns (A.B. Albarran, 2017; J.H. Liu, 2017; O.A. Elrahman, 2017; X. Ban, 2017), relationship marketing and brand management on social networks (K. Keller, 2009; P. Kotler, 2009; M. Sudha, 2017; K. Sheena, 2017; S. Khamis, 2017; L. Ang, 2017; R. Welling, 2017), measuring the advertising effect and comparing the effectiveness of advertising media (R. Benes, 2023; R.A. Lewis, 2013; D. T. Nguyen, 2014). 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 Facebook, the subject requires further research.

Aims. The purpose of this paper, as a part of scientific research, is to define the stages of a national digital advertising campaign on Facebook, study the problems of applying appropriate marketing strategies, and compare the effectiveness of advertising tools within such a campaign.

Methodology. In circumstances of the war in Ukraine, which are associated with uncertainty in society and overload in the information space, examples of national image campaigns include a developed volunteer programme of Kyivstar cellular operator with a corresponding tariff plan; the

sale of a limited edition of salt in Rozetka online store with a significant share of profits going to help the army; the initiative of Nova Poshta logistics company to open its postal departments in the de-occupied territories as soon as possible, etc.

Let's focus on the latter initiative, as the results of Nova Poshta have become public in the media. A surge of posts about the reopening of company's offices immediately flooded social media. Positive posts included happy feedback, support, and gratitude from citizens, while neutral posts included news about the event. Analytical systems report 3.7 thousand mentions of the initiative by social media users, 67% of which were positive, with a total engagement of 89.5 thousand (Yasko, 2023). The Nova Poshta initiative prompted the spread of joke posts about a "competition" between Nova Poshta and Ukrposhta to be the first to reopen postal offices in the liberated territories. In total, more than a thousand posts were published about the "competition" between the postal services, with the vast majority on Twitter.

Corporate social responsibility in times of war has become mandatory for big business and their brands. The public is already asking companies what they are doing to support Ukraine and will certainly be interested in this in the future. In particular, this is evidenced by the results of a study conducted by Google's industry unit and research company Kantar. The study showed that more than 40% of respondents consider transferring funds for humanitarian aid, supporting IDPs, and participating in volunteer activities to be extremely important components of a brand's activities (Borodii, 2023). Today, when choosing a brand, the most important factors for consumers are a brand's relationship with aggressor countries, price, and support for the Ukrainian army. At the same time, only a third of respondents consider availability of a product line with Ukrainian symbols or a use of patriotic attributes when choosing a product; 51% of respondents consider practical actions of brands (e.g., volunteering) to be more valuable than symbolic actions, such as a use of Ukrainian attributes. In summary, the emphasis can be made on the importance of digital advertising within brand management and the significant impact of social media on marketing communications, including in conditions of a full-scale war.

The following pilot study aims to provide an initial understanding of the following questions:

- what is the best way to measure the impact of digital information campaigns;
- how to assess the effectiveness and causal impact of digital information campaigns;
- whether Facebook advertising reaches the necessary target groups as part of a national image campaign.

Practitioners, experts, and academic researchers often have different understandings of what impact means and how to measure it. There are various ways to evaluate the results of digital campaigns, which differ in complexity, reliability, and purpose. Evidence-based impact evaluations are an ideal tool for

measuring the "quantitative" impact of a specific activity on a clearly defined target group. They help to answer the question of what would have happened if an advertiser's intervention had not taken place. This approach, which can be called an experimental method of establishing causality, requires several rounds of data collection over time and a comparison group (Gertler et al, 2016).

The lack of experimental research on digital campaigns is partly due to the difficulty of measuring the impact of social media campaigns (López, 2019). Typically, impact evaluation begins with a baseline survey of the participating and non-participating groups to understand who these people are and how they think before they are exposed to the information campaign. Then, after receiving the data, people are tested (sometimes once, sometimes again after a few months) to see if there has been any change in their attitudes, awareness, or planned behaviour. However, transferring this research design to social media campaigns is usually not possible due to the way social media advertising platforms are designed.

