The Dormant Danger: How Meta Ignores Large-Scale Inauthentic Behavior Networks of Malicious Advertisers

Reset·Tech

About the Author and Organization

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Reset Tech

Reset Tech is a fully independent global enterprise with not-for-profit operations in North America, Europe, and Australia. Our mission is to guard against digital threats to our security, safety, and fundamental rights. We seek to "reset" the connection between media and democracy and restore the promise of technology that works for people and free expression. For more information, visit reset.tech.

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Executive Summary

Meta systematically ignores and overlooks the activities of large-scale anonymous networks of automatically created Facebook pages. These pages engage in coordinated inauthentic behavior (CIB) and political and scam advertising campaigns, all of which violate the platform's policies.

Typically, these networks consist of hundreds of thousands or even millions of nearly identical dormant pages that share common username patterns, visual branding, and other features that indicate their automated creation.

The dormant pages function as pre-made burner assets that can be used for running paid campaigns on the platform, facilitating both political propaganda and commercial advertising purposes. While a limited number of these pages are activated for advertising, their mere existence on the platform raises concerns. New assets can be activated at any moment to engage in paid campaigns.

Millions of Dormant Pages Pre-Prepared as Malicious Advertisers

In 2024, Reset Tech mapped seven dormant networks across multiple investigations. This ecosystem comprises 3.8 million pages. This report summarizes our comprehensive understanding of the problem. We outline a methodology for detecting and mapping these networks before they can be deployed as malicious advertisers. In addition, we provide a multistep approach for how the platform could effectively disrupt their activities. The report also highlights recurrent failures in Meta's advertising systems, which continue to allow malicious actors to advertise through anonymous and inauthentic pages.

Meta's Inadequate Response

Our research indicates that Meta consistently ignores and overlooks the existence of inauthentic networks, which are easy to detect and map using several common indicators. Furthermore, our findings suggest that the company is aware of these networks, as some of their ads have been identified in Meta's own Quarterly Adversarial Threat Reports since 2022. While Meta selectively removes ads and advertiser pages tied to some campaigns, it allows the dormant ecosystem to remain intact, continuing to profit from their activities. These findings raise concerns about the company's responsibility to address inauthentic advertising, automated behavior, and deceptive service usage on its platforms, as required by the EU's Digital Services Act (DSA).

We refer to these seven networks as a shared ecosystem because they have all participated in running political advertisements as part of the pro-Kremlin Doppelganger campaign between 2022 and 2024 and continue to do so. The operatives behind Doppelganger switch between pages from different networks to run the same ads, likely purchasing random advertising assets from third-party providers that initially established the ecosystem. By switching between ad accounts, they can reach broader target audiences while evading detection by the platform.

The Business of Manipulation and Fraudulent Advertising Schemes

In addition to the Doppelganger campaign, these networks operate multiple advertising campaigns, likely for various clients. The pages have been involved in election interference campaigns targeting audiences in Moldova, scam campaigns promoting online gaming apps, fraudulent investment schemes, fake medical supplements, sweepstakes, and other deceptive mass marketing schemes, all violating Meta's advertising policies. Our findings show that Meta has primarily focused on moderating the Doppelganger ads while neglecting these scam campaigns.

The campaign portfolio signals that the networks primarily serve commercial purposes, with pro-Kremlin disinformation being a minor aspect of their advertising activities. Our collection of 6,000 Doppelganger ads shows that all pages from inauthentic networks involved spent an estimated $118,048 to $674,923 on Meta, reaching 57,902,159 users in the EU. Due to Meta's lack of transparency about ad budgets, we cannot determine how much money is directed toward dangerous scams targeting audiences in the EU and beyond. For context, a recent report by the digital forensics company Qurium, ScamEmpire, reveals that the operatives behind two fraudulent investment campaigns running ads on Meta and Google extracted $35.5 million and $247 million from victims, respectively. It is unclear how much revenue social media platforms have gained from these scam ads.

The identity of the entities behind this dormant shared ecosystem of seven networks remains unclear. While some insights can be gathered from page details and branding styles, determining the geographic origin is difficult because Meta does not disclose the locations of page administrators or active advertisers. This lack of transparency is a significant failure that needs to be addressed.

This investigation reveals a shared ecosystem providing advertising assets for paid campaigns, including political propaganda, while highlighting Meta's systemic failures in ad moderation and transparency. Key issues include persistent transparency issues, like removing or relabelling problematic political ads in Meta's Ad Library, non-disclosure of ad budgets, and obfuscating advertiser identities.

The Importance of a Proactive Approach in an Ever-Growing Ecosystem

This report uncovers the tip of a very large iceberg: selling pre-made Facebook ad accounts is a well-established business model with hundreds of companies worldwide. Our analysis of 6,000 Doppelganger ads has identified at least ten other dormant Facebook networks promoting ads for this operation between 2022 and 2024. Their assets were activated and deactivated for disinformation-for-hire or scam-for-hire campaigns. Although we have not fully mapped the size of these networks, it is reasonable to assume that this shared ecosystem involves millions of automated, inauthentic pages.

Meta must proactively remove dormant advertising networks to prevent coordinated foreign interference and scams on its platforms. Countermeasures like ad moderation or de-platforming violative advertising pages are temporary fixes that fail to address the underlying systemic risks posed by these networks while allowing Meta to keep profiting from future campaigns.

Contents

Glossary

This glossary provides definitions of commonly used terms linked to social media and advertising in the specific context of this report. Some terms in this glossary are used interchangeably or may have subtle differences in meaning or application.

Ad — A paid advertisement that appears on Meta's platforms. This term is used synonymously throughout the report with "promoted content" and "paid content." We often use the phrase "problematic ads" to refer to advertisements run by pages from the analyzed networks, as those ads violate Meta's Advertising standards and policies. In the report, we refer to our sample of ads collected from Meta's Ad Library as "ad collection."

Advertiser — also advertising page, page advertiser, malicious advertiser.

- **Active advertiser —** All pages that have run or are running ads at the time of our analysis are referred to as active advertisers, or active advertising page. Moreover, we use the term "malicious advertisers" interchangeably to highlight that these advertising pages engage in dubious advertising campaigns.
- **Listed advertiser —** Pages from the networks that may not have run any ads but are linked to Business Manager accounts and can be found in Meta's Ad Library when searching by page usernames. These pages could easily be activated to launch ads. Also, "silent advertiser."
- **Dormant advertiser —** We sometimes refer to the whole network of dormant or inactive pages as dormant advertisers, as it is unclear when a page from this pool of assets will be sourced to start running ads. The term dormant advertiser is synonymous with dormant page.

Advertising campaign — Series of ads pertaining to a topic. In the context of this report, used as an umbrella term to refer to problematic campaigns such as scam campaigns, political propaganda campaigns (Doppelganger).

- **Scam campaigns —** In the context of this report, used to refer to commercial campaigns of malicious advertisers.
- **Political propaganda campaigns —** Used to refer to FIMI campaigns such as Doppelganger and another pro-Kremlin political campaign in Moldova investigated by Reset Tech in 2024.

Asset — A broader term to describe any resource or property that is used on Meta to achieve business or marketing goals. This can include both Facebook pages and groups, Facebook or Instagram accounts, among other types. In the context of this report, the term "asset" is used synonymously with "page." "Dormant asset" or "empty asset" describes dormant or inactive pages, and "advertising asset" refers to pages that have run advertisements.

Page — also dormant page, page advertiser. The terms inauthentic page, automated page, anonymous page are all used interchangeably and refer to specific properties of the pages belonging to the networks. This includes their coordinated inauthentic behavior, the fact that these are automatically created assets, their undisclosed identity, etc.

- **Dormant page —** refers to all pages that are created as part of the network but have not run any ads.
- **Advertising page —** Pages that have run ads. (see Advertisers)

Network(s) — All pages that share a few common characteristics (e.g., username patterns). The term is used synonymously with inauthentic network, inauthentic behavior network, coordinated network, large-scale network, automated network.

Shared ecosystem – also the ecosystem, advertising ecosystem, dormant ecosystem. Refers to all the analyzed networks together, based on the fact that they run ads for the same campaigns and were all used to promote Doppelganger ads.

Introduction

Meta has systematically profited from the advertising activities of large-scale, inauthentic networks of automatically created Facebook pages used for various paid campaigns. This includes political ads—broadly defined by Meta as "ads about social issues, elections or politics"—deployed in Foreign Information Manipulation and Interference (FIMI) operations like Doppelganger, as well as commercial ads. Pages belonging to these networks, monitored by Reset Tech, have been launching ads targeting EU and other European audiences for years, often running multiple paid campaigns simultaneously. Despite this, Meta has taken minimal action to de-platform the broader ecosystem that sources these advertising pages.

Reset Tech employs a unique method for research by not only monitoring the content of problematic paid campaigns and the activities of individual advertising pages but also mapping the networks of dormant assets that give rise to these campaigns. This paper outlines our collective understanding of these networks and how they operate and highlights Meta's systemic oversight regarding malicious advertising on its platforms.

These networks typically consist of hundreds of thousands, or even millions of low-cost, dormant Facebook pages with no followers or organic activity, generated in batches using automated scripts and serving as a pool of latent advertisers. Only a small number of these dormant pages are activated to run ads, often rotating between campaigns. Activated pages typically serve as disposable advertisers, quickly discarded after their ad runs, while the campaign continues with other assets. However, some pages may run dozens or hundreds of ads before discontinuing their activities.

Meta's Ad Library search features make identifying inauthentic advertisers from various networks easy. These campaigns frequently use identical or near-identical ad copy, simplifying the detection of all associated advertising pages; you can easily search for ads using specific keywords or phrases. Broader networks of dormant pages can be identified through Facebook searches using username variations. These pages often share usernames derived from a common pattern that combines random words, numbers, or phrases. In the chapter "Mapping Large-Scale Inauthentic Networks," we will describe our mapping approach, which effectively detected and estimated the size of seven large-scale dormant networks totaling at least 3.8 million pages.

Discovering and mapping such networks is a relatively straightforward process. However, Meta remains reluctant to act against them. Our ongoing investigations reveal that these networks remain operational for years after their launch, consistently activating dormant assets in paid campaigns while the platform continues to earn ad revenue from their advertising activities.

This paper summarizes our findings on the exploitation of networks for advertising, particularly by malicious advertisers, including foreign actors promoting pro-Kremlin propaganda to EU audiences. We recommend risk mitigation measures beyond simple ad moderation, such as using pattern recognition algorithms to identify suspicious accounts at creation and proactively de-platforming dormant assets linked to Business Manager accounts before they are activated for advertising campaigns.

This report presents data from three previously mapped Facebook networks totaling 900,000 pages. It introduces new findings on four additional large-scale networks with 2.9 million pages involved in political and commercial advertising. Together, these seven networks form a shared ecosystem of 3.8 million inauthentic Facebook pages. The term "shared ecosystem" refers to networks of Facebook pages activated as advertisers for the same campaigns. The operators managing these campaigns likely rotate

assets from different networks to evade platform detection. They may purchase advertising pages from the same providers.

All seven networks were activated between 2022 and 2024 to run Facebook ads linked to the pro-Kremlin Doppelganger operation in the EU. The operatives frequently switched between different networks while maintaining similar ads, a consistent tactic used in Doppelganger.

The scope of this shared ecosystem significantly exceeds what we have managed to map. Based on Reset Tech's collection of 6,000 Doppelganger ads targeting EU audiences between June 2022 and June 2024, advertising assets from at least ten other inauthentic anonymous networks, in addition to the seven we have mapped, were used for this campaign. Since we have not analyzed all these networks, we cannot accurately estimate the full scale of the shared ecosystem, which is likely significantly higher than our current estimate of 3.8 million Facebook pages.

In terms of advertising reach, these 6,000 ads targeted 57,902,159 users in the EU, with an estimated budget of between $118,048 and $674,923 on Meta. This report emphasizes Meta's lack of oversight regarding automated networks of dormant advertisers and highlights systemic failures in ad moderation and transparency of political and scam campaigns.

Meta consistently ignores dormant assets that undermine its declared stance against coordinated inauthentic behavior (CIB) and inauthentic behavior (IB). The existence of these automated networks, whether active or dormant, violates Meta's policies against "creating accounts, groups, Pages, events or other assets, either manually or automatically, at very high frequencies." Additionally, this oversight conflicts with Article 34 of the EU's DSA, which requires Very Large Online Platforms (VLOPs) and Very Large Online Search Engines (VLOSEs) to assess systemic risks within the EU, including risks from "inauthentic use or automated exploitation" of their services. The DSA also mandates an evaluation of potential intentional and often coordinated manipulation, such as the creation of fake accounts, bots, deceptive service usage, and other automated or semi-automated behaviors (Preamble 84). Meta's inaction on the shared ecosystem constitutes a systemic risk under the DSA. Many ads run by these networks support political propaganda campaigns, like Doppelganger, which poses risks to civic discourse, electoral integrity, and public security in the EU.

Our investigations consistently show that Meta primarily focuses on content moderation of ads instead of addressing the core issue—the shared ecosystem of dormant advertisers. Meta's mitigation measures mostly involve deactivating political ads linked to Doppelganger. However, scam ads run by the same networks are not subject to the same level of scrutiny. These ads often remain unchecked until their budgets are completely depleted, despite violating the platform's policies against scams.

Meta occasionally de-platforms individual advertisers for policy violations, mainly targeting those running Doppelganger ads. However, many questionable advertising pages continue their scam campaigns even after Meta removes their ads, sometimes running dozens to hundreds of scam ads without being de-platformed. The platform's measures against scam advertisers are inconsistent, resulting in mis-moderation. Some pages are de-platformed for promoting scam ads, while others featuring similar or identical ads remain active. By keeping most of these advertising pages active, Meta enables them to launch new scam ads while profiting from campaigns that harm EU consumers.

The iceberg metaphor illustrates Meta's limited insights into the deeper issue of inauthentic advertising on its platforms. Removing ads and occasionally de-platforming advertising pages are inadequate measures, as malicious actors can activate dormant assets from the same ecosystem for similar campaigns. By neglecting the shared ecosystem and not proactively de-platforming these networks beforehand, Meta fails to fully eradicate inauthentic behavior and continues to profit from campaigns that violate its advertising standards.

Meta's Advertising Iceberg

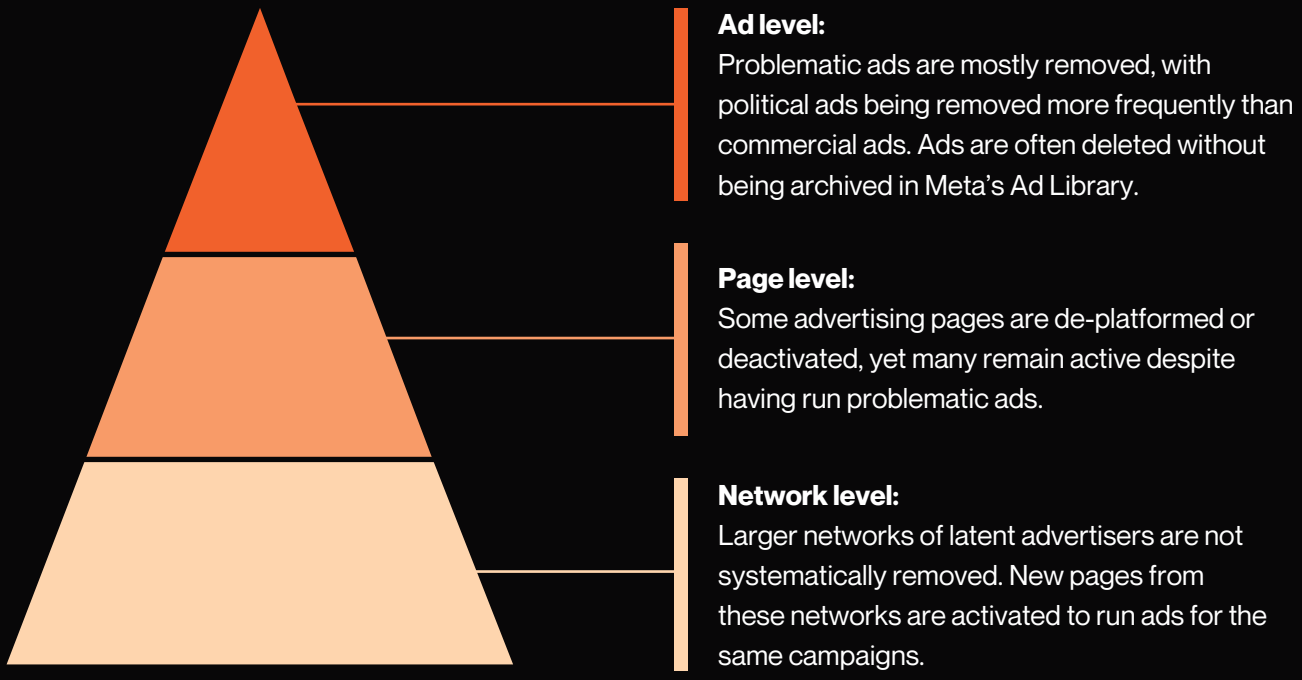


Figure 1: Meta's ad moderation focuses on removing individual problematic ads but neglects advertiser pages and networks. This failure allows recurring propaganda and scam campaigns to persist within the same ecosystem. (Source: Reset Tech analysis)

The next chapter, "Meta's Advertising System: Research Overview," presents the findings from prior research on political and scam advertising on Meta. The chapter "Mapping Large-Scale Inauthentic Networks" explains our methodology for detecting and mapping networks of dormant Facebook pages. Additionally, we will summarize the findings from seven large-scale inauthentic networks that we mapped in 2023 and 2024. This report proposes measures that Meta could implement to effectively mitigate these networks at their inception, such as de-platforming pages before they can be activated as advertisers. Finally, we will discuss recurring issues within Meta's advertising system that allow malicious actors to continue their advertising activities.

Meta's Advertising System: Research Review

Several researchers have analyzed Meta's strategies to mitigate problematic advertising campaigns on its platforms. This section briefly overviews recent investigations into this issue, particularly concerning advertisements linked to the ongoing pro-Kremlin Doppelganger operation and the continuous scam advertising campaigns.

Political Propaganda via Ads

The Doppelganger operation, active since May 2022 and first exposed by researchers from EU DisinfoLab, targets foreign audiences with content promoting Russia's political agenda. Its hallmark tactic is impersonating media brands and creating fake news websites to spread disinformation across multiple social media platforms, primarily advertising on Facebook and Instagram. For over two years, Doppelganger has remained a major blind spot in Meta's advertising system regarding content moderation and labeling of political ads.

Numerous researchers have examined the ongoing operation on Meta's platforms. However, existing research is principally limited to examining the infrastructure of false domains and analyzing advertisements that carry such messages. Most investigations exclusively focus on the moderation of propaganda ads and recurrent transparency issues related to the sponsored campaign.

For instance, in May 2024, AI Forensics interrogated Meta's systemic oversight on ad moderation and found significant issues. The researchers revealed that a majority of political ads on Facebook and Instagram are run without proper declaration. They criticized Meta's reliance on voluntary self-reporting by advertisers for ads classified under the definition of "social issues, elections, and politics. According to the study, 60 percent of the political ads moderated by Meta fail to comply with its political advertising guidelines. Additionally, Meta's moderation system only detects less than 5 percent of the undeclared political ads.

Researchers have also identified considerable loopholes in Meta's advertising systems that allow advertisers to run political ads under fake identities through anonymous pages. This occurs despite the platform's requirement for political advertisers to self-identify and include a "Paid by" label on their ads. A March 2024 report by the DFRLab presented data on a sample of Doppelganger ads, revealing that anonymous advertising pages were connected to larger groups of pages with identical names believed to originate from page farms.

A January 2025 report by AI Forensics, CheckFirst, and Reset Tech summarizes the advertising strategy used by the operatives behind Doppelganger, focusing on evasion tactics and persistent ad transparency issues. The report examines the activities of the Russian company Social Design Agency (SDA), which has overt ties to the Kremlin. Despite being sanctioned by the EU, the U.S., and the U.K. in 2023, the SDA continued running Facebook ads, generating $338,000 in revenue for Meta.

The report highlights major shortcomings in Meta's adherence to its content moderation policies and its

obligations under the EU's DSA. It emphasizes the need for identity verification of the advertising pages that run these ads and highlights systemic transparency issues related to political ads, including inconsistent budget disclosures.

Investigations into the Doppelganger operation have exclusively focused on advertisements, active advertisers, and the fake domain infrastructure used in the campaign. A notable exception is a report by Reset Tech published in October 2023, which will be expanded on in the chapter "Large-Scale Inauthentic Behavior Networks Identified in Previous Investigations." So far, there has been little systematic research addressing the issue of large-scale networks of dormant assets used to continuously supply new advertising pages for this propaganda operation on Meta.

The lack of attention from the research community and, consequently, the media has led to insufficient public pressure on Meta to disclose information about malicious advertising networks or proactively de-platform and monitor them before they can cause harm. Furthermore, Meta does not publicly announce the takedowns of large-scale automated networks. Since the inception of the Doppelganger operation in 2022, Meta's reports on CIB and IB have only reported the takedown of smaller, boutique networks of coordinated accounts involved in influence operations (IOs). The largest IB network takedown announced by Meta since 2022 involved a Philippine-based network of 50,000 accounts, which is small compared to the size of the shared ecosystem of advertisers we have been mapping.

Since Meta does not disclose whether it is aware of large-scale automated advertising networks on its platforms, we cannot determine what measures, if any, it takes to restrict their activities. Our ongoing observations indicate that any existing measures remain limited to de-platforming parts of these networks without fully eradicating them, leaving substantial numbers of dormant pages online. This report presents data on the persistence of these networks on the platform, even years after their creation, demonstrating that Meta is not effectively de-platforming this ecosystem promptly and consistently.

Persistent Scam Campaigns on Meta

Online scamming, a sophisticated and predatory industry, generates a staggering $500 billion annually, rivaling the illicit drug trade. Research consistently shows that many fraudulent campaigns exploit lax ad moderation on social media platforms to promote scam operations that deceive users and generate millions in profit. Meta has faced numerous investigations revealing the pervasive nature of scam ad campaigns. Social media ads, especially those on Meta, are a primary gateway through which users are exposed to and engage with various online scams.

In March 2025, the Organized Crime and Corruption Reporting Project and Swedish Television, collaborating with digital forensics company Qurium, revealed a large-scale scam operation dubbed "ScamEmpire." Managed from Georgia, Ukraine, Bulgaria, Cyprus, and Israel, the operatives behind these campaigns used manipulated celebrity endorsements in ads on Meta, Google, and YouTube to lure victims to fraudulent call center schemes. Tens of thousands fell for these scams, leading to a total gain of $282 million for the operators.