An intervention in the information space (such as a digital campaign) does not always lead to immediate, visible impact. When assessing impact, it is important to outline a logical chain and identify key inputs, outputs, outcomes, and long-term impact (fig. 1).

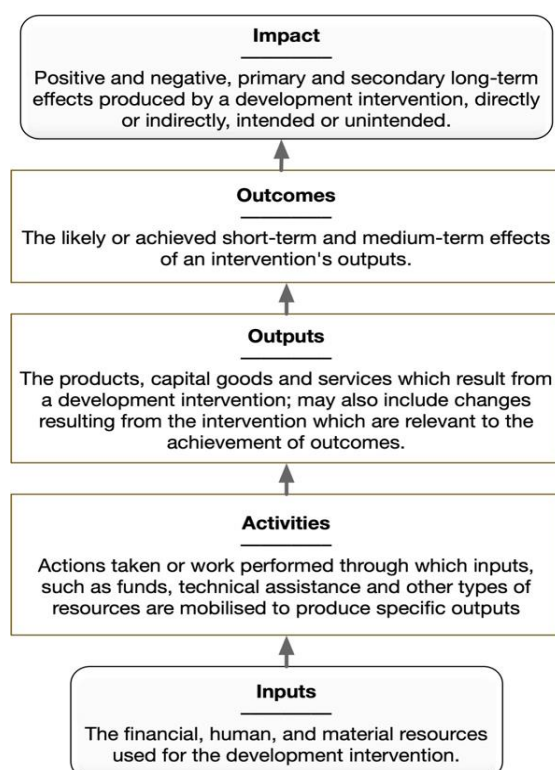


Figure 1. Chain of assessment components, based on materials of Organisation for Economic Co-operation and Development [OECD], 2013

The outcomes and impact of a campaign can be difficult to define and measure objectively. Therefore, evaluation of this type of intervention should

include monitoring of key inputs, outputs, and impacts. Every Facebook ad campaign can be measured through engagement analytics (number of views, clicks, interactions with ads, etc.), but one of the best ways to assess the impact on the behaviour or attitudes of a target group is through online surveys.

If the logical chain of an offline campaign is translated to a digital campaign on Facebook, its various components can be described as follows:

1. Resources: the budget allocated for the production, development, and distribution of a campaign content on social media;
2. Activities: creation of photo and video materials, coordination and monitoring of social media accounts, as well as interaction with beneficiaries;
3. Output: videos, static images and other media content used for a campaign;
4. Results: interaction with the campaign content: number of people watching a video, number of likes, clicks and people watching a video, other engagement indicators;
5. Impact: changes in attitudes, awareness, and behavioural changes (directly related to the campaign).

Academics and media market researchers are trying to find the best way to measure the impact and effectiveness of online advertising. Traditional market research initially relied on methods such as phone calls to survey a sample of people about brand awareness and recognition or knowledge of a particular product or advertising campaign. With the development of Internet and social media, some experts in the field have moved on to so-called "intercept surveys", which is typically a banner that appears every time a user visits a website and invites them to take part in an online survey. However, researchers have expressed concern that this method leads to user fatigue (overuse has led to fewer people clicking on ads, with academic literature detailing the phenomenon of "banner blindness"), as well as potential response bias that comes from conducting a survey on a page that displays ads (Gluck, 2011).

There are other ways to measure online performance, such as the engagement metrics provided by Facebook's advertising analytics (tabl. 1 for Facebook metrics and their definitions). Compiled by the authors based on "Glossary of Meta Ad Terms", Facebook, n.d.

These are also indicators that should be mentioned:

- sentiment analysis, i.e., how people discuss content;
- conversion rate, which is whether advertising leads to a measurable result.