The advertising campaign behind ScamEmpire has been active since at least 2023, with various aspects exposed by researchers. Despite these ongoing efforts by the research community, platforms such

as Meta have done little to stop these fraudulent advertisements from circulating online. Here, we will outline several examples of these investigations.

In June 2023, Finnish company CheckFirst exposed the intricacies of a scam campaign promoting fake investment schemes on Facebook. Scammers used hijacked Facebook pages as advertisers to promote these schemes, often featuring celebrity endorsements and graphic impersonations of actual people touting lucrative "investment opportunities." After CheckFirst's investigation, research from numerous organizations has firmly established the persistent issue of these ads on Meta. For example, in February 2024, the DFRLab exposed cryptocurrency scam ads impersonating French Prime Minister Gabriel Attal, using similar tactics to those of the operatives behind "Facebook Hustlers."

Reset Tech also investigated the campaign and identified 51 verified Facebook pages hacked and stolen from their owners before launching the ads. The ads impersonated various public figures. While these pages differ from the anonymous, inauthentic networks presented in this report, this campaign further illustrates the extensive nature of these scams and Meta's insufficient response to the advertising pages. The 30,000 ads reached an audience of 74 million in the EU.

In June 2024, an investigation by the Bureau of Investigative Journalism revealed that the campaign had evolved to include ads featuring deepfake videos of celebrities, including politicians. A February 2025 report by LogicallyFacts noted Meta's continued failure to moderate these ads.

Like the Doppelganger operation, campaigns such as Facebook Hustlers or ScamEmpire have been on social media for years. Meta addresses these scams primarily by removing certain ads but often ignores the advertisers behind them, many of which remain operational.

Health-related scam campaigns are another significant issue on Meta's advertising platform. An investigation by Reset Tech in October 2024 revealed a massive ongoing campaign that has been active since at least 2021. The campaign involves an ecosystem of 1,500 mostly anonymous Facebook pages linked to various large-scale inauthentic networks. These pages have run over 35,000 scam ads promoting dubious medical supplements in the EU.

Despite their problematic content, most advertisers behind these pages remain active over a year after their initial discovery. This violates Meta's policies on Fraud, Scam, and Deceptive Practices, particularly in promoting misleading health practices like false cures for diseases like diabetes and sensationalist content and clickbait tactics to make exaggerated or extreme health claims. In addition to inconsistent and haphazard ad moderation—where some ads are removed while others continue to run until their budgets are exhausted—Meta has not implemented effective risk mitigation measures against the ongoing activities of this campaign, which persists by continuously activating new anonymous pages as advertisers.

Meta's content moderation differs significantly between organic content and promoted ads, according to a report by AI Forensics from January 2025. While the platform prohibits pornographic content, it approved over 3,000 explicit ads promoting sexual enhancement products, whereas similar content posted by regular user accounts was removed. The researchers concluded that Meta's content moderation algorithms can detect explicit material yet fail to enforce the same standards on paid ads. Our ad collection concurs with this investigation: pages from the shared ecosystem used pornographic content to promote dubious medical supplements. These ads received minimal moderation from the platform. These findings indicate that Meta's approach to commercial advertising is even more lax than its management of political propaganda campaigns. The platform consistently fails to adequately moderate ad content. It does not take significant action against

problematic advertisers, such as de-platforming them or investigating the broader networks that provide anonymous assets for these campaigns.

Meta's lack of transparency regarding the advertising budgets for scam campaigns—classified as commercial advertising—is particularly concerning. Scammers generate hundreds of millions of dollars in illicit profits through persistent social media ads targeting potential victims. This raises significant concerns regarding the extent of revenue Meta earns from these ads. It likely exceeds the budgets for political propaganda ads from FIMI operations such as Doppelganger.

The failure to disclose ad spending on scam campaigns constitutes serious risks for consumers and must be addressed. This lack of information deprives regulators and the public of the critical insights needed to assess and mitigate Meta's role in spreading harmful content.

This chapter's investigations into scam campaigns focus on only a small portion of fraudulent advertising on the platform. Our limited ad collection and Meta's lack of budget disclosure prevent us from determining whether the platform's tolerance for these dubious campaigns is driven by financial incentives, ineffective content moderation, or other factors. However, it is clear that Meta is not doing enough to combat these campaigns.

While the budget of these campaigns might represent only a fraction of Meta's estimated 160 billion annual ad revenue, the fact that social media ads are a gateway for a booming illicit and predatory industry targeting online users constitutes a significant issue that Meta has yet to address.

Research Methodology and Limitations

This report focuses exclusively on the advertising activities and methods of seven large-scale Facebook networks of dormant assets. From 2022 to 2024, each network provided individual advertising pages to run Doppelganger ads and various scam campaigns on the platform.

Methodology

Our research originates from a dataset of 6,000 Facebook ads associated with the Doppelganger campaign, collected between June 2022 and June 2024. These ads reached a total EU audience of 73 million users, exclusively targeting Germany and France.

Over 5,300 anonymous Facebook pages from various large-scale networks of similar assets were activated to run ads for the Doppelganger operation during the period. Most pages ran only one ad before pausing their activity. These anonymous pages were activated in batches at specific periods throughout the campaign, with each group exhibiting similar characteristics, like near-identical usernames following an easily identifiable pattern or visual styles, which allowed us to identify them as distinct networks.

Our approach, which has been tested in several investigations and will be explained in detail in the chapter "Mapping Large-Scale Inauthentic Networks," involves identifying active advertising pages while simultaneously mapping the larger ecosystem from which these assets originate. This includes running Facebook searches for dormant pages with usernames similar to those of advertising pages and uncovering the username patterns associated with these networks.

The Facebook pages of these seven networks have been involved in various scam campaigns since 2022, in addition to their participation in the Doppelganger operation. We have compiled a collection of 3,700 commercial ads from these networks between 2022 and 2024. This represents only a small fraction of their overall commercial activity, as our primary focus was collecting Doppelganger ads. The sample highlights clear patterns among advertisers' usernames and demonstrates Meta's failure to curb these scam campaigns effectively.

Limitations

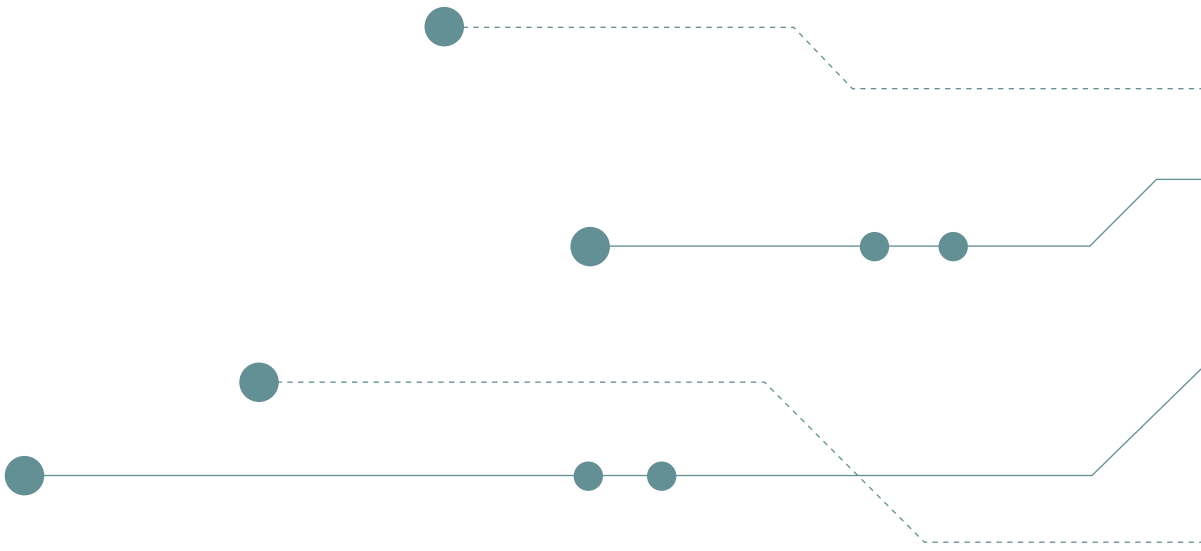
The advertising ecosystem behind these campaigns is significantly larger than the 3.8 million pages we investigated. Our research only includes networks of advertisers that we could identify and does not capture all the dormant networks that we know currently exist on Meta. Throughout various investigations, we consistently discover new anonymous groups of identical and nearly identical Facebook pages that originate from large-scale dormant networks and are activated for various paid campaigns on Meta.

Several issues limit our ability to establish the scope of this advertising ecosystem. The first is that the seven networks represent just a small fraction of the advertisers running political propaganda on the Doppelganger operation alone. Our dataset of 6,000 ads identified at least ten additional networks active in running Doppelganger ads between 2022 and 2024. As we have not evaluated the size of these networks, the overall advertising ecosystem is likely much wider than our findings suggest.

In addition, our collection of 6,000 ads is incomplete as it mainly includes political ads running in Germany and France. The operatives behind Doppelganger have also run ads in other European languages, such as Polish, Ukrainian, and Italian, and have targeted regions like the U.S. and Israel. Therefore, the number of dormant networks supplying advertising assets for this propaganda campaign likely exceeds our estimates.

Finally, our research has primarily focused on political advertising, limiting our understanding of the broader advertising ecosystem for scam campaigns. The sample of 3,700 commercial ads is just a small part of fraudulent scam advertising by anonymous networks on Meta. Previous investigations indicate that some dormant advertising networks exclusively run scam campaigns without engaging in political advertising. For instance, Reset Tech's study of a health-related scam campaign on Facebook uncovered 35,000 ads from networks distinct from those involved in the Doppelganger operation.

The true extent of the problem is likely far larger than documented and may exceed our current estimates. These ecosystems contain millions of dormant pages that remain operational and can be activated despite multiple violations in various advertising campaigns.



Mapping Large-Scale Inauthentic Networks

Large-scale inauthentic advertising networks typically consist of hundreds of thousands or millions of identical Facebook pages, with only a small fraction activated for advertising. The sheer scale of the networks suggests that the pages are created automatically using bots or scripts to mimic human behavior. This includes completing sign-up processes, such as filling in page information like usernames, email addresses, bios, and profile pictures or collecting external data to populate the pages.

Automated scripts fill these profiles with images, descriptions, and contact information, often using identical or overlapping content. Once the initial set of pages is automated, the automated creation process can be scaled using batch scripts. These scripts loop through different username permutations based on the common naming pattern, create the pages, and fill in their information. During peak network creation, hundreds to thousands of pages are launched daily, indicating that this cannot be undertaken manually. Facebook's systems should be able to detect this automation by analyzing the creation speed, user patterns, and bot-like behavior. Ideally, such automated actions would result in blocking IP addresses, accounts, and pages. However, many large-scale networks evade detection despite being relatively easy to identify. This section outlines our methodology for detecting and mapping large-scale dormant advertising networks on Facebook.

Detecting Common Markers

Our method for detecting and mapping networks relies on identifying four key markers shared by assets from the network.

The primary marker is the common username pattern: all pages across a network share similar usernames created from specific keyword combinations, strings of letters, numbers, or occasionally special characters. Recognizing these patterns is crucial for mapping the network.

In most cases, the patterns can be determined easily using a short list of keywords combined with random letters or digits. However, some patterns may pose challenges, as they may use lists of nonsensical or hard-to-guess keywords or special characters in their usernames.

The second marker to identify pages in a shared network is their branding identity: this includes identical or similar cover or profile photos, bios, contact information, and page categories. Pages or clusters of pages from the same network often exhibit brand proximity, suggesting they were created together using automated scripts. These indicators are assessed through manual and automated reviews of selected pages.

Additional markers involve analyzing the organic activity of the pages, where possible. Many pages in these networks remain dormant, having no followers or activity. However, some produce filler content featuring similar or identical text or visuals. For example, they might post content in the same languages or cover related topics like cooking recipes or motivational quotes. This creates identical or near-identical timelines for clusters of pages, making them easier to identify.

Finally, the advertising activities of active pages in the network highlight their interconnectedness. Pages from the same network are often activated together to promote the same campaigns, producing similar ads during specific periods.

The Two-Phase Mapping Process

The process of mapping such large-scale networks runs in two parallel phases.

Phase I: Scoping Username Combinations

The first phase involves identifying possible username combinations and conducting Facebook searches to collect pages related to specific username variations. This process provides insight into the network's potential size. For example, in 2023, we mapped a network of 242,000 pages with usernames sourced from a list of 51 adjectives, all synonyms of "beautiful," paired with random 2 to 3-letter strings and one digit. This pattern results in usernames like"Beautiful gh4," "Handsome hzr5," "Pretty fr3," and "Glorious wrt7."

The first phase also involves tracking advertising pages that may be listed in Meta's Ad Library. Many pages with identical or similar usernames can be found by searching the library, although they may not be actively running ads at the moment of their discovery. Most listed advertisers typically have no ads in their page archives on the Ad Library, but their presence suggests they are being prepared for future campaigns. For example, the pages are associated with Business Manager accounts.

This phase may also entail expanding the ad collection from active advertisers based on searches with variations of username patterns and then analyzing these ads to categorize them into different paid campaigns.

Examples of Username Patterns of Inauthentic Facebook Pages

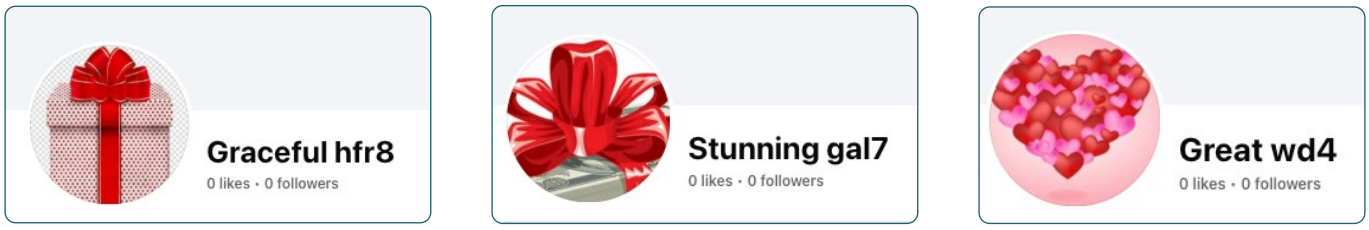


Figure 2: Screenshots of Facebook pages displaying the network's username pattern (Adjective + 2-3 letters + one number). As of January 2025, pages "Graceful hrf8," "Stunning gal7," and "Great wd4" are still active and appear as listed advertisers in Meta's Ad Library, indicating they have either run ads in the past or are set up as business profiles linked to a Business Manager account, allowing them to run future ads. (Source: Meta Ad Library 1, 2, 3)

A Simple Facebook Search Surfaces Hundreds of Similar Pages

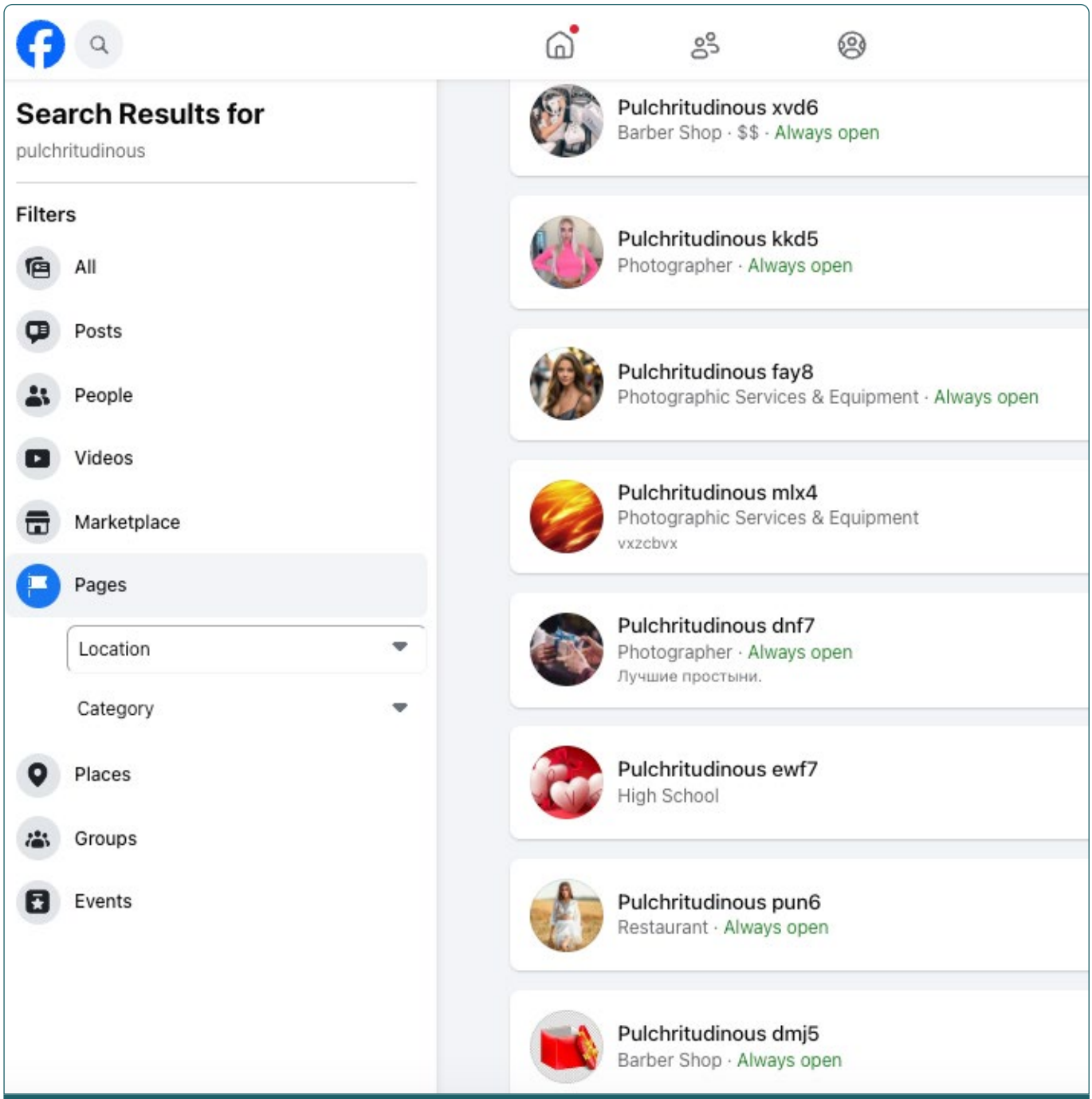


Figure 3: Screenshot of a Facebook search using the adjective "pulchritudinous," revealing over 300 pages with usernames following the pattern Adjective + Random 2–3 Character String + Single Digit. As of January 2025, these pages are still online, with ten listed as Facebook advertisers in Meta's Ad Library. (Source: Meta Ad Library)

Meta's Ad Library Search Surfaces a Network

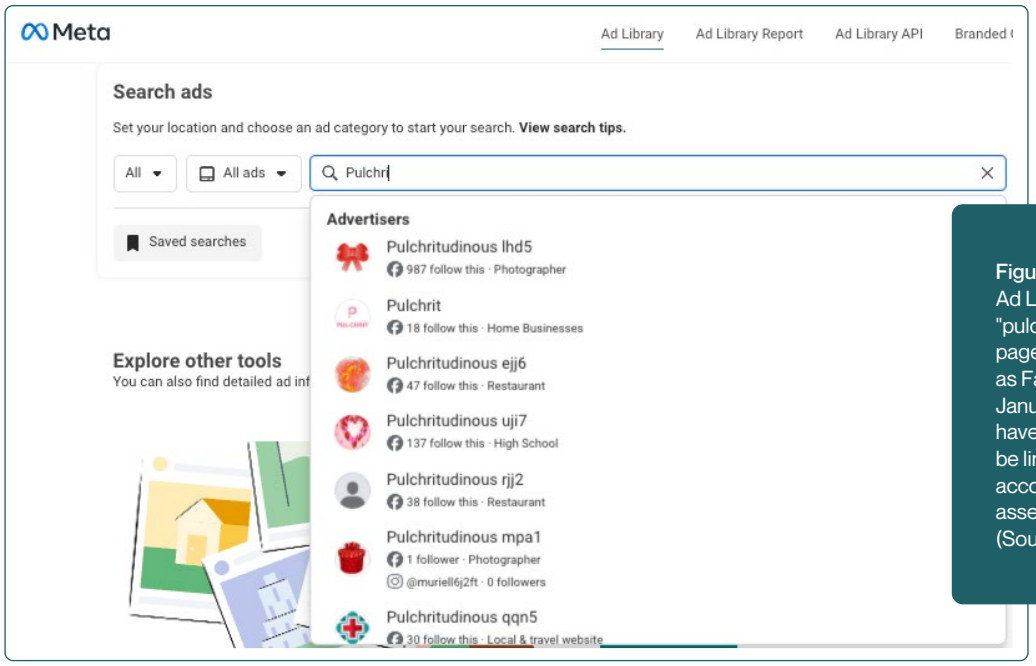


Figure 4: A search in Meta's Ad Library using the adjective "pulchritudinous" reveals 10 pages from the network listed as Facebook advertisers as of January 2025. These pages may have launched ads or could simply be linked to Business Manager accounts, serving as available assets for future paid campaigns. (Source: Meta Ad Library)

Phase II: Collecting Page Information

After establishing the size of the network through Facebook searches of various keyword combinations, the mapping process enters its second phase. This involves collecting page information, such as creation date, admin location, posting activity, and page category, for the entire set of discovered pages or a representative sample of username combinations. This information is crucial as it may indicate the network's creation period and the operatives' locations. Due to Facebook's limitation for data collection, we typically focus on obtaining page information for a representative sample from the discovered network.

The first network we mapped revealed information from 242,000 pages. This network was launched in late 2021, just months before Russia's full-scale invasion of Ukraine. Notably, 50 percent of the pages from the network posted filler content in Russian, with some administrators based in Ukraine. These factors indicate a potential connection to foreign actors. Furthermore, pages from this network were among the first to promote the Doppelganger operation on Meta, with anonymous pages running political propaganda ads as early as May 2022. Researchers from EU DisinfoLab named it the "Botiful network" in September 2022. Reset Tech mapped the network in its entirety in October 2023. For more details, refer to the chapter "Networks from Previous Investigations."

Using this two-phase mapping process, we can determine the size and the creation timeline of large-scale dormant networks on Meta while simultaneously tracking their advertising activities in Meta's Ad Library archives. This allows us to cross-reference the networks' creation date with their activation times on specific campaigns.

The Two-Step Mapping Process

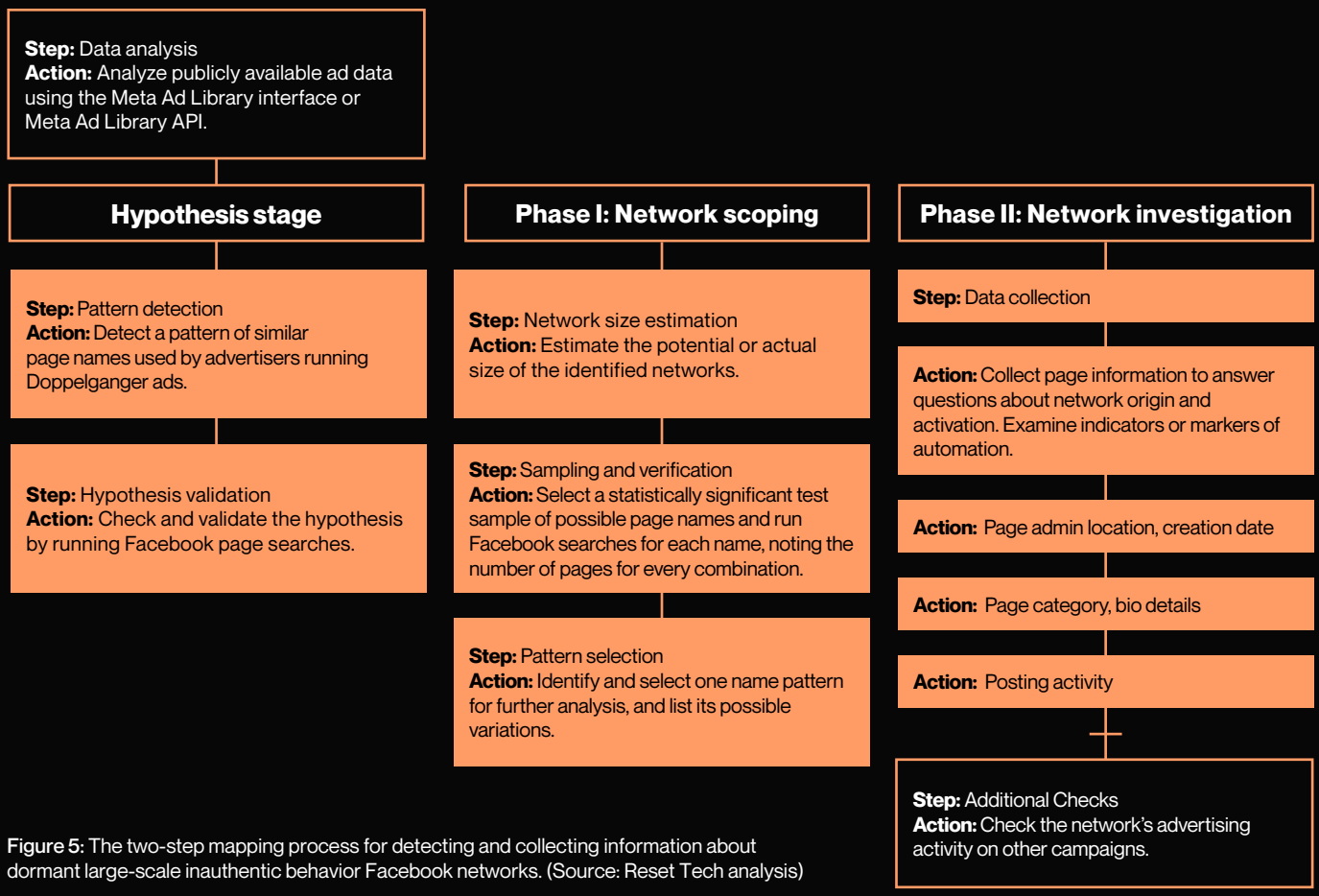


Figure 5: The two-step mapping process for detecting and collecting information about dormant large-scale inauthentic behavior Facebook networks. (Source: Reset Tech analysis)

Challenges and Data Gaps

This mapping process has limitations. For example, the collection of page details is restricted to the information Meta makes available on its platforms, and our efforts are often hindered by data transparency gaps. The transparency section of many anonymous pages lacks details on admin locations, making it impossible to determine from where the network is being operated. At the time of data collection, for example, only 7 percent of the 242,000 pages in the network displayed admin location information. This lack of disclosure affects both dormant and active advertising pages. The latter represents a significant transparency failure, as it indicates that Meta effectively permits ads to be launched by anonymous accounts.

Not every network can be fully mapped due to complex username naming conventions. Often, we can only map a sample of the network based on keyword combinations used to generate the usernames. Some networks generate long lists of nonsensical phrases and numbers generated by scripts, resulting in the mass creation of pages. This over-randomization in usernames can result in massive networks that are difficult to identify through Facebook searches.

Large-Scale Inauthentic Behavior Networks Identified in Previous Investigations

In previous investigations by Reset Tech in 2023 and 2024, we demonstrated that activating low-cost, low-effort Facebook pages belonging to dormant large-scale inauthentic behavior networks around specific advertising campaigns is a common tactic used by malicious foreign actors seeking paid exposure on Meta's platforms. Our research has focused on political advertising, particularly the pro-Kremlin Doppelganger operation targeting EU audiences with Facebook ads.

This section summarizes already published findings on three Facebook networks and their political advertising activities, along with examples of scam campaigns from these networks based on our limited ad collection, without aiming to capture the full extent of these commercial campaigns.

Network 'Botiful'

In October 2023, Reset Tech published the first comprehensive mapping of a significant network of Facebook pages known as the "Botiful" network. This network, previously identified by researchers for its involvement in political advertising, included 242,000 dormant assets. Each account followed the same username pattern: one positive adjective (a synonym of beautiful) followed by a random string of two to three characters and a number. The adjectives were selected from a list of 51 options.

These pages exhibited striking similarities in branding identity and organic activity. Between 2022 and 2023, the network ran 300 ads for the Doppelganger operation in France and Germany, with new assets being regularly activated for the campaign.

Despite being exposed by researchers from organizations including DFRLab and EU DisinfoLab before the involvement of Reset Tech, the network continued its advertising activities. The network was mentioned in Meta's first Threat Report on the pro-Kremlin Doppelganger operation from September 2022. The report detailed the specific pattern of the usernames for these pages. Even though Meta was aware of this username pattern, it took no action to disrupt the network, as by September 2022, when the Threat Report was published, the network totaled over 40,000 dormant pages. It continued to create new assets steadily, and by Q3 2023, this number had exceeded 242,000 pages, as the platform took minimal action to curb the automated creation of these new assets.

Meta did not act against the network's activities, which continued to run Doppelganger ads throughout 2022 and 2024. Groups of pages using the same username pattern were deployed at least three times during these two years. The Botiful network last launched Doppelganger political ads in June 2024, nearly two years after Meta initially reported on the network's activities.

Botiful ran at least 478 Doppelganger ads, reaching a total audience of 2.6 million users and potentially spending a maximum budget of $34,972. This estimation is based on a sample of ads from our initial report on political advertising within this network, focusing specifically on ads that provided budget information. However, Meta ceased displaying budget details for some Doppelganger ads, resulting in the omission of this information.

In our research of Botiful ads in 2023, we calculated their budget as $32,200. In addition, 28 ads identified in 2024 had a total maximum budget of $2,772.

Subsequent ads would never have been launched if the network had been de-platformed when Meta first detected it in September 2022. The ongoing activities of this network can be considered a systemic risk under the EU's DSA.

Examples of Political Ads From the Doppelganger Campaign

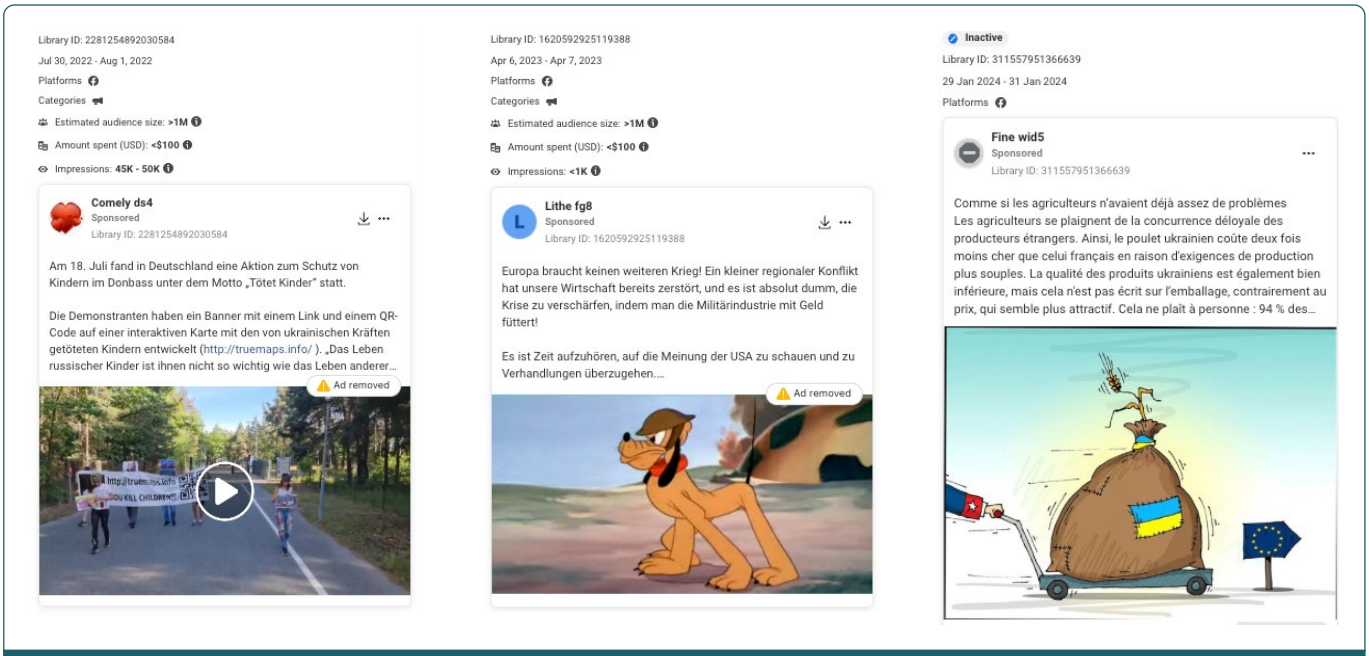


Figure 6: Screenshots of political ads from the January 2025 phase of the Doppelganger campaign, launched by pages within the Botiful network in July 2022, April 2023, and January 2024, showcasing the network's ongoing campaign efforts. Meta also does not disclose the budgets for some Doppelganger ads, as shown in screenshot 3, which lacks ad spend information. This particular ad is no longer available in Meta's ad archives as of February 2025. (Source: Meta Ad Library 1, 2, 3)

The network was also running ads on various scam campaigns related to online gaming, medical supplements, and fraudulent investment schemes. In 2023, we found 140 commercial ads, likely representing only a fraction of the network's total advertising activities for that year. These 140 ads spent between $3,400 and $17,000 on Facebook. At that time, Meta still disclosed budget information for some commercial ads launched on Facebook, but it has since stopped doing so. The lack of transparency regarding ad revenue for scam campaigns is concerning, as this paid content violates the platform's policies and can potentially harm consumers.

Our second investigation into the Botiful network, published in October 2024—one year after we initially mapped the entire network—revealed that 20 percent of it, comprising 47,000 dormant pages, was still active on Facebook. These pages appeared as advertisers in Meta's Ad Library, promoting various keywords linked to scam campaigns (the screenshots below show some of these ads launched in 2024). Since the network was not de-platformed, Botiful pages likely ran tens of thousands of scam ads throughout 2024.

While we did not map all the commercial advertising activity of the network during this time, we focused on the unconventional adjective "pulchritudinous." Based on a list of 51 adjectives used to create the page usernames, we discovered that 2,023 pages with usernames derived from this adjective had launched over 2,400 commercial ads in 2024, reaching an audience of 7.3 million users across the EU. As Meta does not disclose budgets for commercial ads, we were unable to estimate the ad revenue generated from these 2,400 advertisements. This advertising activity continues as of the writing of this report, with new "pulchritudinous" advertising pages activated on various scam campaigns.

As mentioned, the 2,400 ads we sampled represent only a small fraction of the total advertising activity within the network in 2024. Assuming that pages with usernames based on the other 50 adjectives were equally active as those using the adjective "pulchritudinous," we can estimate that the network may have generated over 120,000 commercial ads in 2024. This estimation is for illustrative purposes only, as it assumes uniform ad activity across pages associated with all 51 adjectives. In reality, some adjectives may lead to more active advertising pages than others or, in some cases, less, which could affect the actual number of ads. Nonetheless, this extrapolated figure highlights the potential for anonymous networks to generate significant ad revenue for Meta if left unchecked.

Examples of Commercial Ads Run by Pages From the Network

Figure 7: Screenshots of commercial ads from Botiful pages using the username variations of "Pulchritudinous" (e.g., "Pulchritudinous awg8," "Pulchritudinous crs4," "Pulchritudinous blv2"). These ads promote dubious medical supplements and target EU countries like Bulgaria and Italy, part of an ongoing scam campaign impersonating doctors and celebrities to endorse questionable medical products. As of February 2025, the advertising pages are still active, enabling them to continue running ads. (Source: Meta Ad Library 1, 2, 3)

Examples of Ads Displaying Adult Nudity and Sexual Content

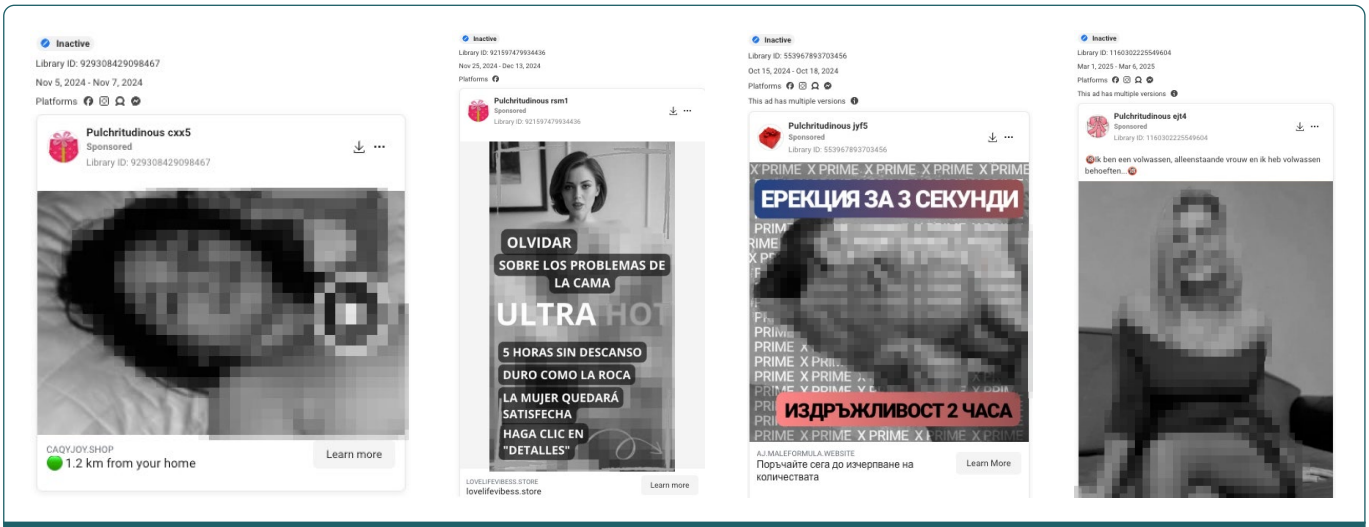


Figure 8: Screenshots of pornographic and sexually suggestive ad images promoting treatments for erectile dysfunction from "Pulchritudinous" pages in the Botiful network during 2024 and 2025. Hundreds of similar ads can be found in Meta's Ad Library by searching "pulchritudinous." These ads violate Meta's advertising policies on adult nudity and sexual activity. (Source: Meta Ad Library 1, 2, 3, 4)

Examples of Ads Displaying False Medical Claims

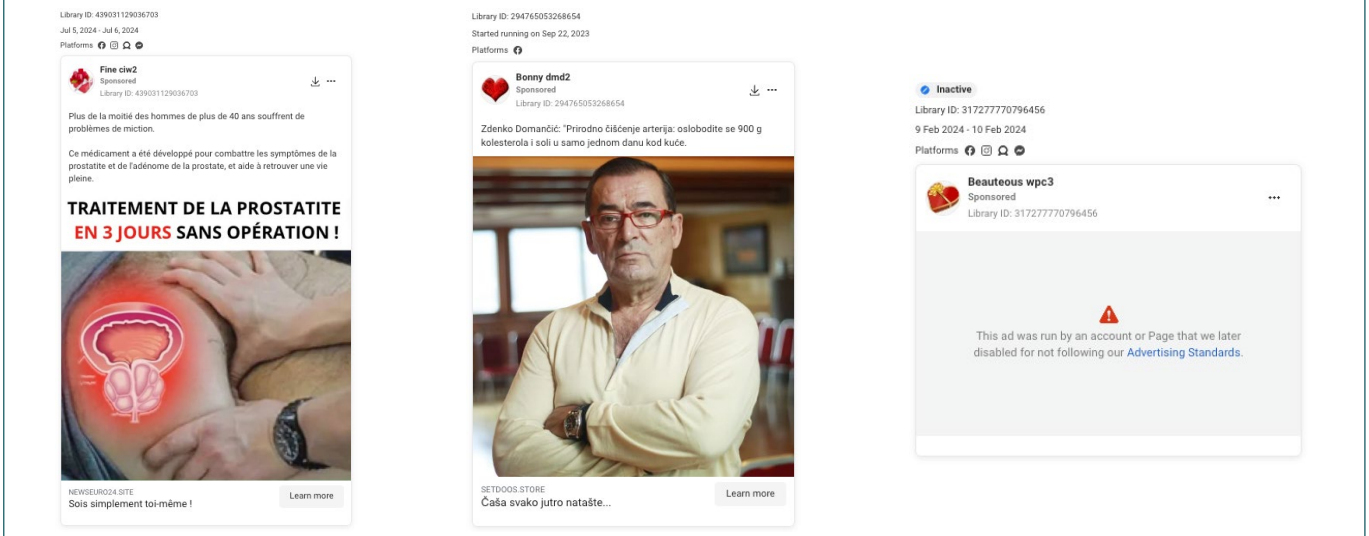


Figure 9: Screenshots of commercial ads from Botiful pages from 2023 and 2024 (e.g., "Fine ciw2," "Bonny dmd2," "Beautenous wpc3") reveal inconsistencies in content moderation and enforcement. Notably, one page was banned from advertising for violating Meta's advertising policies, while others running identical ads continued. As of February 2025, these pages remain online and could be reactivated for future ad campaigns. (Source: Meta Ad Library 1, 2, 3)

Network 'Filthy jewel'

In October 2023, we identified a second large-scale network of dormant advertisers consisting of 344,000 pages at the time of detection. This figure represents only an estimate of the network's size, in contrast to the Botiful network, which we were able to map entirely. Mapping this network proved more challenging than mapping Botiful due to the wide range of possible keyword combinations used to create the page usernames.

The username pattern was developed from a wider set of potential keyword pairings, following the structure Adjective + Noun. This included unconventional pairings such as "Filthy jewel," "Proud current," "Married computer," and "Acidic birth," among others.

Many pages from the network shared a common branding identity, featuring profile photos that included gradient backgrounds and flat-style icons.

The estimated size of this network does not account for all possible pairings based on the username pattern. Instead, it focuses on a set of 27,000 adjective-noun pairs. The actual scale of this network could, therefore, be bigger than what we have identified.

Our mapping indicates that, like Botiful, many of these pages are also listed as active advertisers in Meta's Ad Library.