Businesses usually measure conversions in purchases. One of the most common types of measurement is the "conversion lift" of advertising. For instance, when it comes to product advertising, this is the percentage of people who saw an ad, clicked on it, went to another page, and made a purchase. A similar concept can be applied to an informing image campaign, which shows a picture or post that encourages people to go to an external page. There are many

examples of campaigns that use Facebook or Instagram posts to lead people to a page with more detailed information;

- advertising recall, i.e., how many people remember seeing an advert. This metric exists on Facebook and shows how many people, according to the platform, will remember an ad within two days of viewing it, based on information collected by the social network about user behaviour;

- brand awareness, increasing awareness of a particular communication message. This can also apply to image campaigns; for example, if a campaign is associated with a particular initiative, whether it leads to people becoming more aware of that initiative.

Table 1. Facebook metrics and their definitions

Metric	Definition
Amount spent	Estimated total amount of money spent on a campaign, ad set or individual ad during the display schedule.
Frequency	An average number of times each person saw an ad. Frequency is calculated as a share of impressions divided by reach; on average, it ranges from 1 to 2 per ad set. It can be much higher depending on a budget, audience size, and schedule.
Impressions	The number of times that any content from a company (community) page or about page is displayed on a user's screen. Some users may see an ad more than once.
Reach	The number of unique users who have seen an ad at least once. Reach differs from impressions, which may include multiple views of an ad by the same people.
Potential reach	An estimate of the size of an audience that can see an ad. It is based on targeting criteria, advertising locations, and the number of people who have been exposed to an ad in Facebook apps and services in the last 30 days. It is not an estimate of how many people will see an ad, and this number may change over time.
Clicks on the link	The number of clicks on links in an ad that lead to places on Facebook or websites outside of Facebook.
Post engagement	The total number of ad-related actions that people take. This includes ad reactions, comments, shares, responses to an offer, photo or video views, and link clicks.
Reactions to a post/advertisement	The number of reactions to an ad. Facebook reactions include: "Like", "Love", "Care", "Haha", "Wow", "Sad", "Angry". This metric counts all the reactions that people have left during the ad.
Results	The number of times an ad has achieved a result based on the selected goal and settings.
Video that played to 100% completion	The number of times a video was played for 100% of its length, including plays that were skipped to the final part.
ThruPlay views	The number of times a video was played to the end (97%) or for at least 15 seconds.

Online evaluation should include monitoring key indicators, outcomes, and outputs. Facebook's key metrics can be indicators of the effectiveness of online campaigns. While Facebook metrics such as reach are important for understanding campaign outcomes (e.g., how many people saw the ad), engagement metrics such as reactions to a post, clicks on links, and video views are particularly important for understanding results of a national image campaign.

The use of "digital footprints" and "big data" is becoming increasingly popular among researchers and advertisers alike (Cesare et al, 2018). However, what makes social networks such as Facebook attractive for online information campaigns also makes them difficult to evaluate, and using advertising to reach target audiences or collect samples for surveys has several important limitations (López, 2019). A way to test the impact of advertising that is often used by marketers is to take a sample of the population and divide it equally, randomly, into treatment and control groups. The intervention group is shown the relevant ad, while the control group is shown an irrelevant ad that is not related to the main campaign. But as many social media advertisements now rely on automatic corrective algorithms that use zero or irrelevant ads as a control group, this method is no longer practical. For example, Facebook will show ads selectively or increasingly to people who are more likely to click on them, thus introducing additional bias into an experiment. In this way, an advertising platform can create an endogeneity problem that introduces additional bias and makes it difficult to determine whether an observed effect was caused by the intervention or by some other unrelated factor. In other words, in evaluating digital advertising on Facebook, there is a limited control over who is exposed to an ad and how many times the user sees the ad.

Facebook's advertising algorithm makes it difficult to conduct a randomised controlled trial, as it leads to problems with selection bias. Facebook's platform optimises a given campaign goal (e.g., clicks or conversions) and selectively shows ads to people who are more likely to click on them. This prevents creation of a true random distribution of exposure and also makes it possible for parallel campaigns to show ads to different groups at the same time, leading to potential cross-over errors. The problem with selection bias has important implications and makes it difficult to control for unobserved differences between target groups. As Lewis and Rao (2015) note: "These biases exist primarily because advertising is not inherently random" (p. 1941).

Facebook's user base is not necessarily representative of a country's population, which is a problem for a national campaign. Although Facebook boasts an impressive number of users (more than 2.5 billion), they are unevenly distributed across the world. As for the penetration of this social network in Ukraine, it has 16 million users (PlusOne, 2021). This social network is also characterised by the fact that advertising using its platform allows expanding an audience through traditional means of online marketing, although the advertising platform's tools are insufficient for Instagram, a social network with a higher average ER (engagement rate), greater coverage of Ukrainian residents under 31, and a larger number and weight of "opinion leaders" (PlusOne, 2021). At the same time, the total audience of Instagram in Ukraine is only 1 million less (and this gap is closing) and amounts to 15 million users, many of whom also use Facebook.

The people who use Facebook may also differ from an average citizen of a particular country, depending on their income, education, internet access, language skills, etc. For instance, younger audiences are increasingly using other social media and platforms such as Instagram or TikTok (DataReportal, 2023). In addition, Facebook estimates that 5% of monthly active users worldwide are fake accounts, and 11% of monthly active users worldwide are duplicates of existing accounts (Hootsuite, 2023), which can lead to potential errors in an entire sample. In addition, the composition of the platform's users, the size of individual segments, and usage patterns change over time; in other words, Facebook users in the same area may be more or less "representative" of people living in that area when surveyed at different times. Ad repetition cannot be completely avoided or eliminated, and therefore the target group may see an ad several times, which can lead to a decrease in interest in it as people feel oversaturated at some point. This is especially true in rural areas, where the potential audience is smaller, and the frequency of ad impressions can be much higher than in urban areas (Facebook frequency is the number of times an individual has seen an ad; it is calculated as the proportion of ad impressions divided by reach). In addition, if you do not provide a sufficient time gap between ad impressions, people may feel tired of an ad and complain about it.

The goal of image advertising campaigns is usually to change the audience's perception, knowledge, or attitude towards brand-related issues. In conventional (offline) research, these results can be measured by commissioning a survey. However, in digital research, the standard metrics provided by Facebook do not provide insight into these results. Facebook's metrics are mostly limited to "engagement", i.e., the degree to which users respond to ads. Measuring brand management-related outcomes solely through Facebook would require addition of a special online survey, which creates a number of new challenges. Advertising impact assessments require surveying the same audience at least twice over time. On Facebook, it is extremely difficult to track people who participate in online experiments because audience members are always anonymised. This makes it difficult to assign people to target or control groups. People may use different devices, and one device may be shared by several people, such as family members. In addition, new privacy technologies make it easier to disguise identity online, making it harder to trace an individual. Internet cookies are often used as the best way for advertisers to identify users online. Internet browsers store data about a user on specific websites so that sites can use this data when the user returns.

However, cookies are easily deleted, and changes in legislation in the EU and other developed countries are making it more difficult for websites to track cookies in certain circumstances (European Commission, n.d.).

Of course, to support a digital campaign, there is a practice of taking auxiliary measures to promote a brand message through marketing communications. A company can use BTL tools or change product packaging

so that it includes a call to join social networks via a QR code, for example. Traditional events and exhibitions, conferences, expert appearances on the radio, and joint live broadcasts via online platforms can also be a source of new followers (although holding events with a physical presence is complicated by martial law or quarantine restrictions in other countries). In addition, if a company has an electronic customer database (for example, in a CRM system), it can send out email newsletters, etc. However, in many cases, direct mail, packaging changes or large ATL advertising campaigns are not possible. In case of using internet marketing, the following can be used:

- interaction with bloggers (influencers);
- interaction with partners;
- own interactive formats;
- targeted advertising.