Examples of Username Patterns of Pages from the Network

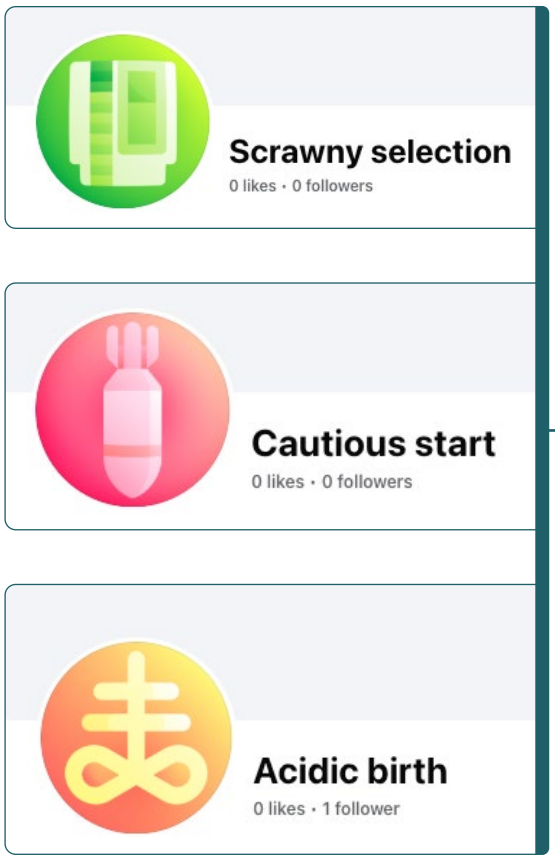


Figure 10: Screenshots of Facebook pages displaying the username pattern Adjective + Noun and feature similar branding with gradient backgrounds and flat-style vector icons. As of February 2025, "Scrawny selection," "Acidic birth," and "Cautious start" are active. Identical usernames appear in Meta's Ad Library as advertisers across various keywords. For example, five advertisers are using the name "Acidic birth." This indicates that the pages have either run ads in the past or have been created as business profiles connected to a Business Manager account, serving as pre-made advertising assets. (Source: Meta Ad Library 1, 2, 3)

A Facebook Search for a Username Combination Yields 12 Identical Pages

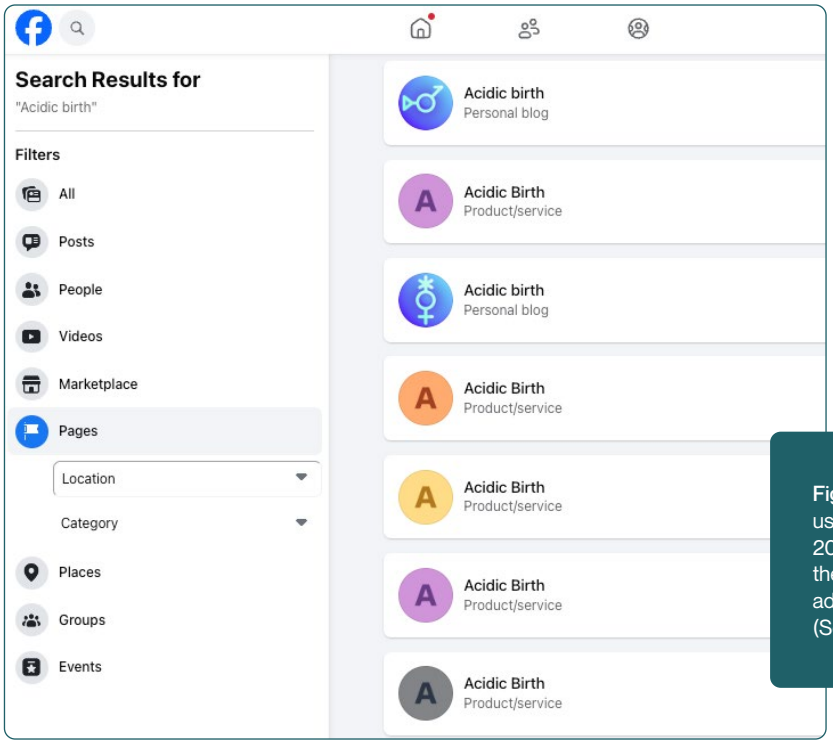


Figure 11: A screenshot of a Facebook search for the username "Acidic birth" shows that, as of February 2025, there are 12 pages with the same username on the platform. Of these, five pages are listed as Facebook advertisers in Meta's Ad Library as of January 2025. (Source: Facebook)

Four Advertisers with the Same Username Listed on Meta's Ad Library

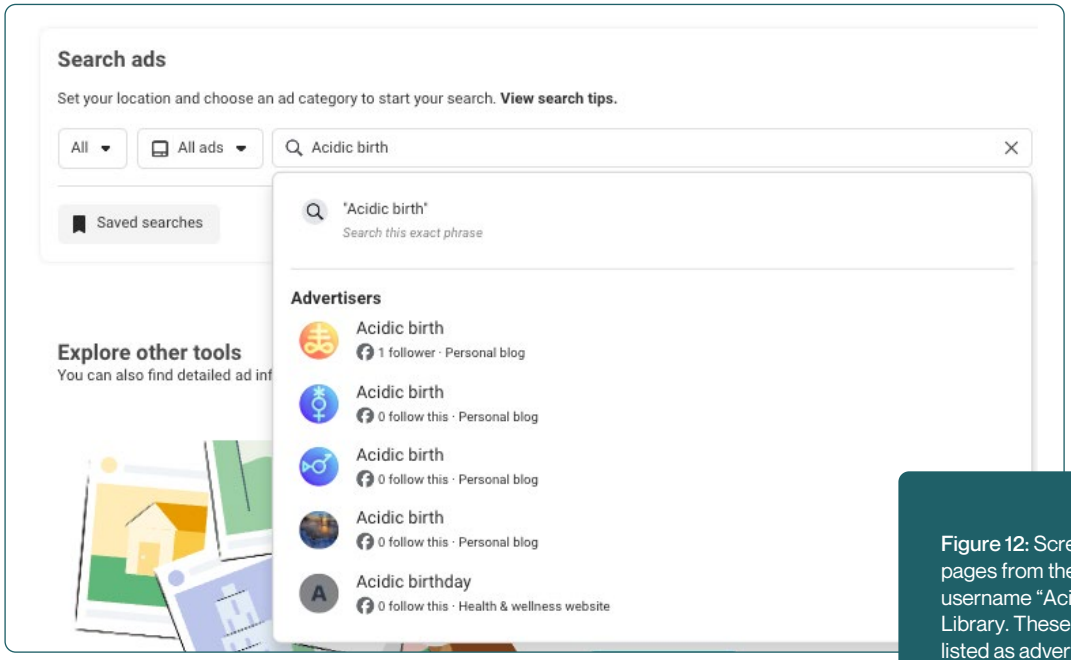


Figure 12: Screenshot showing multiple pages from the network with the identical username "Acidic birth" in Meta's Ad Library. These four pages are currently listed as advertisers, which indicates that they have either run ads in the past or are linked to Business Manager profiles. (Source: Meta Ad Library)

Advertising Activity

Based on information extracted from a sample of 4,000 mapped pages during the second phase of the mapping process, we have identified that this network, similar to Botiful, was launched in late 2021. Our collection of 6,000 Doppelganger ads indicates that pages from this network began their operations in mid-2022 and continued throughout 2023. This makes the network one of the earliest Facebook advertisers promoting the pro-Kremlin campaign. We identified 35 Doppelganger ads run by pages within the network, with a maximum budget of approximately $5,300.

The network also ran scam campaigns with ads in Ukrainian and Russian, which may indicate the location of their creators. We could not determine the budgets for the commercial ads launched by the network.

Examples of Political Ads From the Doppelganger Campaign

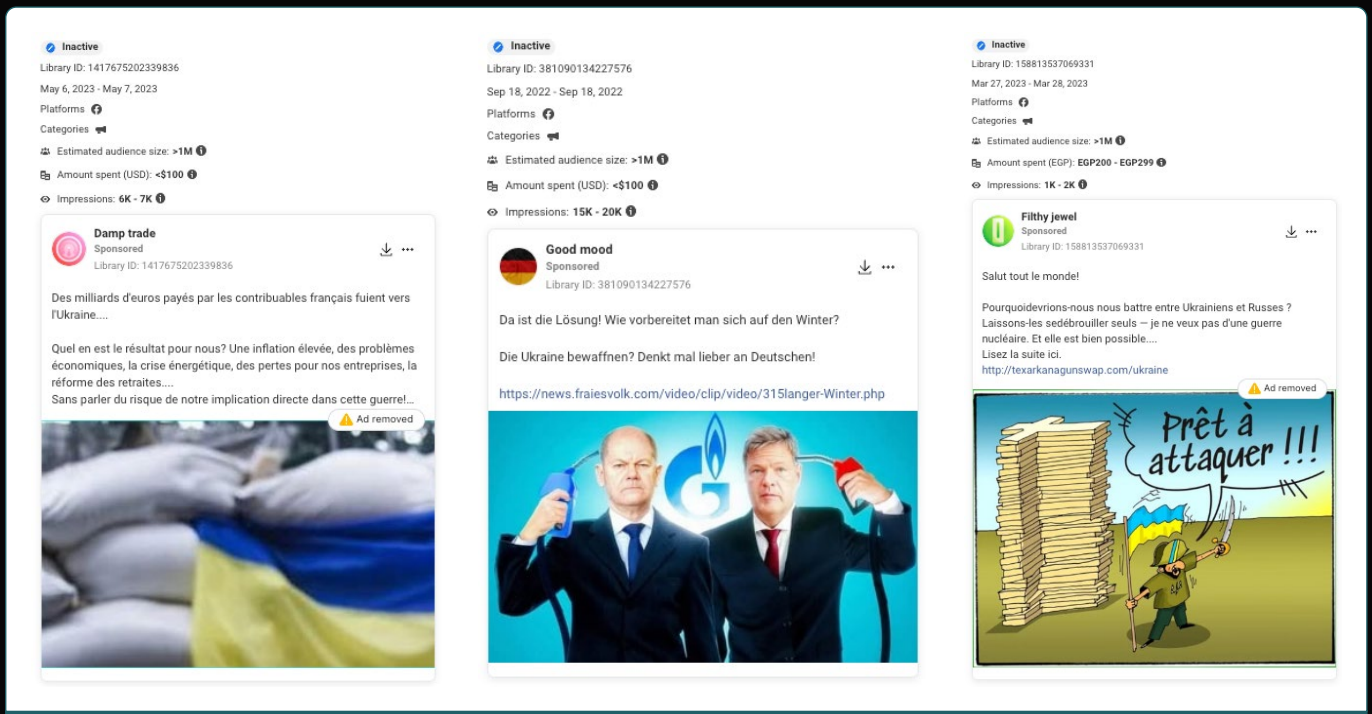


Figure 13: Political ads from the Doppelganger operation, launched by pages from the "Filthy jewel" network in 2022 and 2023, highlight the network's ongoing campaign efforts. (Source: Meta Ad Library 1, 2, 3)

Network 'Innovative IdeasCooking ChroniclesArt & Design'

Political propaganda from anonymous pages linked to dormant inauthentic behavior networks is not limited to Doppelganger ads. In April 2024, Reset Tech published an investigation into a high-budget advertising campaign in Moldova. This campaign spent up to 300,000 EUR on Facebook ads supporting the Moldovan politician Ilan Shor and his pro-Kremlin party. Shor had been sanctioned by the U.S. and EU at the time of this advertising campaign. The campaign was launched by 150 anonymous pages that belonged to a large-scale network of 340,000 dormant assets. These pages were rebranded as Moldovan media outlets and activated as advertisers.

The naming pattern for creating usernames was easy to detect. The creators used a list of 88 key phrases to generate randomized three-phrase username combinations. The usernames all contained lengthy strings of phrases, such as "Innovative IdeasCooking ChroniclesArt & Design," "Beauty and FashionOnline ObsessionsArt & Design," and "Beauty and FashionBusiness BuildersEncouraging Energies."

Based on an analysis of a sample of 21,700 network pages, we believe this inauthentic network was launched in the first quarter of 2023. Like Botiful, the page details suggest that the network originates from Eastern Europe. For example, the profile photos used on most of the pages were sourced from Russian and Ukrainian dating websites.

Examples of Username Patterns of Pages from the Network

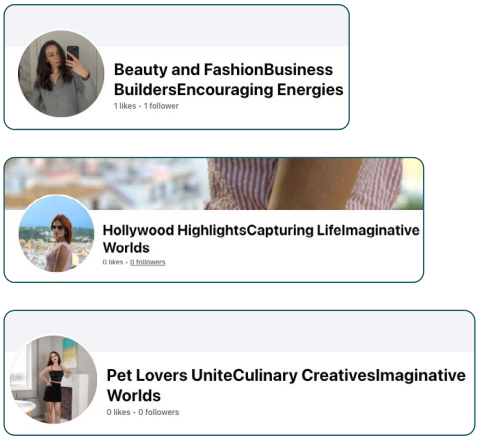


Figure 14: Screenshots of Facebook pages that exhibit a consistent username pattern, reflecting the network's branding identity with profile photos of women. As of February 2025, the pages are still active. Pages with identical usernames appear in Meta's Ad Library as advertisers. This indicates that the pages have either run ads in the past, are set up as business profiles, or are connected to a Business Manager account for potential future advertising. (Source: Meta Ad Library 1, 2, 3)

A Facebook Search for a Username Combination Yields 12 Identical Pages

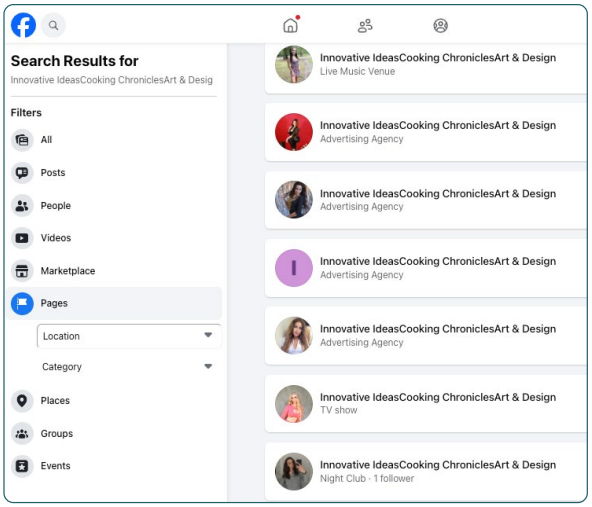


Figure 15: A screenshot of a Facebook search for the username "Innovative IdeasCooking ChroniclesArt & Design" reveals that, as of February 2025, there are 12 pages with the same username on the platform. One page with the exact username is listed as a Facebook advertiser in Meta's Ad Library as of the same date. (Source: Facebook)

Advertising Activity

Like the other two networks analyzed, pages from the "Innovative Ideas" network are listed as advertisers in Meta's Ad Library. Alongside the pro-Kremlin advertising campaign in Moldova, this network actively promoted Doppelganger ads in January 2024. In total, pages from the network ran 175 Doppelganger ads in 2024.

The network also promoted various scam campaigns, including advertisements for medical supplements and online games. We collected a sample of 5,790 scam ads that were launched by pages from the network in 2024. This number represents only a small portion of their advertising activities, as we did not collect all the commercial ads from the pages with this username pattern.

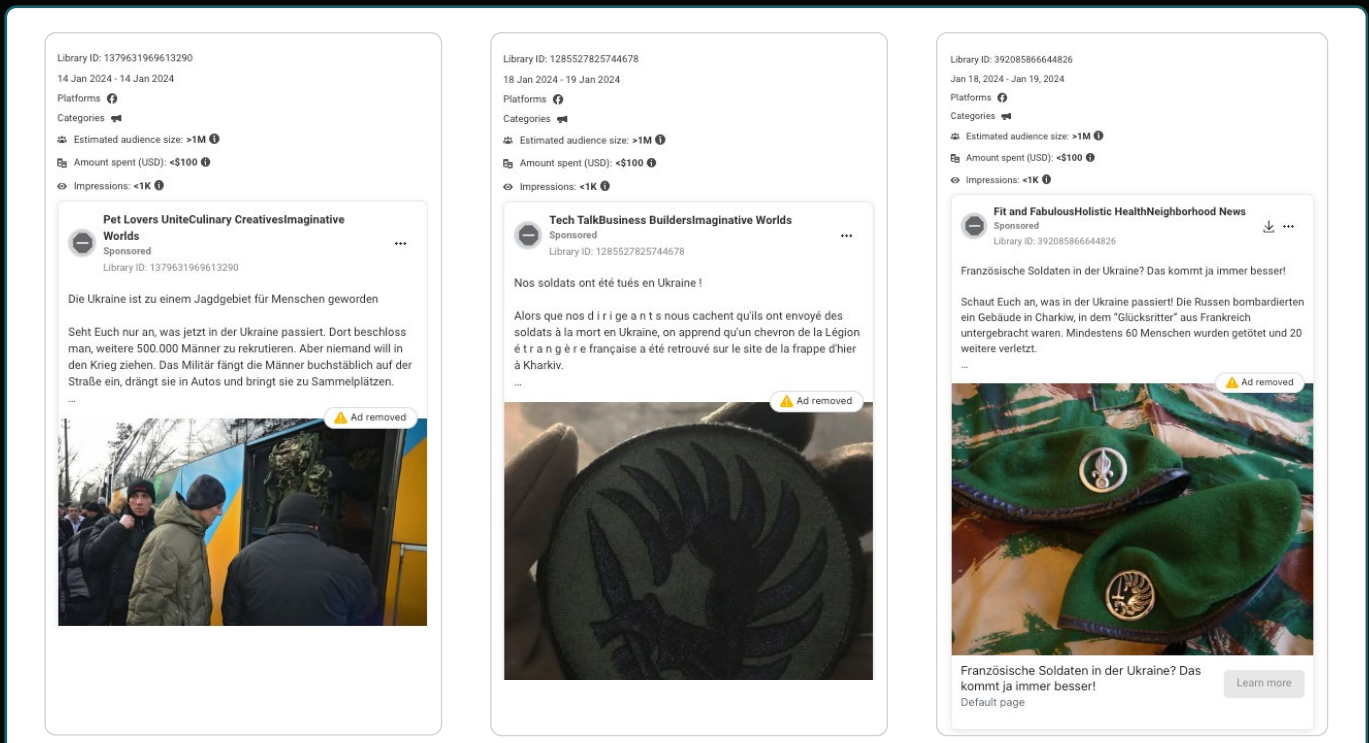


Figure 16: Screenshots of political ads linked to the Doppelganger operation, launched by Facebook pages within the "Innovative IdeasCooking ChroniclesArt & Design" network in January 2024, when the network was first activated for the campaign. (Source: Meta Ad Library 1, 2, 3)

Summary Table: Advertising Activities of the Networks

The table below summarizes our collective insights obtained throughout several investigations into the three mapped networks, focusing on the political advertising activities of these pages.

Network Alias	Username Pattern	Network Size (Potential, Actual)	Created	Political Ads	Min—Max. Ad Budgets*
"Botiful"	Adjective + 2-3 letters + 1 number "Pretty mg4"	242,000 (actual size)	First pages created in October 2021. New assets launched until June 2023.	**478** (Doppelganger ads)	$3,200 – $34,972
"Filthy jewel"	Adjective + Noun	344,000 (potential size)	2021–2022. New assets continuously launched throughout 2023.	**35** (Doppelganger ads)	$2,000 – $5,300
"Innovative IdeasCooking ChroniclesArt & Design"	String of three Key phrases combined from a predefined list of 88 phrases	340,000 (potential size)	March–April 2023. New assets launched throughout 2023.	**975** 175 (Doppelganger ads) 800 (political campaign in Moldova)	€180,000 – €300,000

Table 1: Advertising activities of the three networks, focusing solely on their political ads (commercial ads are excluded). The last column, labeled "Ad Budget," presents data collected from Doppelganger ads in 2023. Please note that the budget figures do not represent the total expenditure on all political ads, as Meta does not disclose the budgets for every political ad. The third network, "Innovative Ideas," participated in two political campaigns, Doppelganger and a pro-Kremlin operation in Moldova, where it spent a maximum of 300,000 EUR on ads. (Source: Reset Tech analysis)

Meta's Response: Selective Ad Moderation and No Action Against Advertisers

Our investigations into these advertising networks consistently reveal Meta has failed to address the advertising activities within the shared ecosystem by not proactively removing dormant assets before they can be activated in campaigns. While the "Filthy jewel" network proved challenging to map using our two-phase methodology, the pages from Botiful and Innovative Ideas were easy to detect using pre-defined keywords. Despite being aware of Botiful since September 2022, Meta has allowed this ecosystem to remain unchecked and expand. All three networks still have active advertiser pages in Meta's Ad Library running ads at the time of writing this report.

Inconsistent Ad Moderation

Meta's efforts to mitigate these issues have largely been reactive, focusing on de-platforming individual advertising pages and removing political ads, particularly those linked to Doppelganger ads. This approach largely neglects other political and scam campaigns from the same accounts. Although Meta has policies against misleading or fraudulent ads, enforcement appears inconsistent, allowing ads for dangerous goods and services to persist on the platform.

Based on conservative estimates from our previous investigations, which have only captured a portion of the commercial advertising activities related to various scam campaigns, Botiful and "Innovative Ideas" have collectively launched at least 8,830 scam ads in 2023 and 2024. These ads have reached millions of users across the EU and are largely left to run unchecked. Most of the advertising pages are not removed after the ads expire. Since Meta does not provide information on budgets for commercial ads, it is impossible to estimate the total revenue the platform has gained from these campaigns. However, it likely significantly exceeds that of propaganda campaigns like Doppelganger in scope and ad spend.

The prominent Doppelganger operation has gained attention from the research community and the media, prompting Meta to pay closer attention to its evolving tactics. However, political campaigns targeting Eastern European countries—such as the pro-Kremlin propaganda campaign in Moldova, initiated by assets from the "Innovative Ideas" network—are systemically ignored. The Moldovan campaign ran intermittently and largely went undetected for 18 months. Our investigation shows that even after Meta acknowledged the existence of this campaign, its response was minimal, consisting mainly of removing ads and occasionally de-platforming active advertising pages. Meanwhile, the network continued advertising by activating new dormant assets, generating significant ad revenue for Meta.

Silent Advertisers Pre-Prepared for Scam Campaigns

Our findings show that pages from these networks are listed as advertisers in Meta's Ad Library despite having no ads in their archives. This may suggest that they previously ran ads that were deleted or, more likely, that they are set up as business profiles or linked to a Business Manager account, making them ready or "warmed up" for future campaigns. Although we have not compiled a complete list of silent advertisers in the Ad Library, random searches for specific usernames return hundreds of results.

Reset Tech's previous investigations into scam campaigns on Facebook, such as our October 2024 report, which focused on a campaign promoting dubious medical supplements in the EU, indicate the scale of these campaigns constitutes a significantly larger portion of the advertising portfolio of inauthentic advertisers compared to political propaganda ads. For example, 35,000 scam ads were launched by thousands of dubious advertisers as part of this medical campaign in the EU. We can only speculate how much money the company gained from this campaign, as Meta does not disclose budgets for commercial advertisements.

While this investigation does not specifically focus on scam advertising, it should be noted that such campaigns breach Meta's Advertising standards. Our findings indicate that the platform consistently overlooks these violations. By allowing anonymous pages from large-scale inauthentic networks to be linked to Business Manager accounts, Meta effectively enables their participation as assets for future campaigns, whether commercial or political. Even if these pages do not run ads, their status as listed advertisers in Meta's Ad Library raises significant concerns.

How Meta Can Disrupt These Networks

Our investigation reveals that dormant networks often remain online—completely or in significant parts—sometimes for years after their initial launch on the platform. This suggests that the platform has little motivation to remove these assets during the dormant phase. For example, 47,000 Botiful pages remain operational as of October 2024, more than two years after Meta first detected the network.

Meta is inundated with billions of scam ads every day, and numerous propaganda campaigns are conducted using these low-cost, anonymous assets. Since ad moderation has proven ineffective in addressing this issue, the most effective approach to mitigate the risks posed by these networks is to proactively detect, map, and de-platform the larger ecosystems responsible for providing advertising assets for these campaigns before they are activated.

Disruption at Dormant Stage

To detect these networks, Meta should utilize more robust pattern recognition algorithms, enabling the identification of assets during account creation based on identical or highly similar usernames. Image recognition and text analysis can also help detect and verify pages by identifying profile similarities between accounts. For example, automated accounts in these networks often share identical or very similar profile information, including profile pictures, cover photos or bio details.

Another effective strategy to prevent the rapid expansion of these ecosystems is to implement stricter account verification processes, such as phone number or email verification. These measures would be more challenging for automated accounts to bypass.