Let's take the example of the national digital campaign by brand "A", which was conducted using Facebook. Company "A" is a real organisation, but the name has been changed for commercial security reasons. Among the above methods, Company "A" chose targeted advertising using the Facebook online marketing platform to conduct a national digital campaign promoting its social initiative. For the advertising campaigns, similar audiences were generated based on Company "A" databases, which include installers, architects and designers, and salespeople; the audience sizes with a 2% similarity rate accounted for 445.4, 438.7, and 444.8 thousand, respectively. In Facebook advertising account, it is possible to create an advertising campaign using the "reach and frequency" buying type, which in turn allows to choose a fixed CPM (cost per thousand) value depending on the audience to accurately estimate the amount of costs before booking a campaign. Advertisers can also predict reach of the selected audience, set the number of ad impressions, and specify on which days, at what time, and in what order to display ads.

Thus, it is possible to book campaigns with the "reach and frequency" buying type up to 90 days in advance, 6 months before the start of displaying. When creating such a campaign, Facebook's system helps determine which audiences and targeting settings will be most effective. In this way, advertisers can organise a media planning process comparable to ordering TV, print, outdoor and similar types of advertising. Previously, this type of ad-buying was limited to advertisers with a budget of USD 50,000 or more, but this restriction is no longer in force. Nevertheless, this format of ad-buying was impossible for Company "A" since the activation (digital campaign) in question was planned for a period shorter than 2 months. In total, during the reporting period, Company "A" created 10 advertising campaigns using traditional "auction" buying type. With the aim of maximising reach, the company chose a strategy of increasing frequency of ad impressions. Table 2 shows results of the campaigns for the period from 01.02.2023 to 31.03.2023.

Table 2. Results of advertising campaigns on Facebook

Campaign, objective	Bidding strategy	Budget, USD (excl. VAT)	Reach, results	ThruPlay views (15+ sec.)	Impressions	Frequency	Price per result, USD	Page engagement
1. Installers, engagement, video	video views	600	148 920	333 330	387 504	2.60	2/1000 ThruPlay	366 401
2. Installers, reach, images	max. reach	600	696 553	-	1 514 958	2.17	0.86/1000 reached	3 696
3. Architects and designers, engagement, video	video views	500	145 307	287 542	339 192	2.33	2/1000 ThruPlay	321 234
4. Architects and designers, reach, images	max. reach	500	686 441	-	1 474 608	1.15	0.73/1000 reached	3 893
5. Salespeople, engagement, video	video views	400	119 356	221 105	256 109	2.15	2/1000 ThruPlay	241 527
6.1 Salespeople, reach, video	max. reach	600	471 794	-	885 981	1.88	0.56/1000 ThruPlay	158 273
6.2 Salespeople, reach, images	max. reach		583 278	-	1 133 276	1.94	0.57/1000 ThruPlay	1 934
7. Public institutions, traffic	clicks on the link	500	138 095, 100 leads	-	727 860	5.27	0.11/ click on the link	4 080
8. Public institutions, leads	Facebook form completions	200	49 748, 230 leads	-	140 407	2.82	1.18/lead from Facebook	1 977
9. Followers, post with video	video views	100	27 104	53 949	63 684	2.35	2/1000 ThruPlay	60 237
10. Підписники, post with images	max. reach	70	338 199	-	537 595	1.59	0.21/1000 reached	78 941

It is worth noting that the campaigns for receiving applications (leads) through the Facebook form and the form on the company's website were tested separately, which made it possible to compare the results.

Despite better performance of the Facebook form campaign (230 leads from the Facebook form versus 160 from the company's website), this advertising campaign was forced to be suspended due to technical issues with uploading collected data from the questionnaire forms. At the same time, this type of campaign demonstrated the effectiveness of Facebook targeting in Ukraine using the characteristics of "officials" and "civil servants", with an audience size of 35.5-41.8 thousand, which was dynamically expanded by Facebook algorithms to 11.4 million whether necessary (Advantage+ automatic expansion of detailed targeting).