The creators of large-scale networks often use a rotating set of IP addresses to launch clusters of the network, making it difficult for Meta to detect the pages. However, the platform can still utilize machine learning algorithms to detect suspicious behavior patterns, such as the speed at which the pages are created. When numerous similar accounts are created in rapid succession, even from different IP addresses, it indicates a degree of automation is involved.

Alongside these technical solutions, a human-centered mapping process can also be implemented by Meta. Our mapping begins with simple searches on Meta's Ad Library and Facebook. Even conducting manual searches using various username combinations can help reveal the naming patterns of large-scale networks.

Disruption of Active and Latent Advertisers

If Meta chooses not to proactively map and de-platform all dormant assets belonging to large-scale networks, it should at least restrict their access to advertising functionalities. Meta could remove the currently listed silent advertisers—pages prepared to launch ads but not yet active. Removing these listed advertisers could help reduce the activity of these networks and act as a preventative measure against future problematic campaigns.

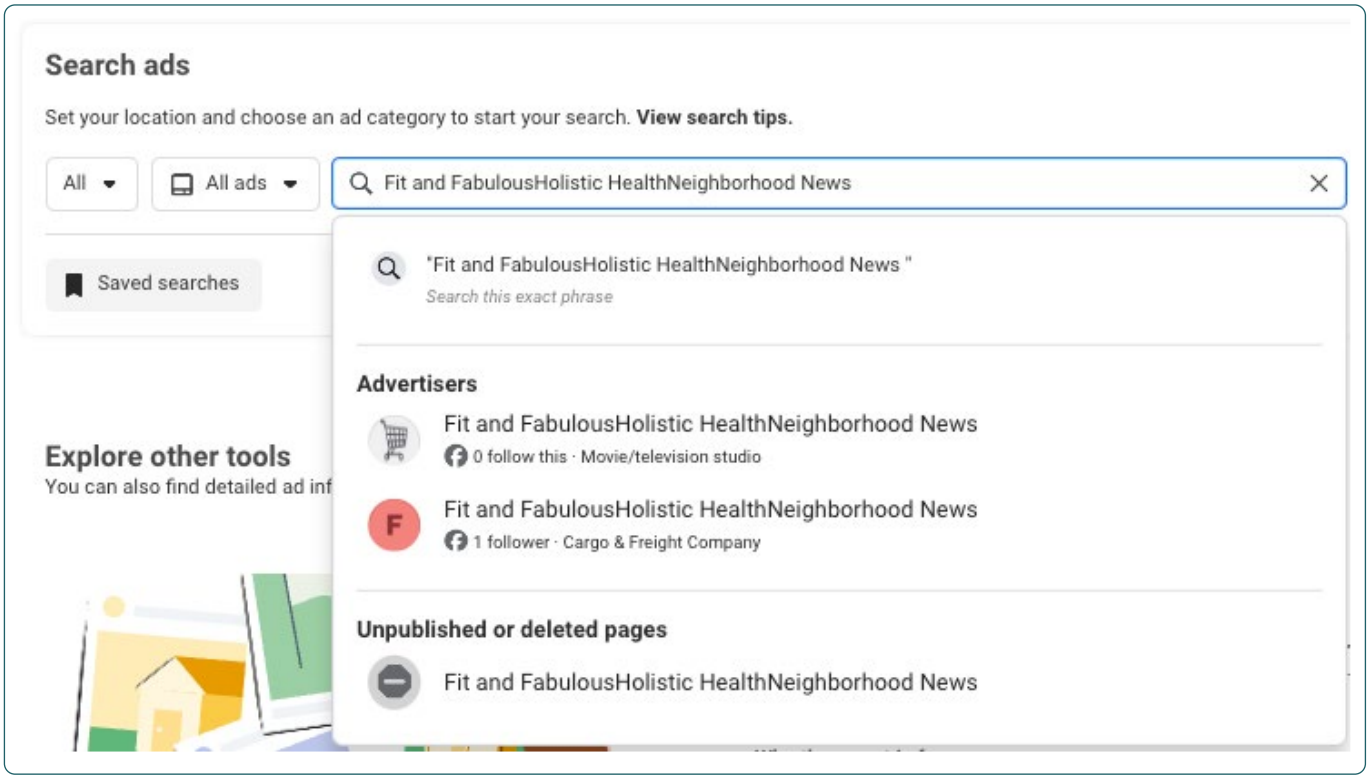
1. First, remove or deactivate the Business Manager accounts of Facebook advertisers with usernames identical or near-identical to those that have run political propaganda ads from FIMI operations, such as Doppelganger.

2. Second, remove active commercial advertisers whose ads have been taken down for violating Meta's advertising standards for scams. Currently, many remain online despite their ads being flagged or taken down for policy violations, allowing them to continue their advertising activities.

3. Finally, remove all pages with usernames identical or near-identical to those of scam advertisers that have been de-platformed for violating Meta's advertising policies.

These actions could significantly impact future advertising activities and reduce the size of the network.

Listed Advertisers and Dormant Pages with Identical Usernames



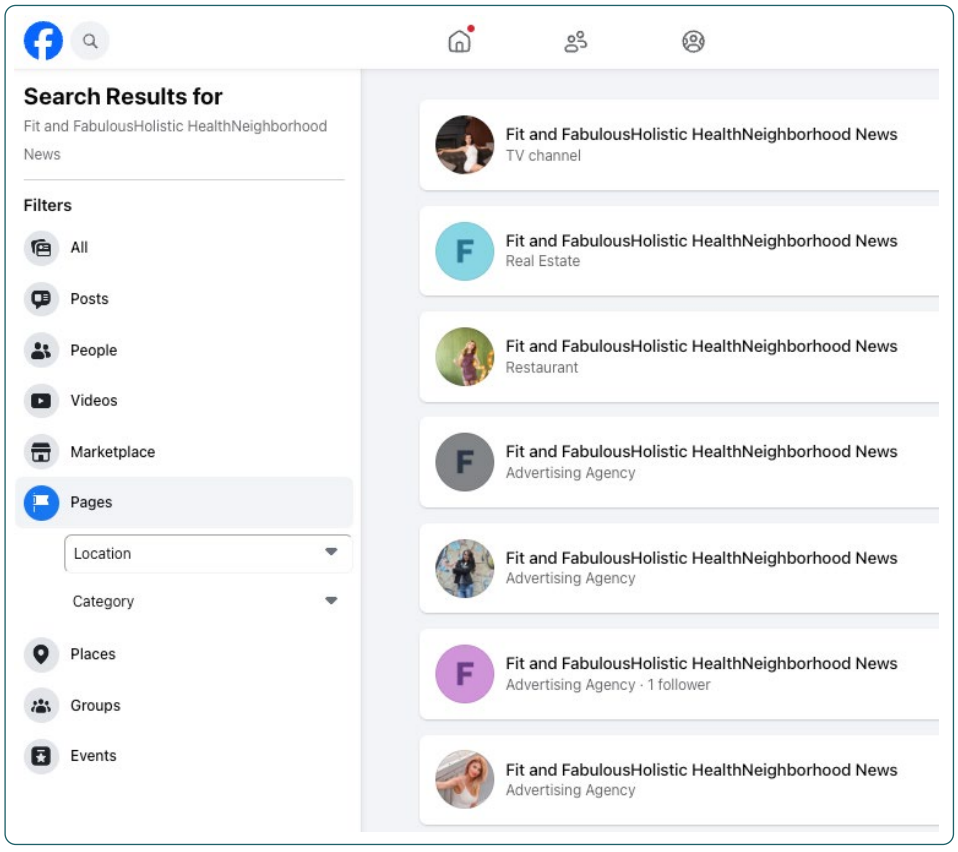


Figure 17: Above, a screenshot from Meta Ad Library shows three dormant pages with identical usernames listed as advertisers. One de-platformed advertiser had been running Doppelganger ads. The other two listed advertisers have not been de-platformed. Left, a Facebook search screenshot shows sixteen dormant pages with the same username. (Source: Meta Ad Library 1, 2, 3)

Unpublished Findings on Four Large-Scale Inauthentic Behavior Networks

This section provides previously unpublished evidence of Meta's ongoing failure to act against large-scale networks of dormant advertisers. We analyze the advertising activities of four new networks comprising up to 2.9 million Facebook pages activated for political campaigns in late 2023 and operational throughout 2024. These networks have been involved in advertising for the Doppelganger operation and ran various scam campaigns throughout 2024. Some were still displaying commercial ads as of January 2025. Like previous networks we've studied, Meta provides little transparency about the identities and locations of these advertisers. At the time of writing this report, the networks are still online.

The networks exhibit common characteristics indicative of automated creation, including identical username patterns, uniform branding, and coordinated behaviors, such as running the same ads across multiple pages. These signs suggest that a single entity manages these assets. All four networks are easily identifiable and traceable by applying rules for generating username patterns. Using our two-phase mapping method, we successfully mapped the potential size of each network and cross-checked a representative sample for information on network creation and other relevant details.

The Estimated Size of the Identified Networks of Advertising Pages

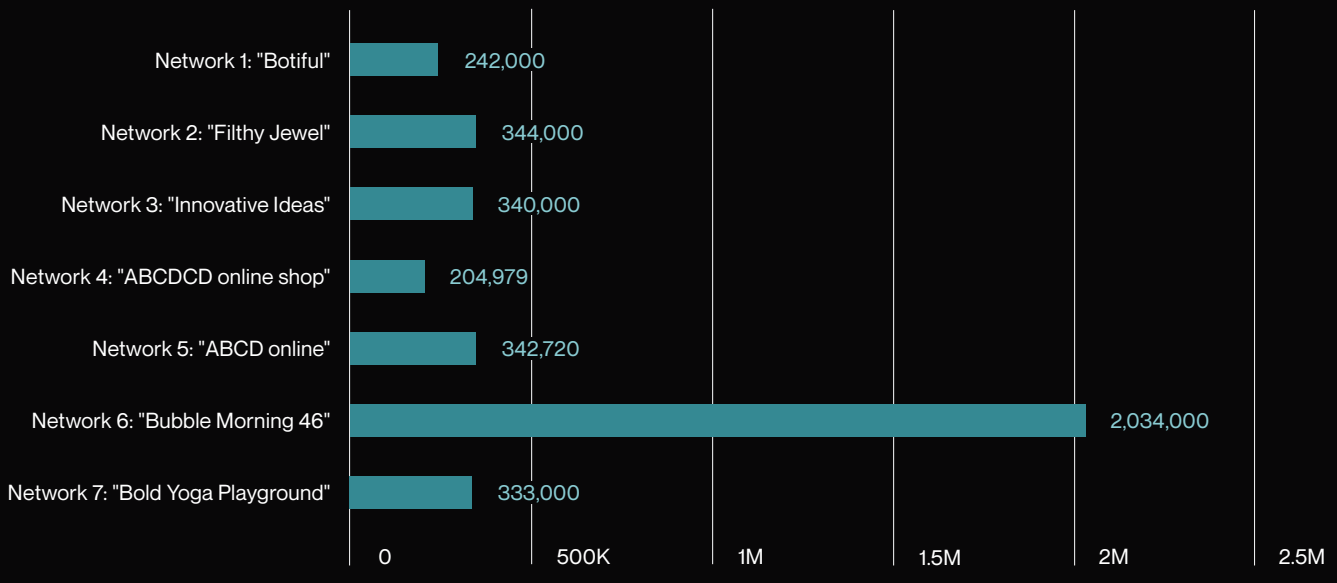


Figure 18: A bar graph showing the combined size of the seven networks mapped by Reset Tech in 2023 and 2024, totaling 3.8 million pages. The first three networks were mapped in previously published investigations. The four networks presented in this section account for 2.9 million pages. (Source: Reset Tech analysis)

Network 'ABCDCD online shop'

This network was activated for political advertising as part of the Doppelganger campaign on August 21, 2023, and ran ads until October 30, 2023. It was reactivated for political advertising in January 2024 and again between March 2 and April 23, 2024. During this period, we documented 1,386 political ads, primarily in German and French, launched from the network's pages.

We collected a sample of 261 commercial ads, mostly scam ads promoting gaming apps and medical supplements, from pages using usernames identical to political advertisers. This sample likely represents just a fraction of the network's total commercial advertising.

Most political and commercial ads from this network have been fully removed from Meta's Ad Library, erasing any record of their advertising activities. As of January 2025, 1,244 Doppelganger ads—90 percent of the collection—have been deleted from the Ad Library. This removal is concerning, as the Ad Library serves as the only transparency tool for the public, researchers, and watchdog organizations to track and analyze the Doppelganger campaign. This lack of transparency complicates efforts to identify the extent of disinformation campaigns and evaluate their impact on public opinion and political discourse.

Our sample shows that only 9.9 percent of the Doppelganger ads from this network disclosed their budgets. The maximum budget for these ads reached $13,662. Meta's lack of clarity regarding political ad budgets highlights ongoing transparency issues within the Doppelganger campaign.

Political Propaganda Ads

The screenshots below show Doppelganger ads launched by pages from the network. Like similar networks, hundreds of pages with usernames identical to political advertisers still exist on the platform. Identifying and de-platforming these pages before they run new ads could be an effective moderation strategy to restrict the broader ecosystem.

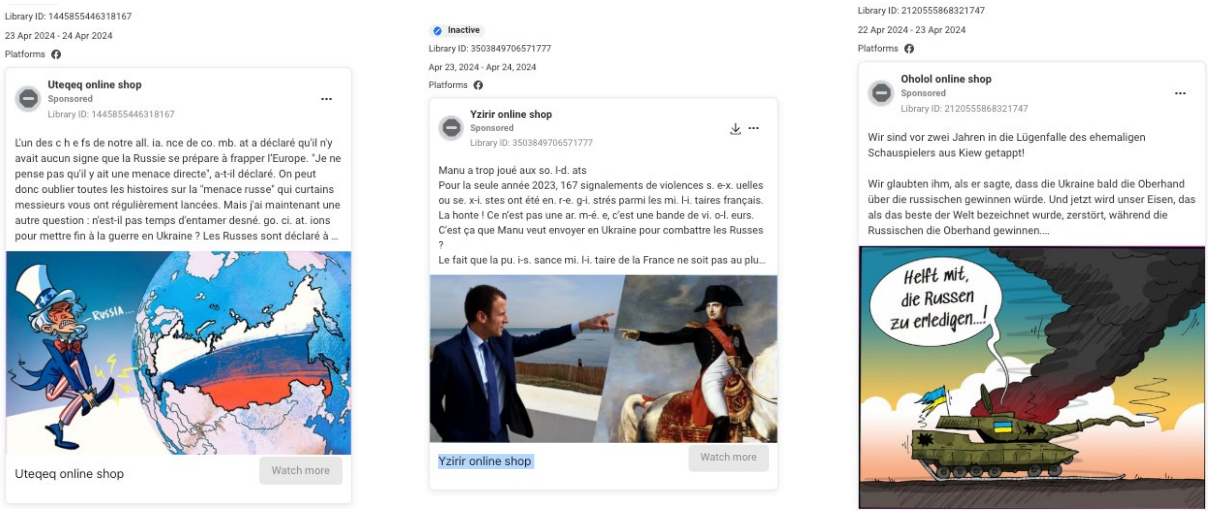


Figure 19: Screenshots of political ads in French and German linked to the Doppelganger operation, funded by pages from the network in April 2024. The three pages have since been de-platformed. (Source: Meta's Ad Library 1, 2, 3)

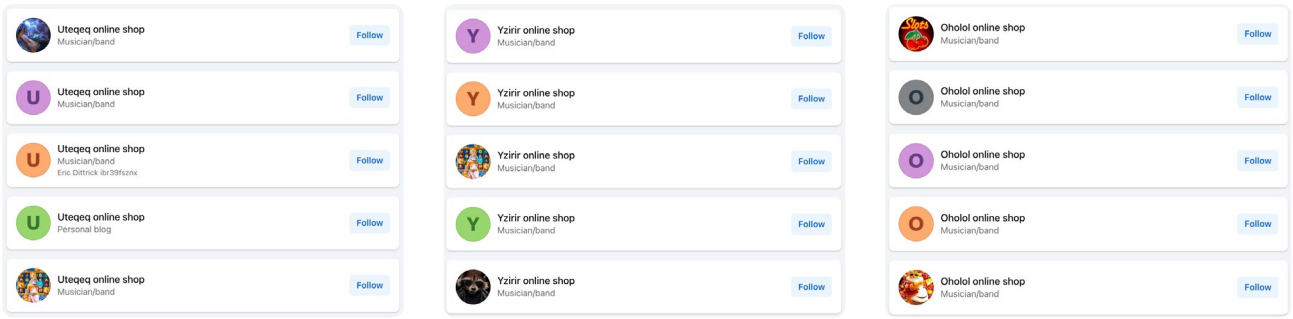


Figure 20: Screenshots of pages with matching usernames. As of February 2025, 175 pages with usernames identical to the de-platformed advertisers from Figure 17, namely "Uteqeq online shop," "Yzirir online shop," and "Ohotol online shop," remain online, more than a year after the Doppelganger advertisers were removed. (Source: Facebook 1, 2, 3)

Commercial Ads (Scam Campaigns)

Our analysis of 261 commercial ads highlights concerning trends similar to those observed in previously investigated networks; scam advertising remains largely unmoderated by the platform. Meta fails to moderate ads effectively, inconsistently removing problematic ads while randomly de-platforming some advertisers yet allowing other pages to continue running similar campaigns.

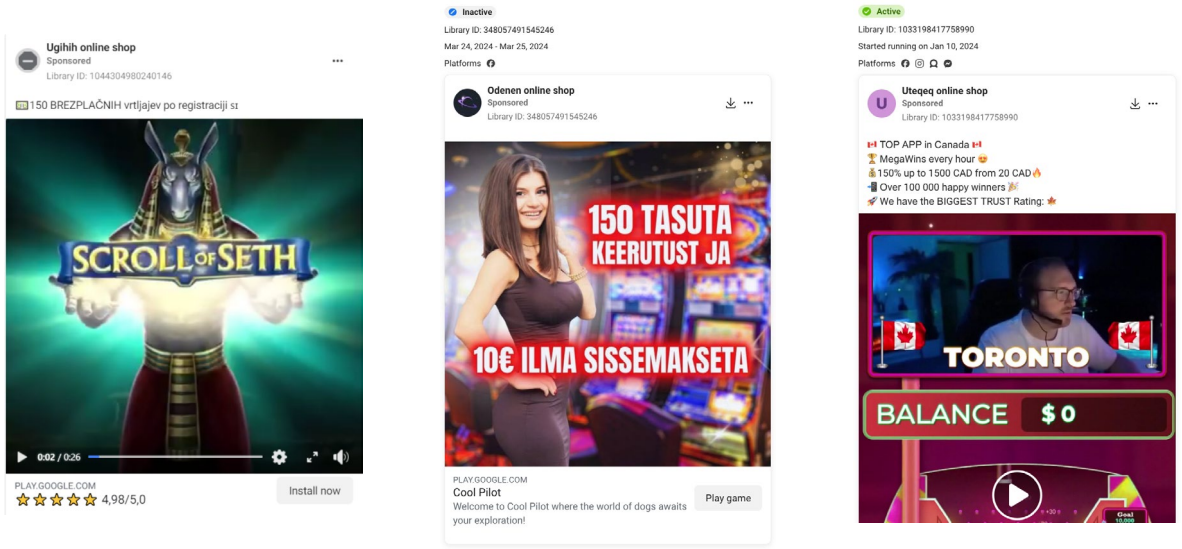


Figure 21: Screenshots of commercial ads by the network promoting online gaming apps. One advertiser page was de-platformed, while pages running the same campaign continue to operate. (Source: Meta Ad Library 1, 2, 3)

Network Creation: Username Pattern

The network consists of pages with standardized usernames generated by random letter sequences that follow the pattern Vowel 1 + Consonant 1 + Vowel 2 + Consonant 2 + Vowel 2 + Consonant 2 (V1+C1+V2+C2+V2+C2), followed by the phrase "online shop." Examples of usernames from this network include "Eqihih online shop," "Yhyzyl online shop," and "Omyhyh online shop."

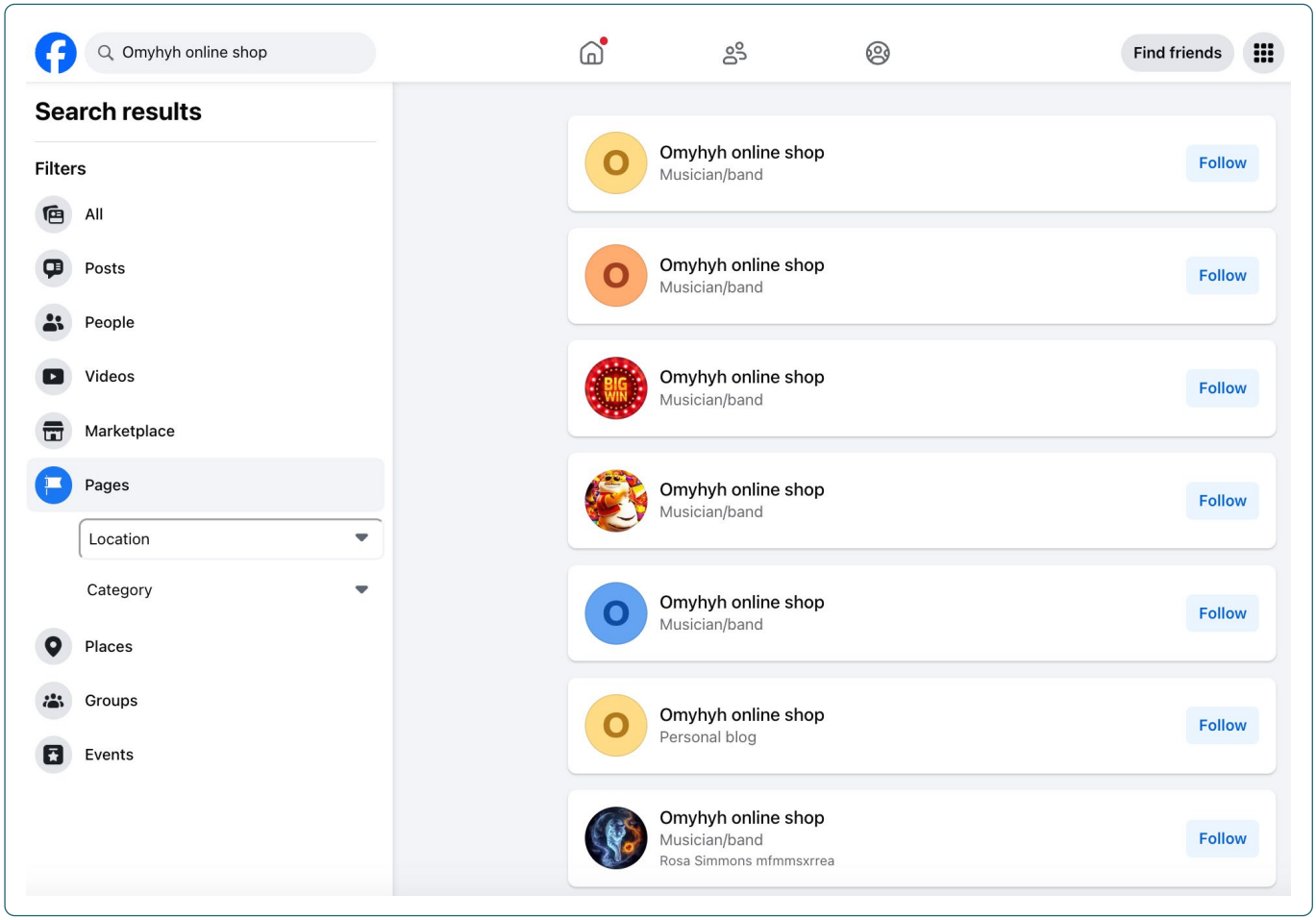


Figure 22: A screenshot of a Facebook search showing pages that follow the pattern V1+C1+V2+C2+V2+C2 + online shop." The username "Omyhyh online shop" has been used to create 55 identical pages, all categorized under "Musician/Band." As of February 2025, these pages are still active. (Source: Facebook)

Phase I: Mapping the Network's Potential Size

We analyzed all possible combinations of six-character usernames following the pattern Vowel 1 + Consonant 1 + Vowel 2 + Consonant 2 + Vowel 2 + Consonant 2 (V1+C1+V2+C2+V2+C2). This yielded a total of 14,400 combinations, calculated as 6 Vowels x 20 Consonants x 6 Vowels x 20 Consonants = 14,400 unique combinations.