The goals of these advertising campaigns were reach and engagement through video views, as this was in line with goals of the digital campaign as a whole. The "traffic to the website" strategy was not chosen due to organisational reasons, namely the inability to set up Facebook analytics on the corporate website, which would have made it difficult to measure the results. From this study, it has been experimentally proven that within one advertising campaign, dividing ad groups into those consisting of dynamically combined photos and those with video only is more effective than creating separate campaigns: the total reach of 1.05+ million for \$600 of advertising campaign targeted to salespeople (see 6.1, 6.2 in tabl. 2) versus 830+ thousand for \$1,000 in two advertising campaigns targeted to architects and designers (see 3, 4 in tabl. 2), despite the potential audience overlap (when groups of ads compete for the same audience, reducing overall results). Although one of the advertising campaigns targeted to architects and designers had "video views" objective, this did not increase its reach substantially, which proves that advertisers' high expectations of strategies focused on Facebook video are unreasonable. In this context, it is also important to remember Facebook's manipulation with overstated performance from video campaigns, which has been proven in court (The Atlantic, 2018; Graham, 2021).

Advertisers should take into account that advertising campaigns in category "social issues, elections and politics" (which include those launched by Company "A" as part of its national initiative) cannot be subject to automatic optimisation and have limited A/B testing. This is especially important for Ukrainian advertisers in the context of promoting socially important initiatives during the war.

In total, the national campaign in question reached 3.40 million people with an average frequency of 2.39, total engagement of the company's Facebook page amounted to 1.24 million; 20,370 sessions were registered on the "A" company's website during the reporting period (before the campaign it stood at 3,350 for the same period); more than 300 leads combined were registered from the website and Facebook advertising platform. However, these results should be interpreted with caution. Indicators such as reactions or clicks are low-engagement forms and do not give a clear picture of the impact of content on users, as people can react or click on a post without even reading or viewing its content. Therefore, it is not a proof that someone has actually changed their attitude towards Company "A" after learning about its social initiative. Ultimately, it is the results of further surveys, which the

authors believe should be conducted among industry representatives and other target groups, that will determine the actual effectiveness of the advertising reach and its impact on the brand image.

The difficulty of measuring effectiveness of Facebook advertising campaigns is related to the nature of the so-called "unique metrics" used by the system. These metrics do not indicate the number of actions, but the number of people who performed them. These are approximate metrics; they are based on a sample and depend on factors such as the number of accounts used by one person on Facebook services (which include Facebook, Instagram, WhatsApp, and Facebook Messenger). When one person performs actions from different accounts (for example, likes a photo or leaves comments), Facebook can attribute these actions to different people. Facebook also has various systems in place to help detect and remove fake accounts; in some cases, actions of fake accounts can affect unique metrics (e.g., size of the projected audience). At the same time, some metrics on Facebook are unsampled and use all available data (such as Impressions and Clicks). Nevertheless, Facebook uses more than 30 "unique metrics", including unique click-through rate, unique content views, unique link clicks, unique purchases, unique completed sign-ups, projected audience size, reach, and others ("Unique Metrics", Facebook, n.d.). Also, many Facebook metrics are constantly "in development" and their accuracy is not guaranteed. The presence of a large number of approximate metrics, as well as different conditions for their display for a particular advertising campaign, increases the complexity of assessing overall performance. It is worth noting that Facebook metrics are significantly different from those used, for example, in Google's advertising tools.

Although digital campaigns are relatively low-cost, partly due to savings in logistics and staffing costs, advertisers pay a high price for this: their results and impact in the context of brand management are not always clearly measurable, especially without involvement of research organisations.

In addition, tests within the national campaign of Brand "A" showed no evidence that static images receive significantly less engagement and reach than video. Other findings include the fact that Facebook allows an international brand to reach a fairly wide audience on a small budget, but effective targeting requires customised audiences from customer databases, including for promoting posts in the community (on the brand's page). Although the experiment with targeting civil servants and officials allowed us to reach a sufficient number of these categories of people, usually targeting with Facebook tools without a component of audience similarity to existing customers is not as effective. Another conclusion of the pilot study is that Facebook form-based lead advertising can be very effective and geo-targeted (which is especially useful for local initiatives and programmes targeting specific regions affected by the war), but lead data is difficult to process due to technical and organisational limitations. Facebook advertising is particularly useful for brand image campaigns because, unlike search advertising on Google, an advertiser does not work with demand, and therefore does not need to select queries with a formed demand. Also, unlike search, banner, and other digital advertising, in

the case of Facebook advertising, an advertiser has constant feedback from an audience through reactions and comments that can be left to ads or community posts. This feedback can also be considered one of the most effective and cheapest methods of A/B testing, while negative, unconstructive comments on Facebook can be easily hidden or deleted (unlike on other social networks, such as Twitter).