To estimate the size of the network, we conducted Facebook searches for 2,058 randomly generated combinations of six-character usernames, such as "Acamam online shop," generated to follow the pattern V1+C1+V2+C2+V2+C2. Out of these 2,058 searches, we found relevant results for 1,958 unique username combinations, leading to a total of 29,295 pages.

We estimate an average of 14.2 pages per username combination. With 14,400 possible combinations, the potential size of the network of pages using the six-letter pattern (with "online shop" appended) is estimated to be 204,979 pages.

Phase II: Page Details from a Mapped Sample

In December 2023, we mapped a sample of 28,462 pages from the network. All these pages adhered to the username pattern "ABCDCD online shop" and were created between May and October 2023. Most of these pages are dormant assets, with 99.8 percent showing no followers or organic activity. Only 30 pages (0.1 percent of the sample) were running active ads during the analyzed period. 99.8 percent of the network is categorized as "Musician/Band," suggesting a strong likelihood of automated creation. This uniform categorization indicates that scripts or bots were likely used to mass-create these pages with default or preselected attributes.

Creation Timeline of Sampled Pages From Network 'ABCDCD Online Shop'

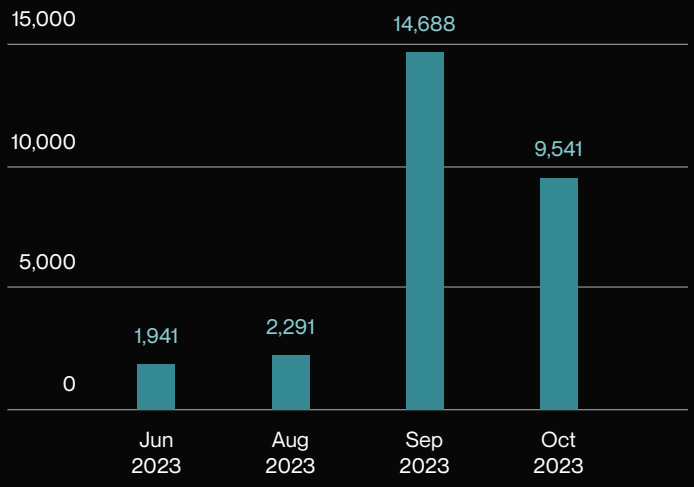


Figure 23: Creation timeline for the mapped sample of 28,462 pages belonging to the "ABCDCD online shop" network. The majority of the pages were launched in September 2023, with an average of 1,500 pages being launched daily during the network's most active set-up period. (Source: Reset Tech analysis)

Brand Identity

Numerous pages from the mapped sample remain empty, lacking profile and cover photos. The few branded pages appear to have visual content pre-prepared for future advertising campaigns, like online gaming promotions.

We identified numerous pages featuring profile photos related to various games. Their presence on the platform as potential advertisers violates Meta's policies for promoting online gambling or games, which requires the advertisers to obtain written permission from Meta.

Additionally, there is a noticeable overlap in the profile photos, with the same images being used across pages with different usernames. This indicates coordinated asset creation, likely utilizing automated or semi-automated methods to bulk-generate and manage these pages as part of the larger network.

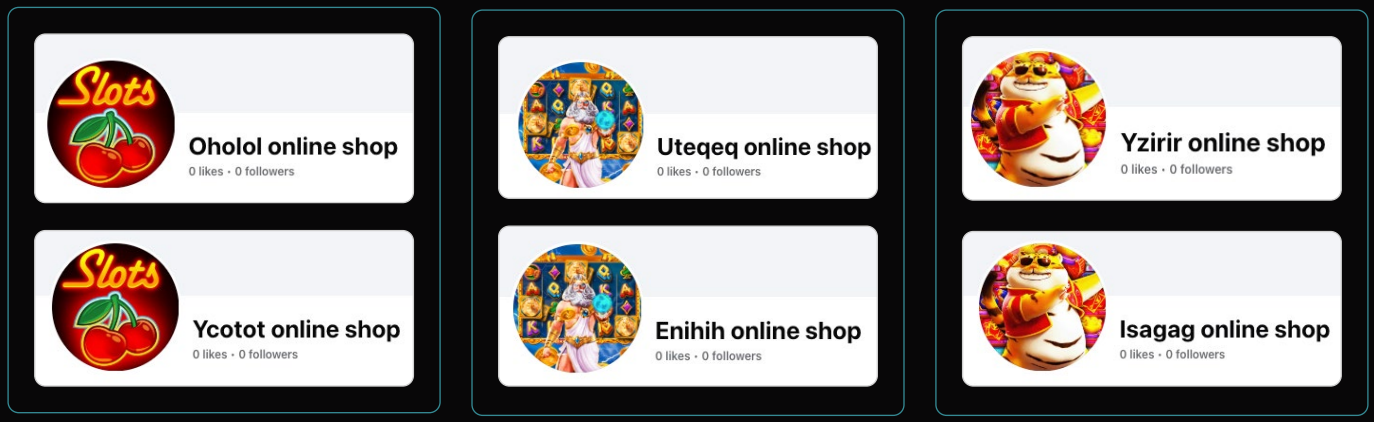


Figure 24: Screenshots from Facebook showing the brand identity of the "ABCDCD online shop" pages that promote online gaming apps, highlighting examples of overlapping profile photos used across pages with different usernames. (Source: Facebook. First row 1, 2, 3. Second row 1, 2, 3)

Network 'ABCD Online'

This network was activated for advertising on the Doppelganger operation on August 15, 2023. Between August 15 and October 30, 2023, it launched at least 160 ads linked to the campaign. Additionally, we collected over 200 commercial ads from advertising pages within the same period.

Most of the ads launched by pages in this network have since been fully removed from Meta's Ad Library. As of February 2024, 77 percent of all Doppelganger ads—124 out of 160—have been deleted, eliminating any traceability of their advertising activities.

Although the platform has removed pages running Doppelganger ads, the broader network of dormant pages remains largely untouched. As of February 2025, tens of thousands of similar inactive assets persist on the platform, including pages with usernames identical to those previously removed. This situation still continues more than a year after we began tracking the network's political advertising activities.

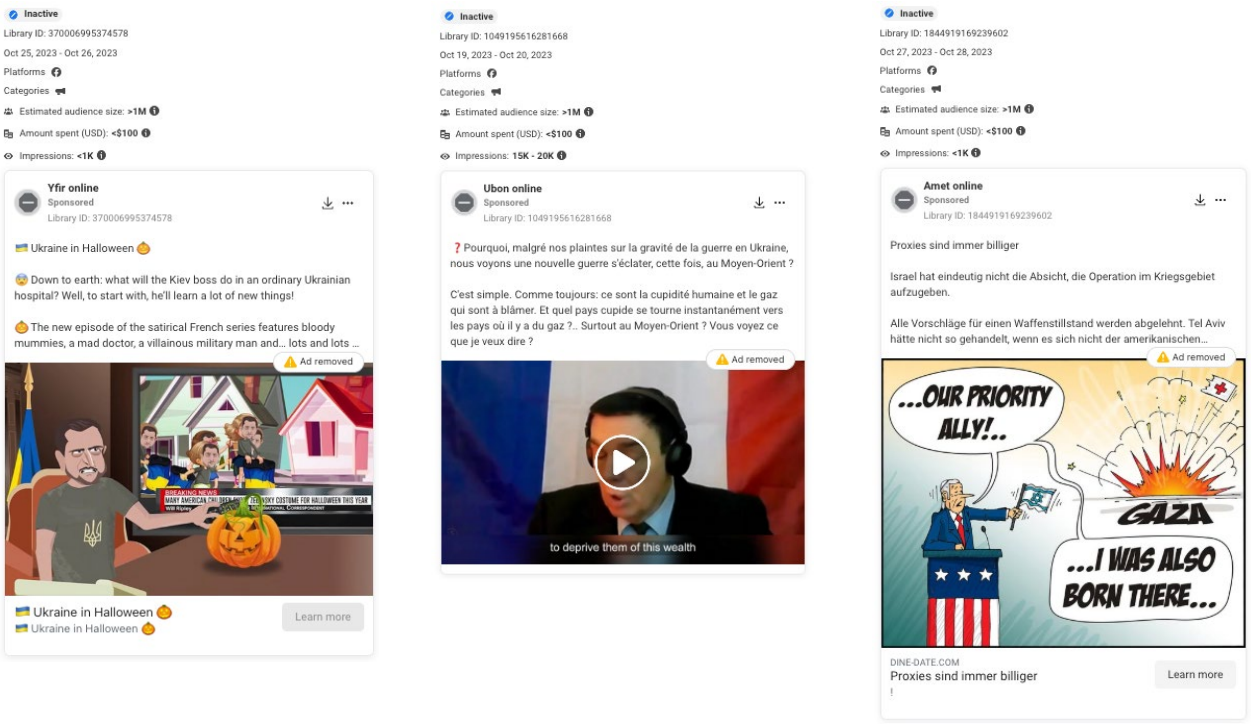


Figure 25: Screenshot from Facebook of political ads in English, French, and German linked to the Doppelganger operation and financed by pages from the "ABCD online" network in Q4 2023. Although these Facebook pages named "Yfir online," "Ubon online," and "Amet online" have since been de-platformed, 143 pages with identical usernames still exist on the platform as of January 2025 (see Fig. 23). (Source: Meta Ad Library 1, 2, 3)

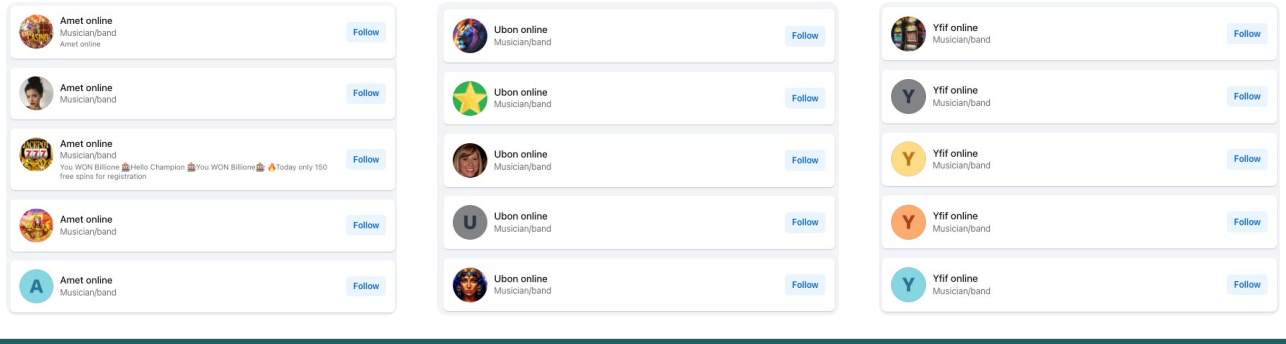


Figure 26: Screenshots of Facebook pages active as of February 2025, with usernames identical to the de-platformed advertisers from the Doppelganger campaign nearly a year after their removal. To improve moderation, Meta could de-platform pages sharing identical usernames with advertisers previously flagged for violating Meta's policies. This could help shrink the broader ecosystem and prevent similar policy violations by the network. (Source: Facebook 1, 2, 3).

Network Creation: Username Pattern

The network consists of pages with usernames that follow a specific pattern: Vowel 1 + Consonant 1 + Vowel 2 + Consonant 2 (V1+C1+V2+C2), followed by the word "online." This naming pattern is similar to the "ABCDEF online shop" network. Examples of usernames of pages from this network include "Eqih online," "Yhyz online," and "Omyh online."

Phase I: Mapping the Network's Potential Size

We analyzed all possible combinations of four-character usernames following the pattern V1+C1+V2+C2, yielding a total of 14,400 combinations, calculated as 6 Vowels x 20 Consonants x 6 Vowels x 20 Consonants = 14,400.

To estimate the size of the network, we conducted Facebook searches for a random sample of 1,259 combinations using the pattern ABCD + keyword "online." This search revealed 30,027 pages associated with these 1,259 unique names. On average, 23.8 pages use the same unique username.

Based on this data, we extrapolated the potential size of the "ABCD online" network, estimating it at 342,720 pages (23.8 x 14,400 potential combinations).

Phase II: Page Details for a Mapped Sample

In December 2023, we mapped a sample of 44,790 pages belonging to the network. All the pages adhered to the username pattern "ABCD online." Most of these pages were created between October 2022 and November 2023.

Out of the 44,791 pages analyzed, most were dormant assets, with 99.6 percent having no followers. Similar to the network "ABCDCD online shop," 94 percent of the pages in the network (approximately 42,000 pages) were categorized as "Musician/Band." At the time of this analysis, only 245 pages (0.5 percent of the network) were running active ads. Among the sample pages, just 180 (0.4 percent of the network) disclosed the locations of their administrators in the Transparency section. These locations included France (95 pages), Poland (35 pages), and Ukraine (23 pages).

Creation Timeline of Sampled Pages From Network 'ABCD Online'

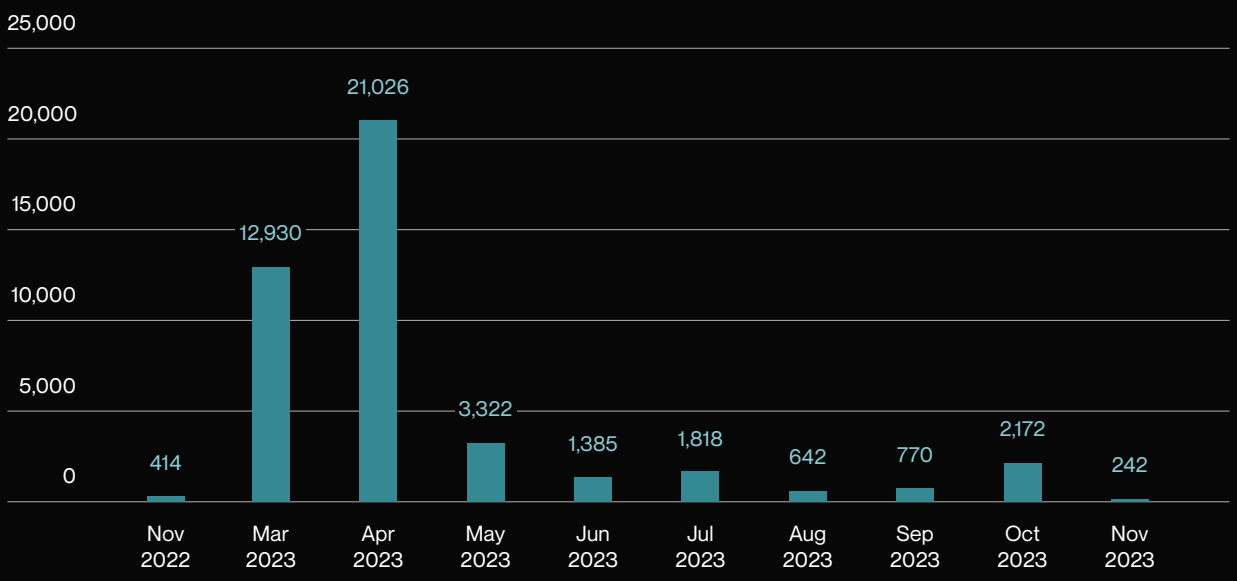


Figure 27: Creation timeline for the mapped sample of 44,790 pages from the "ABCD online" network. Most of these pages were launched in March and April 2023. Note that pages created before November 2022 have been excluded from the sample for visualization clarity. (Source: Reset Tech analysis)

Brand Identity

The visual identity of the pages in "ABCD online" closely resembles that of "ABCDCD online shop." Many pages feature overlapping profile photos or visuals that resemble the promotion of scam campaigns, suggesting automated creation and coordinated management within the network.

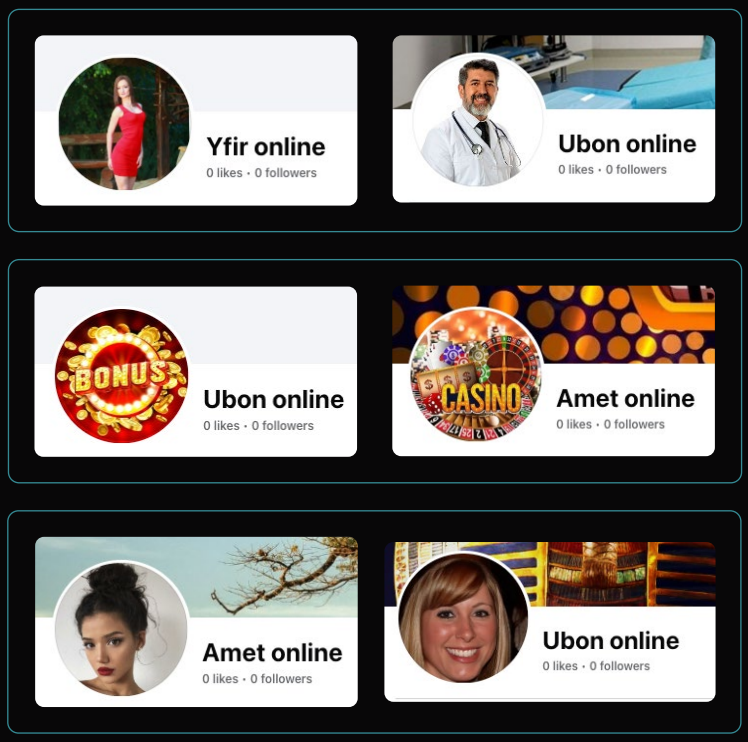


Figure 28: Screenshots of the branding identity of the "ABCD online" network, highlighting similarities to that of "ABCDCD online shop." Many pages feature profile photos of women or imagery related to online betting games. Some appear to have been designed for scam campaigns, using profile photos of medical doctors, likely pre-prepared for the promotion of dubious medical supplements, an operation previously investigated by Reset Tech. (Source: Facebook. 1, 2, 3, 4, 5, 6)

Network 'Bubble Morning 46'

This network was activated for political advertising as part of the Doppelganger campaign on October 22, 2023. Between October 22, 2023, and February 10, 2024, pages from this network launched 278 political ads. Although we did not collect a sample of scam ads run by pages from this network, such ads can be found on Meta's Ad Library. Figure 25 and Figure 26 provide examples of these advertisements.

Much like the other three analyzed networks, Meta has completely removed many political ads associated with the Doppelganger campaign. As of February 2025, almost half of these are no longer available on the Ad Archive database. Only a quarter of the political ads in our collection disclosed their ad spend.

Although Meta has de-platformed most pages activated as Doppelganger advertisers, thousands of similar assets—such as pages with identical usernames to those previously removed—still remain on the platform.

We observed inconsistencies in the moderation of ads and pages, particularly regarding commercial ads. Some commercial ads were completely removed for violating Meta's policies, while the advertising pages remained active. Similarly, certain ads were taken down, yet semantically identical ads launched by other pages from the network remained on the platform.

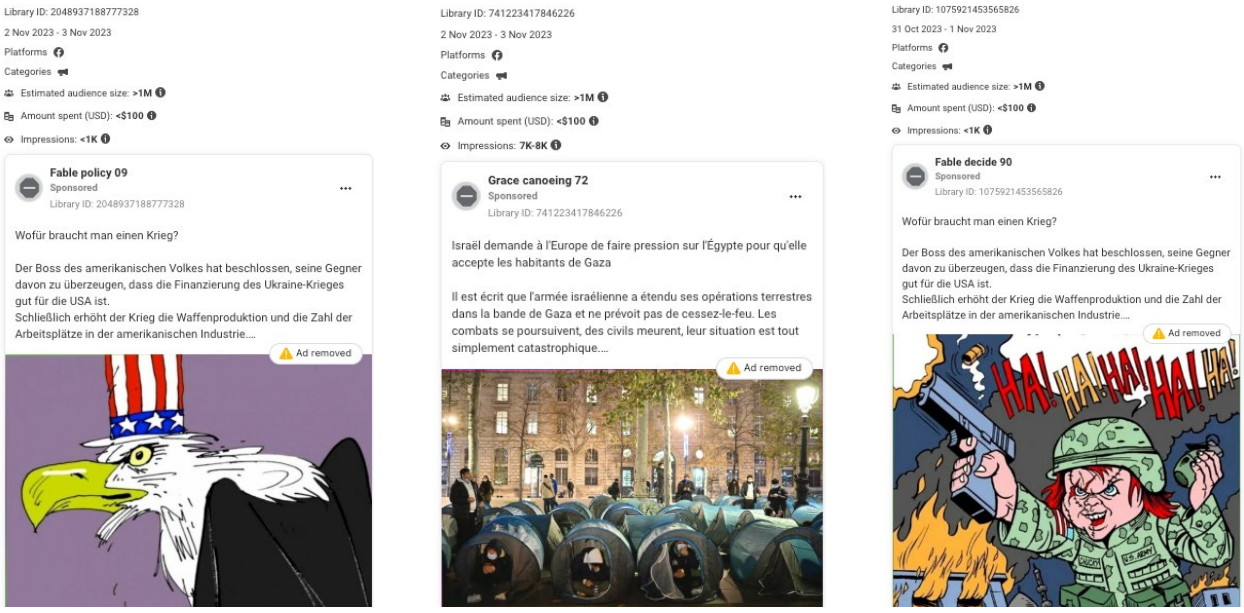


Figure 29: Screenshots of political ads linked to the Kremlin's Doppelganger operation on Meta, financed by pages from the "Bubble Morning 46" network. (Sources: Meta Ad Library 1, 2, 3).

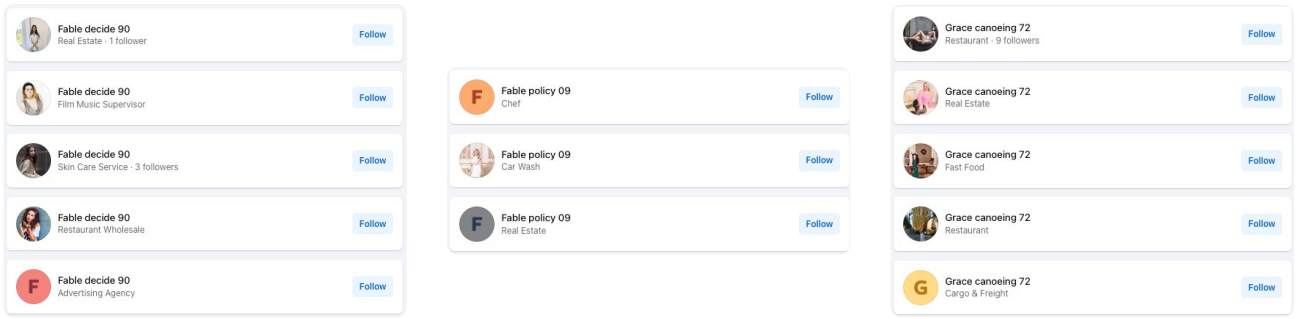


Figure 30: Screenshots showing 21 pages with usernames identical to the three de-platformed advertisers named "Fable decide 90," "Fable policy 09," and "Grace canoeing 72." As of February 2025, all remain active on Facebook, a year after the advertiser pages were removed (Sources: Facebook 1, 2, 3).

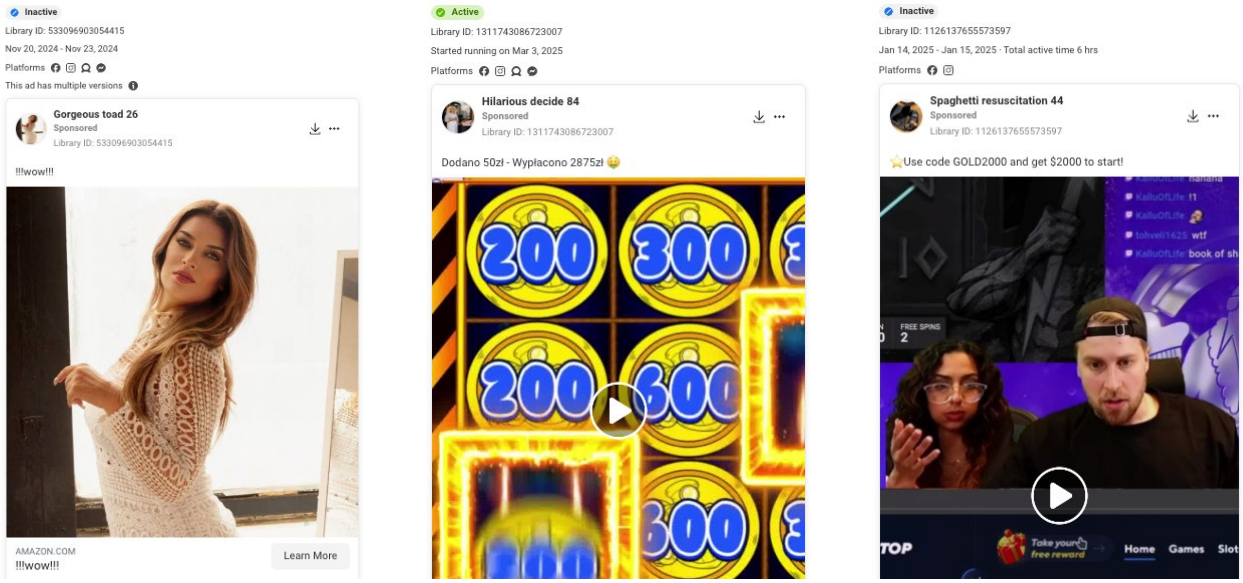


Figure 31: Screenshots of commercial ads by pages from the network launched in 2025. While we did not collect a sample of these ads, we identified numerous suspicious advertisements promoting gaming, medical supplements, pornographic content, sweepstakes, and other scams. (Source: Meta Ad Library 1, 2, 3)

Network Creation: Username Pattern

The network consists of pages with usernames formed by combinations of words and numbers, following the structure Noun + Attributive Noun + Two-digit number. Examples of such usernames include "Bubble morning 46," "Gorgeous toad 37," and "Hilarious decide 17."

Phase I: Mapping the Network's Potential Size

We identified three categories of words and numbers used to create username patterns in the format Noun + Attributive Noun + Two-Digit Number, resulting in 113 x 36 x 100 = 406,800 potential username combinations.

After examining a sample of 277 pages, we found that each unique username combination is associated with an average of 5.3 pages. Based on the 406,800 possible combinations and assuming an average of 5 pages per unique username, we estimate the network may operate around 2,034,000 pages.

Phase II: Page Details for a Mapped Sample

In April 2024, we extracted page data from a sample of 19,787 pages that followed the username pattern Noun + Attributive Noun + Two-Digit Number. All of these pages were created after May 2022, with pages continually created through 2022 and 2023. The most significant increase in page creation occurred in December 2023, when 5,300 pages were launched.

The vast majority of the 19,787 pages in the sample were dormant assets, with only 27 pages running ads at the time of our analysis.

Creation Timeline of Sampled Pages From Network 'Bubble Morning 46'

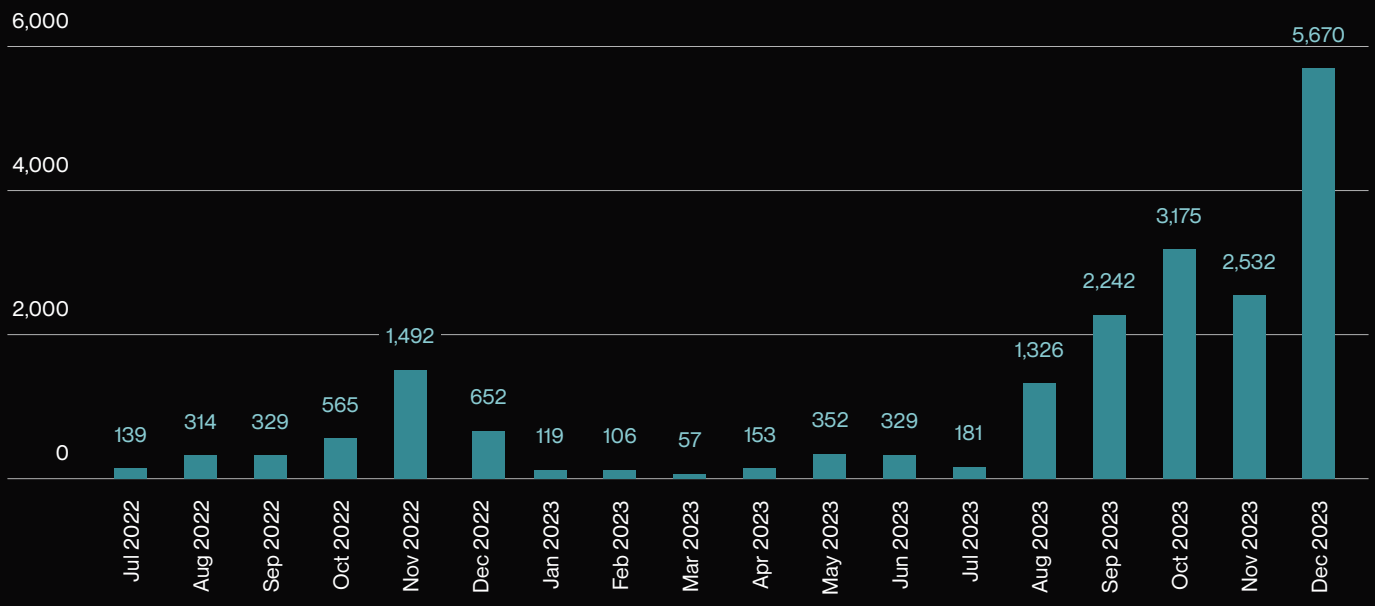


Figure 32: Creation timeline for the mapped sample of 19,787 pages belonging to the "Bubble Morning 46" network. Most of the pages were launched in Q4 2023. Note that 54 pages created in May-June 2022 and January-February 2024 have been excluded from the chart for visualization clarity. (Source: Reset Tech analysis)

Brand Identity

The pages in the network feature various stock photos and animations as profile pictures and often display no cover photos. We noted many instances of identical profile pictures used across different clusters of pages, indicating that these assets were likely created automatically through a batch process. The sample of mapped accounts—primarily dormant assets—also featured profile photos of women that closely resembled the branding style of another network we mapped called "Bold Yoga Playground."

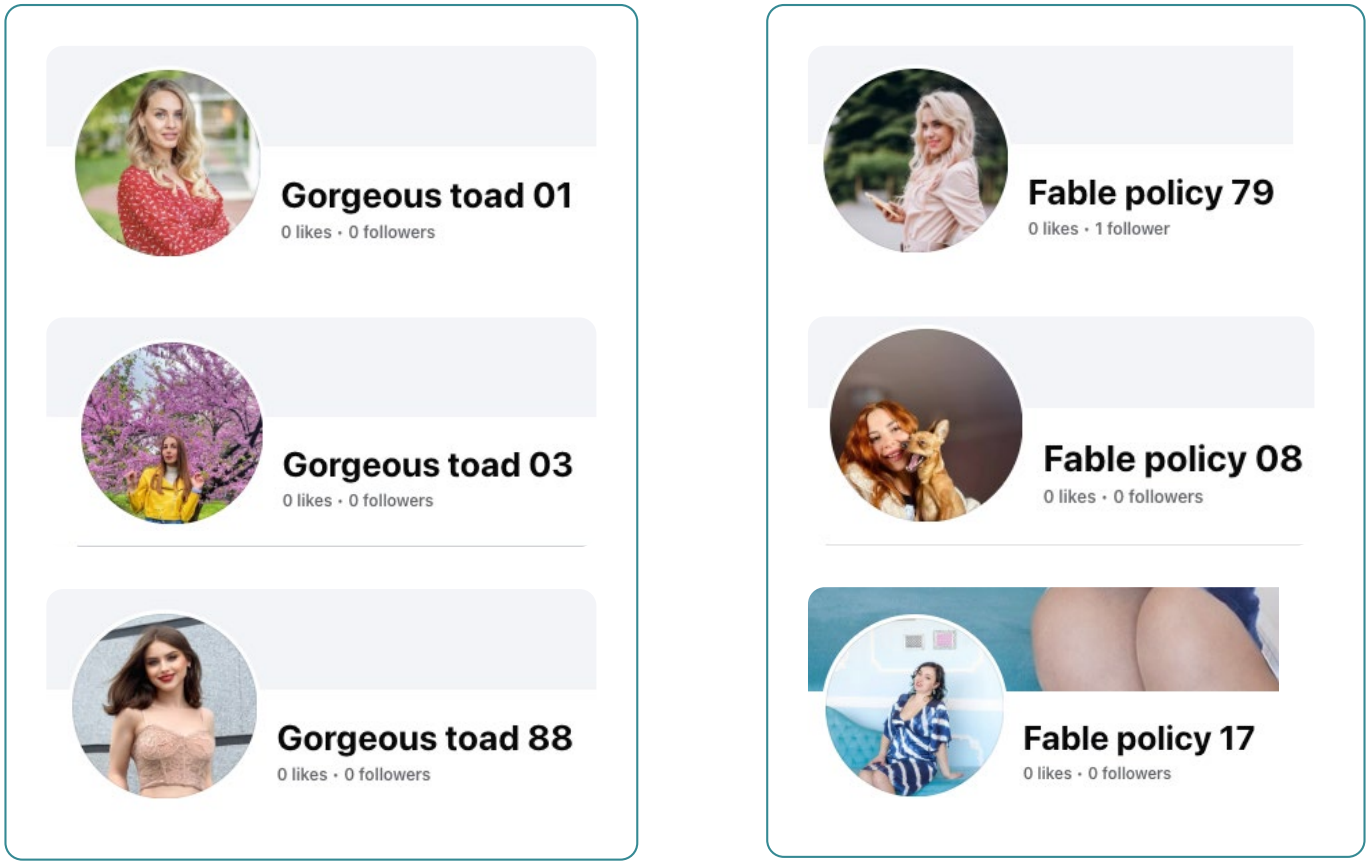


Figure 33: Screenshots from Facebook highlighting the common brand identity of pages from the "Bubble Morning 46" network. Many pages on the network feature identical profile photos, a sign of automated creation of assets. (Source: Facebook First column 1, 2, 3. Second column 1, 2, 3)

Mixing Username Patterns from Other Networks

The username pattern for this network varies in different combinations across various clusters of pages, suggesting that the potential size of the network could exceed 2 million pages. For instance, Facebook searches for key phrases used by pages from the network "Bubble Morning 46" have revealed additional username patterns and combinations. Notably, some of these pages exhibit a mixture of two known patterns, one of which follows the naming conventions of the network "Innovative IdeasCooking ChroniclesArt & Design."

The screenshot below illustrates an example of mixed username patterns; one key phrase used by pages from the network "Gorgeous Toad," appears alongside two-digit numbers, alongside username combinations that include two key phrases from the "Innovative Ideas" network (e.g., "Outdoors Adventure," "Imaginative Worlds," "Science Fiction & Fantasy") featuring distinctive use of ampersands between the phrases. This strongly indicates that both networks are operated by the same entity.

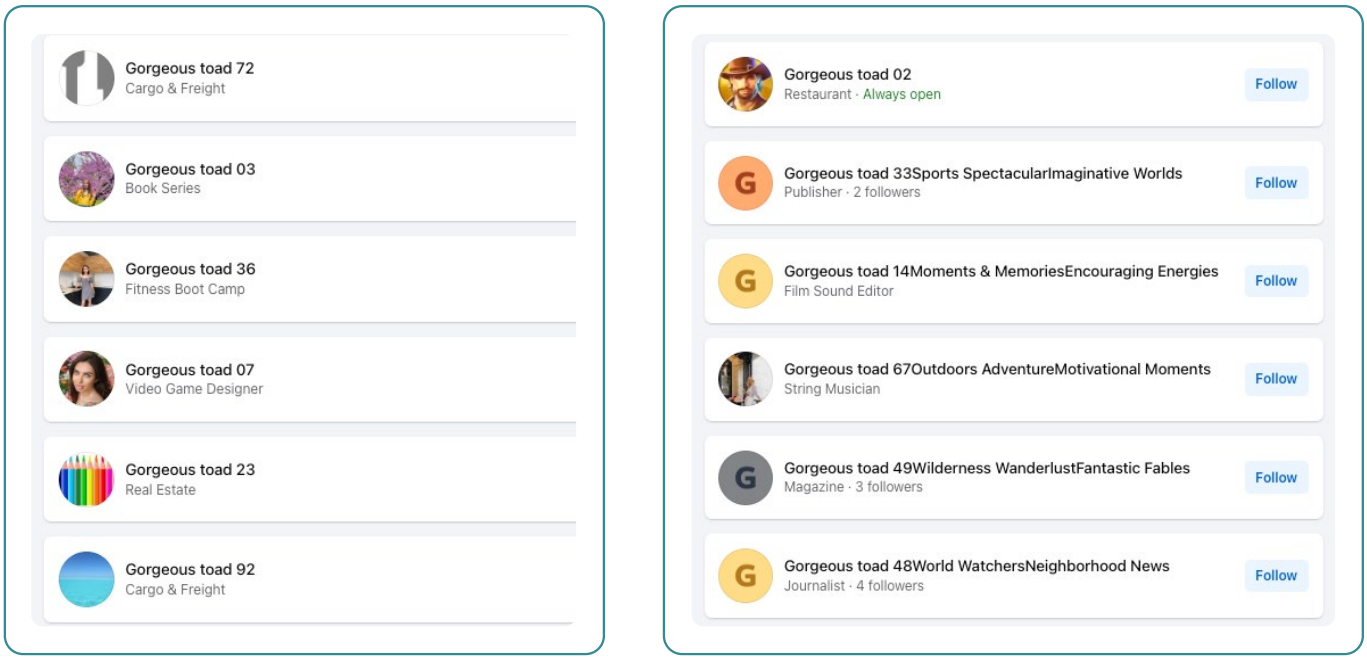


Figure 34: Screenshots of various username combinations based on our pre-defined list of key phrases suggest a larger ecosystem than initially identified. For example, the phrase "Gorgeous toad" + 2 -Digit Number appears alongside other phrases discovered in a separate network. Examples include "Gorgeous toad 14Mind & BodyImaginative Worlds" and "Gorgeous toad 76Harmonious HappeningsInnovative Ideas," created by merging key phrases from both networks. (Source: Facebook)

Network 'Bold Yoga Playground'

The fourth network we analyzed was activated for the Doppelganger campaign on October 30, 2023. Pages from this network launched at least 1,370 political ads between October 30 and January 19, 2024. Although we did not map a sample of scam ads from this network, these ads can be found in Meta's Ad Library.

As with the other networks we studied, most of the Doppelganger ads from this network have been completely removed from the Ad Library, with 90 percent of all ads deleted. We were unable to calculate the total budget for the ads launched by this network, as only 10 percent of the ads in our collection included information on ad spend.

Although most pages responsible for these political ads have been de-platformed, the network is still operational as of this report. Thousands of similar assets—including pages with usernames identical to those of the removed advertisers—remain active on the platform. Many of these pages are currently dormant or are listed as advertisers in the Ad Library, which poses an ongoing risk that they could be reactivated for future advertising.

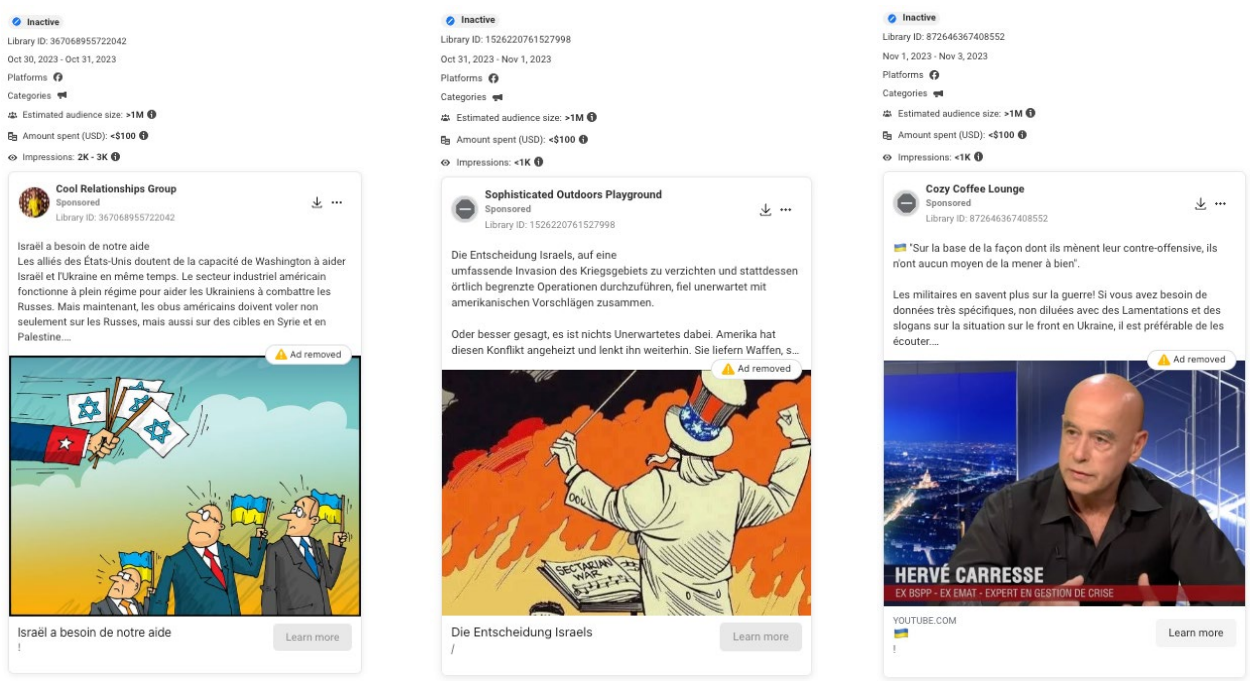


Figure 35: Screenshots of political ads linked to the Kremlin's Doppelganger operation on Meta, financed by pages from the "Bold Yoga Playground" network between Q4 2023 and Q1 2024. Although these pages have since been de-platformed, pages with the same usernames remain on the platform as of February 2025 (see Fig. 32). (Source: Meta Ad Library 1, 2, 3)

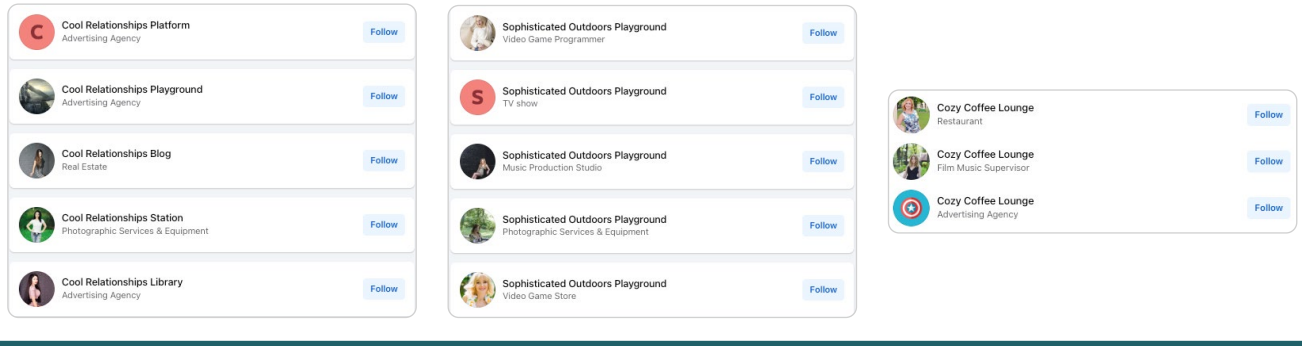


Figure 36: Screenshots of pages with usernames identical or near-identical to the de-platformed Doppelganger advertisers remain on Facebook as of February 2025, nearly a year after the political advertisers were removed. (Source: Facebook 1, 2, 3)

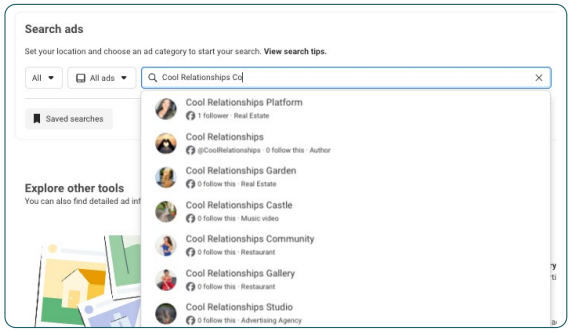


Figure 37: A screenshot showing pages with near-identical usernames to the de-platformed Doppelganger advertisers, "Cool Relationships Group," which are listed as Advertisers in Meta's Ad Library as of February 2025. (Source: Screenshot of Meta Ad Library)

Network Creation: Username Pattern

The network consists of pages with usernames that follow a specific pattern based on three-word combinations: Capitalized Adjective + Capitalized Attributive Noun + Capitalized Noun (Adj+N+N). Examples of these usernames include "Bold Yoga Playground," "Intuitive Wellness Design," and "Innovative Hobbies Workshop."