Results and discussion. Evidence of the digital campaigns' effectiveness is growing, but data on digital campaigns is still rarely systematically documented and published. Today, many campaigns, such as the national advertising campaign of Brand "A", include non-digital marketing communications, but also have an online component. Although numerous brands, government organisations and politicians run or fund digital campaigns on Facebook and other social media, there is still little empirical evidence of their effectiveness; this is partly due to the difficulty of measuring an impact of social media campaigns. Intervening in the information space with a digital campaign does not always lead to immediate, tangible results. Although platforms like Facebook are attractive to advertisers because they allow them to reach millions of people for little money, the way these platforms are designed makes it extremely difficult to measure the effectiveness of advertising in reaching the target audience. Based on the results of this study, several advantages and disadvantages of digital brand promotion campaigns on Facebook have been identified, as shown in tabl. 3.

Table 3. Effectiveness of digital advertising on Facebook and assessment of brand impact

Advantages	Disadvantages
<ul style="list-style-type: none"> - Reach a large audience at low cost - Easy to measure user engagement based on various metrics (clicks, shares, views, likes, comments, etc.) - The ability to vary headlines, sizes, images, videos, and text, which helps to increase traffic to other brand-related web pages and community pages - Large user base in Ukraine and developed countries - Ability to target people based on specific demographics such as gender, age, location, behaviour (based on customer databases) and occupation - Easy setup and quick launch on 4 social platforms at once (Facebook, Instagram, WhatsApp, Facebook Messenger) 	<ul style="list-style-type: none"> - Lack of clarity on whether the audience of ad represents the target audience - Engagement rates cannot be representative of changes in perceptions, attitudes, and behaviour, which are the overall goals of awareness campaigns - Difficulty in measuring changes over time (it is impossible to get a reaction from the same user twice), need for follow-up surveys outside of Facebook - Types of interventions in the information space are limited to posts with short messages, images or videos - Not relevant in low-income countries where Facebook penetration is low, with slow internet or electricity problems. Also, in underdeveloped countries, the composition of users may change over time (one device for several people), while many users from developed countries have multiple accounts - Ethical issues related to potential targeting of vulnerable groups (for social campaigns) or government officials; acute data privacy issues - Oversaturation of campaigns with ads with "reach" objective can lead to loss of user interest or complaints against an advertiser; inflexible settings of the frequency of ad display - Costs in relation to brand image impact remain unclear; small difference in cost compared to other digital marketing mediums

This study can only be the first step in a broader process of studying the effectiveness of digital campaigns aimed at brand management on a national scale. Research on the effectiveness of digital campaigns should not be limited to A/B testing; further experiments should be conducted, including analysing data from Facebook APIs (software tools for greater integration of websites and mobile apps with Facebook). Many brands should also consider other social networks and platforms that are becoming increasingly popular among young people to broaden their reach and better analyse target groups (Kemp, 2020).

Conclusions. This paper defines the place and role of Facebook activations in the digital toolkit as part of a national advertising campaign in the context of the war in Ukraine and uncertainty in society. On the example of a relevant advertising campaign of an international brand present on Ukrainian market, the authors outline strategies and approaches to conducting national campaigns to inform and improve the brand image. The study also considers assessment of the brand impact of a Facebook advertising campaign, provides examples of efficiency assessment and proposals for conducting relevant marketing research. The authors characterize Facebook metrics, its algorithm for evaluating advertising on this platform and conduct a comparative analysis of approaches to Facebook advertising methods based on the experimental experience of cooperation with representatives of medium and large businesses. Proposals for analysing the effectiveness of digital campaigns on Facebook are presented. The results of the study are as follows: a set of strategies for effective conduct of a national digital advertising campaign on Facebook is identified, which can be applied to international brands in the face of market uncertainty; possible measures for analysing the effectiveness of a campaign are proposed.

Author contributions. The authors contributed equally.

Disclosure statement. The authors do not have any conflict of interest.

References:

1. Hootsuite. (2021). *TikTok Hits 1 Billion Users – Faster Than Facebook*. URL: <https://blog.hootsuite.com/simon-kemp-social-media/>.
2. Mander, J. (2019). *Daily Time Spent on Social Networks*. GlobalWebIndex. URL: <https://blog.gwi.com/chart-of-the-day/daily-time-spent-on-social-networks/>
3. Yasko, A. (2022, December 1). *Biznes pid chas viiny: reaktsii na initsiatyvy brendiv*. YuSKAN Ukraina. [Business in time of war: reactions to brand initiatives] URL: <https://youscan.io/ua/blog/biznes-pid-chas-viini-yak-ukrayinci-reaguyut-na-iniciativi-brendiv/>
4. Borodii, A. (2022, October 25). *Reklama pid chas viiny: shcho pratsiuie, a shcho ni – doslidzhennia Kantar*. RAU. [Advertising in times of war: what works and what doesn't –Kantar research] URL: <https://rau.ua/novyni/reklama-na-vijni-kantar/>
5. Gertler, P. J. et al (2016). *Impact Evaluation in Practice*. The World Bank, Washington, D.C.
6. López, G. (2019). Online migration campaigns: promises, pitfalls and the need for better evaluations. *Migration Policy Practice – A Bimonthly Journal for and by Policymakers Worldwide*, 9(3), 20–25.
7. *Development Results: An Overview of Results Measurement and Management*. (2013). Organisation for Economic Co-operation and Development (OECD), Paris.
8. Gluck, M. (2011). *Best Practices for Conducting Online Ad Effectiveness Research*. Interactive Advertising Bureau, New York.
9. *Glossary of Meta Ad Terms*. (n.d.). Facebook. URL: <https://www.facebook.com/business/help/447834205249495>
10. Cesare, N. et al (2018). Promises and pitfalls of using digital traces for demographic research. *Demography*, 55(5), 1979–1999.
11. Lewis, A., & Rao, J.M. (2015). The unfavorable economics of measuring the returns to advertising. *The Quarterly Journal of Economics*, 130(4), 1941–1973.

12. *Facebook ta Instagram v Ukraini*. (2021). PlusOne. [Facebook and Instagram in Ukraine] URL: <https://plusone.ua/research/en/>
13. *Top digital trends in 2023*. (n.d.). DataReportal – Global Digital Insights. URL: <https://datareportal.com>
14. *Facebook Demographics to Inform Your Strategy in 2023*. (n.d.). Hootsuite. URL: <https://blog.hootsuite.com/facebook-demographics/>
15. *Cookies webguide*. (n.d.). European Commission. URL: https://commission.europa.eu/resources-partners/europa-web-guide_en
16. *How Facebook's Chaotic Push Into Video Cost Hundreds of Journalists Their Jobs*. (2018). The Atlantic. URL: <https://www.theatlantic.com/technology/archive/2018/10/facebook-driven-video-push-may-have-cost-483-journalists-their-jobs/573403/>
17. Graham, M. (2021). *Facebook knew ad metrics were inflated, but ignored the problem to make more money, lawsuit claims*. CNBC. URL: <https://www.cnbc.com/2021/02/18/facebook-knew-ad-metrics-were-inflated-but-ignored-the-problem-lawsuit-claims.html>
18. *Unique Metrics*. (n.d.). Facebook. URL: <https://www.facebook.com/business/help/283579896000936>
19. Kemp, S. (n.d.). *Digital 2020: Global Digital Overview*. DataReportal – Global Digital Insights. URL: <https://datareportal.com/reports/digital-2020-global-digital-overview>