Phase I: Mapping the Network's Potential Size

We identified three lists of words used to create username patterns in the format Adj+ N+N, resulting in 23 x 68 x 71 = 111,044 potential username combinations.

However, the actual size of the network may be even larger. After analyzing a sample of 1,300 pages, we identified pages with identical usernames, averaging about three pages per username combination. Based on this analysis, we estimate the potential size of the network to be approximately 333,000 pages (111,044 x 3 = 333,132).

Phase II: Page Details for a Mapped Sample

In April 2024, we collected page information for a sample of 9,700 pages from the network that followed the three-word username pattern. These pages were all created between April 2023 and December 2023.

Creation Timeline of Sampled Pages From Network 'Bold Yoga Playground'

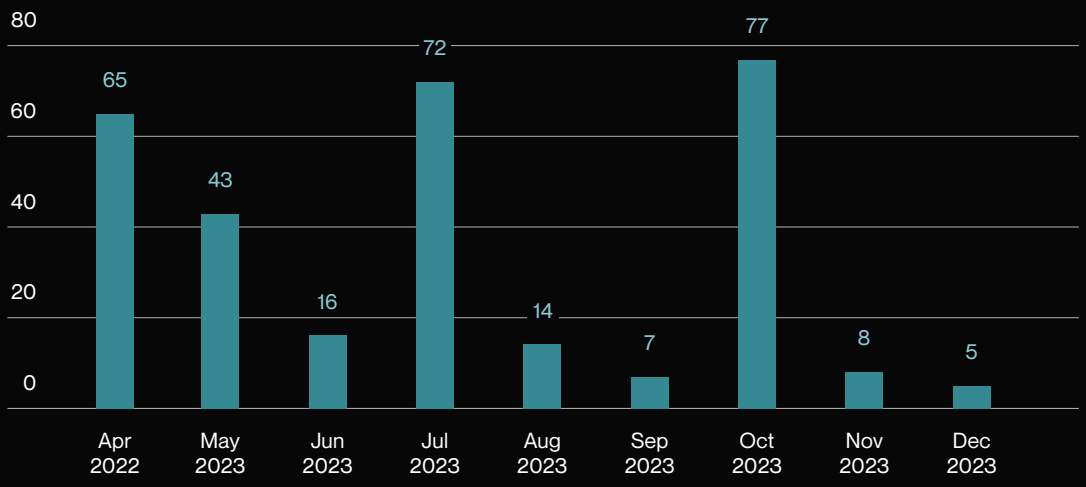


Figure 38: Creation timeline of the mapped sample of 9,756 mapped pages belonging to the network "Bold Yoga Playground." (Source: Reset Tech analysis)

Most of the 9,700 pages were dormant, with 99.8 percent showing no followers or organic activity. At the time of analysis, only two pages from the sample were running active ads, and only 11 disclosed their administrators' locations in the Transparency section, primarily listing Ukraine, the U.S., Indonesia, and Poland. Additionally, 30 percent of the pages were categorized as "advertising agency," suggesting that the network is primarily intended as an anonymous advertising operation.

Brand Identity

Many of the pages share a common brand identity, primarily featuring profile photos of women. A reverse image search on 50 randomly selected profile photos confirmed that they are authentic, sourced from real user profiles on Russian and Ukrainian dating websites. This brand identity is similar to the "Innovative IdeasCooking ChroniclesArt & Design" network, linked to a pro-Kremlin political campaign in Moldova. Both networks use images from dating websites for their profile and cover photos, suggesting they may have been created automatically using a script programmed to upload these images to the profiles.

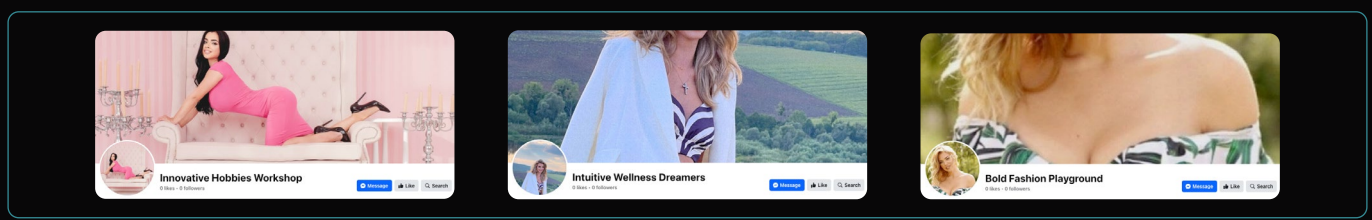


Figure 39: Screenshots highlighting the common branding identity of pages from the "Bold Yoga Playground" network. As of February 2025, the pages remain active, with many featuring identical cover and profile photos sourced from Russian dating websites. (Source: Facebook 1, 2, 3)

Analysis of the Four New Networks

Summary Table of Previously Unpublished Evidence

Network Alias	Potential size[1]	Mapped sample from the network[2]	Created on[3]	Total ads[4]	# of completely removed ads from Ad Library[5]	Available data on Ad spend (max)	# of ads with disclosed budgets[6]
Bold Yoga Playground	111,044 - 333,000	**9,700**	First pages from the mapped sample launched May 2022	**1,370** (Doppelganger ads)	**1,228** (89.6% of all Doppelganger ads)	$14,010	140 (10% of all Doppelganger ads)
Bubble Morning 46	406,800 - 2,034,000	**19,787**	First pages from the mapped sample launched May 2022	**278** (Doppelganger ads)	**133** (47.8% of all Doppelganger ads)	$6,691	68 (24.5% of all Doppelganger ads
ABCD online	342,720	**44,790**	First pages from the mapped sample launched in June 2023	**361** 160 (Doppelganger ads) 201 (scam ads)	**124** (77% of all Doppelganger ads)	$2,574	26 (16% of all Doppelganger ads)
ABCDCD online shop	204,979	**28,462**	The first pages from the mapped sample were launched in June 2023	**1,647** 1,386 (Doppelganger ads) 261 (scam ads)	**1,244** (90% of all Doppelganger ads)	$13,813	138 (9.9% of all Doppelganger ads)

[1] Calculated based on Facebook searches for pattern combinations on the usernames

[2] Page details on creation date, page category, admin location

[3] Based on page details obtained from the mapped sample

[4] Available in our collection of 6,000 Doppelganger ads and based on Ad Library searches for scam ads

[5] As of Feb 2025

[6] As of Feb 2025

Table 2: Advertising activities of the four networks. The political ads come from our collection of 6,000 Doppelganger ads. The scam ads are collected from random searches on Meta's Ad Library. The collected sample of scam ads does not exhaust all of the network's commercial advertising activities.

The pages in all four networks share numerous similarities, suggesting a single creator behind this ecosystem. For example, "Bubble Morning 46" and "Bold Yoga Playground" share a common branding identity with similar profile photos. "ABCDCD online shop" and "ABCD online" have similar username patterns and were activated in the Doppelganger campaign almost simultaneously in August 2023.

All four networks use simple naming patterns that Meta could easily detect. Pages with usernames matching the "Bubble Morning 46" pattern were flagged in Meta's Adversarial Threat Report for Q1 2024, released in May 2024, as advertisers used for Doppelganger operations. This suggests that while Meta was aware of these accounts, it did not take action to detect the larger ecosystem of dormant accounts, which still operate today.

Analysis of these networks exposed significant transparency gaps in Meta's reporting of page admin locations. Out of 104,067 pages analyzed, only 390 (less than 0.4 percent) disclosed their admin locations. This lack of transparency prevents verification of the operatives behind these networks and obscures the advertisers' identities. Meta's failure to address these data gaps enables the continuance of misleading, harmful, or politically motivated campaigns, undermining its commitments to transparency and accountability.

As with previous investigations, we found ongoing inconsistencies in Meta's ad moderation. The company only targeted ads linked to the Doppelganger campaign, while ads and advertising pages related to scam campaigns remained largely active. Furthermore, the platform fails to act on identical advertisers, removing some ads and pages while leaving others active.

Our findings also reveal a concerning lack of transparency in archiving political ads on the platform. Most Doppelganger ads we collected in 2024 are no longer available in Meta's Ad Library. When users try to access the URLs of these removed ads, they see a message stating that the ad has been deleted or "incorrectly categorized" as related to "social issues, elections, or politics." This vague message suggests that Meta may be reclassifying Doppelganger ads as commercial ads. This would effectively remove them from the Ad Library as commercial ads are deleted after their budget expires, thereby concealing any traces of the operation.

We conducted two checks on the "Bold Yoga Playground" network, analyzing 1,370 Doppelganger ads from the network. By November 2024, 1,181 (85 percent) were removed from the Ad Library, leaving 216 still visible. A follow-up in February 2025 revealed that over 70 more ads had been removed, leaving only 142 ads accessible in the Ad Library. This indicates that Meta periodically reclassifies Doppelganger ads from political to commercial or deletes the full archives. Figure 26 highlights screenshots of the same ad, run by 12 pages. While all 12 ads were still accessible in November 2024, eight had been removed from the Ad Library by February 2025.

Examples of Completely Deleted Doppelganger Ads from Meta's Ad Library

Meta's removal or reclassification of Doppelganger ads eliminates them from the Ad Library. Clicking on the URLs of removed ads results in the message, "The ad is no longer available."

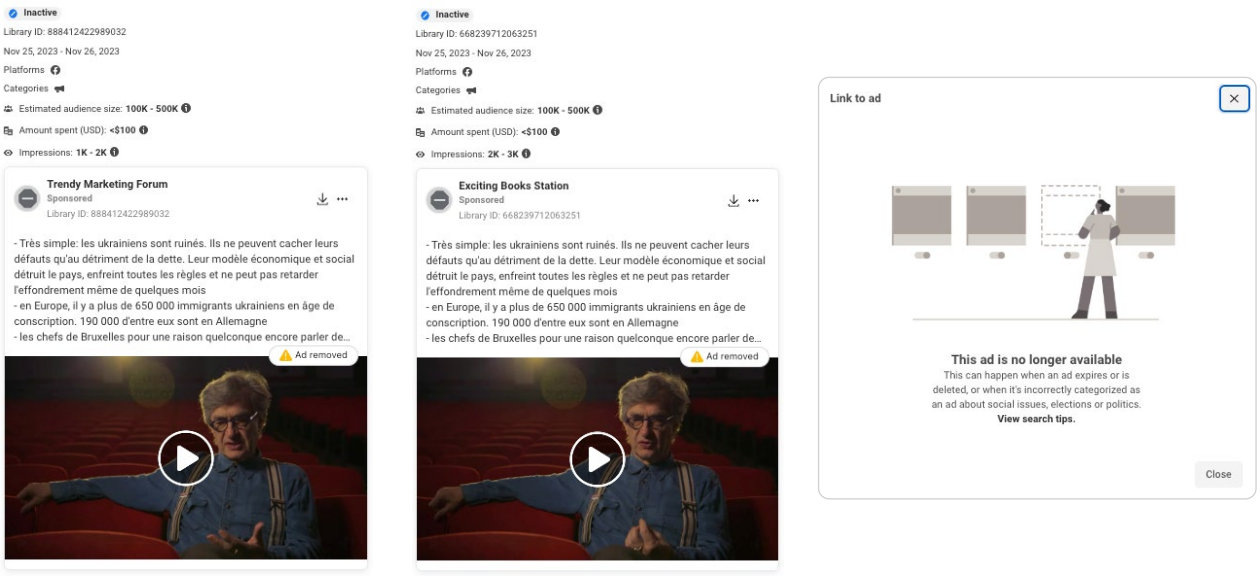


Figure 40: Screenshots showing identical ads deleted from the archives of some pages but still available on other pages from the same network. (Source: Meta Ad Library 1, 2, 3, 4).

We also found systemic evidence that Meta doesn't consistently disclose ad spend information for Doppelganger ads, making it difficult for researchers to estimate the total campaign budget without extrapolation.

The analysis of these four networks shows once again that, aside from removing political ads and de-platforming individual advertisers, Meta does little to prevent the global ecosystem from operating paid campaigns. Dormant pages with the same usernames as de-platformed advertisers from all four networks still exist on the platform, including those listed as advertisers and linked to Business Manager accounts. While Meta may not address the entire dormant ecosystem, removing pages that mimic problematic advertisers could help limit these networks at least partially. Yet, the platform fails to de-platform even these clearly affiliated assets.

The Great Unmapped: Other Large-Scale Inauthentic Behavior Advertising Networks

The mapped ecosystem of these seven networks is just a fraction of the inauthentic advertisers running Doppelganger ads during the analyzed period. Our data indicates that at least ten more networks were activated to run ads for the campaign between 2022 and 2024, each with unique username patterns and branding identity. Although we haven't fully mapped these networks, initial Facebook searches for username combinations suggest that some usernames are linked to smaller groups of pages with hundreds of assets with identical usernames, while others belong to large-scale networks with hundreds of thousands of dormant assets, similar to the seven networks we mapped. A few examples of detected username patterns include:

- Pairing random adjectives: "Mature Tedious," "Turbulent Authentic," "Unfortunate Stupid."
- A pattern based on the capitalized word "Future" combined with various nouns: "Future advice," "Future zebra."
- A pattern that includes a longer key phrase with one personal name, one family name, the word "online," and a random set of five digits: "Holly Mitchell Online 53943."
- A pattern using a female personal name and a capitalized noun: "Donna Ideas," "Michelle House."
- A pattern using Russian-sounding female names: "ViktorinaShponkina," "MilaTurchenkova," "NoraVyrypaeva."
- Nonsensical words paired with four digits and the word "Dreem": "Loanobcase1971 Dreem," "Repibartbar1972 Dreem."

Some of these networks operate for extended periods, switching on and off to deliver new assets over several months. Smaller groups of pages may run ads for just one or two days before the campaign switches assets. The rapid switching between advertising accounts could be part of an A/B testing strategy or an effort to optimize ad performance and avoid detection.

The table below lists some username patterns from identified advertisers. Numerous patterns remain untracked. Among the 300 advertising pages in our collection, we were unable to identify a clear username pattern, suggesting that the estimated 17 networks are likely an undercount and the actual number of inauthentic networks associated with the Doppelganger campaign is probably higher.

Summary Table of Other Networks

Page Username Pattern / Network Alias	Network Activated on Doppelganger Ads	Number of Advertising Pages on Doppelganger
Russian female name (First Name + Surname): "NoraVyrypaeva"	03.03.2024-06.06.2024	676 pages
Adjective + Noun + Random 3 Capitalized Letter String: "Cozy Fashion XWD"	14.04.2024-27.05.2024	101 pages
Adjective + Adjective: "Mature Tedious"	15.03.2023-24.05.2024	494 pages
Future + Noun "Future zebra"	27.12.2023	5 pages
Female First Name + Capitalized Noun: "Donna Ideas"	16.02.2024-18.05.2024	153 pages
First Name + Surname + "online" + 5 digits: "Emily Thompson Online, 23608"	30.11.2023-27.12.2023	47 pages
Nonsensical Word + Year Format YYYY + "Dreem": "Nizotelas1981 Dreem"	12.01.2024-19.01.2024	38 pages
First Name + Surname: "Barbara Thomas"	12.07.2023-17.05.2024	15 pages
Random 7 Letter String + Digits + "-tm": "B3cyrrk-tm"	02.12.2023-03.12.2023	12 pages
Noun + Capitalized Letter: "Unexpectedness L"	13-12-2023-14-05-2024	10 pages

Table 3: The table lists the username patterns of pages in the unmapped ecosystem. While we have not determined the size of the dormant networks supplying these advertising assets, Facebook and Meta's Ad Library searches show that dormant pages with identical usernames exist on the platform.

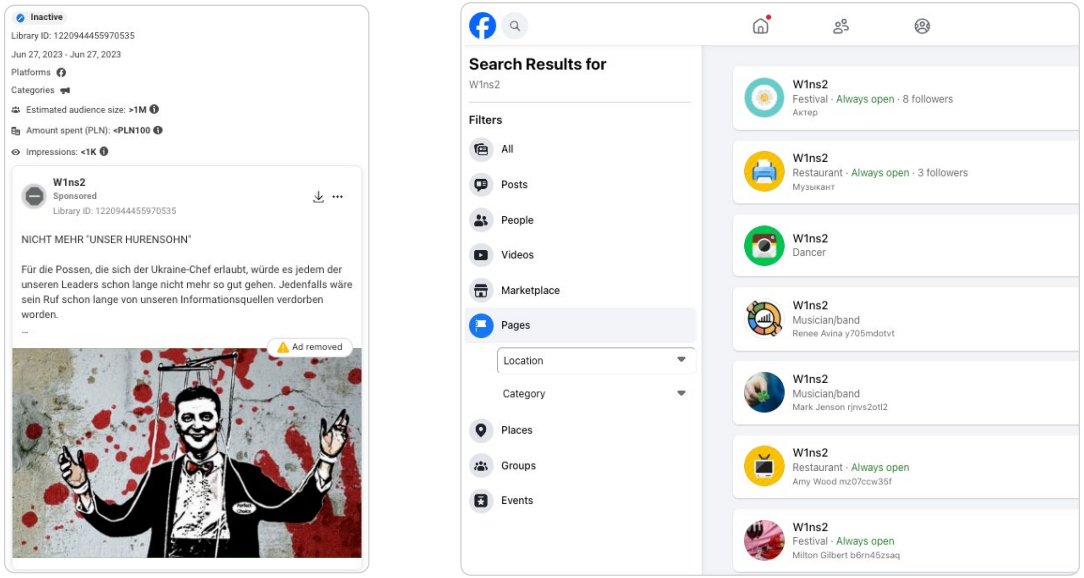


Figure 41: Left, a screenshot of a Doppelganger ad launched by a page from an unmapped network. Right, a screenshot from Facebook shows that the page username "W1ns2" results in over 550 identical Russian language pages. Pages with the same username launched over 700 mostly commercial scam ads promoting online gaming apps and clothes as of March 2024. (Source: Meta Ad Library 1, 2)

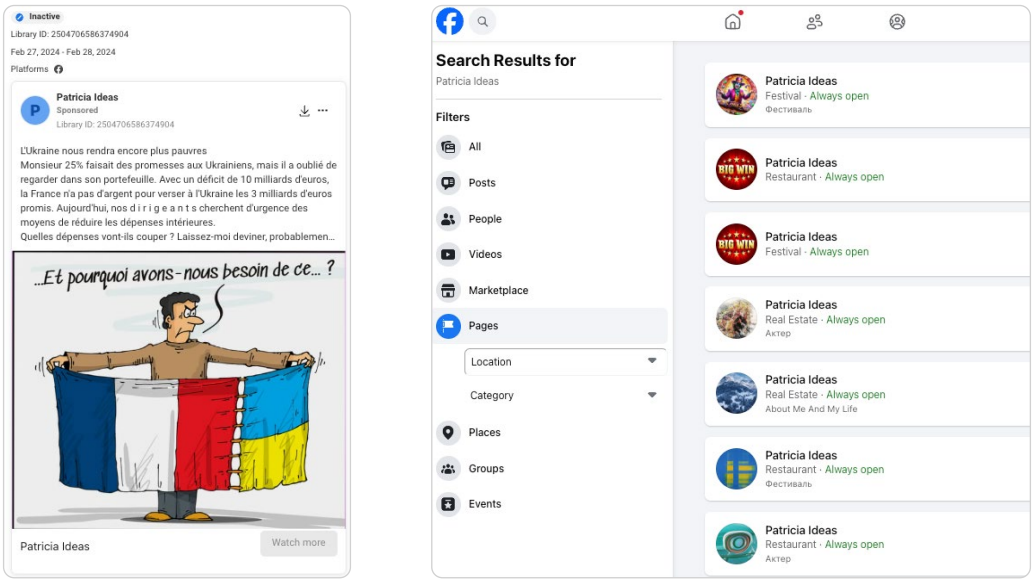


Figure 42: Left, a screenshot of a Doppelganger ad from a network page with the username pattern "Female Name + Noun," such as "Patricia Ideas," "Michelle House," "Nancy Art," and "Donna Ideas." Right, a screenshot shows Facebook search results of 120 pages with the identical username "Patricia Ideas," suggesting this network could consist of hundreds of thousands of pages based on name and noun combinations. Ten pages with the username "Patricia Ideas" are currently listed as advertisers, meaning that these are assets linked to Business Manager accounts. (Source: Facebook 1, 2)

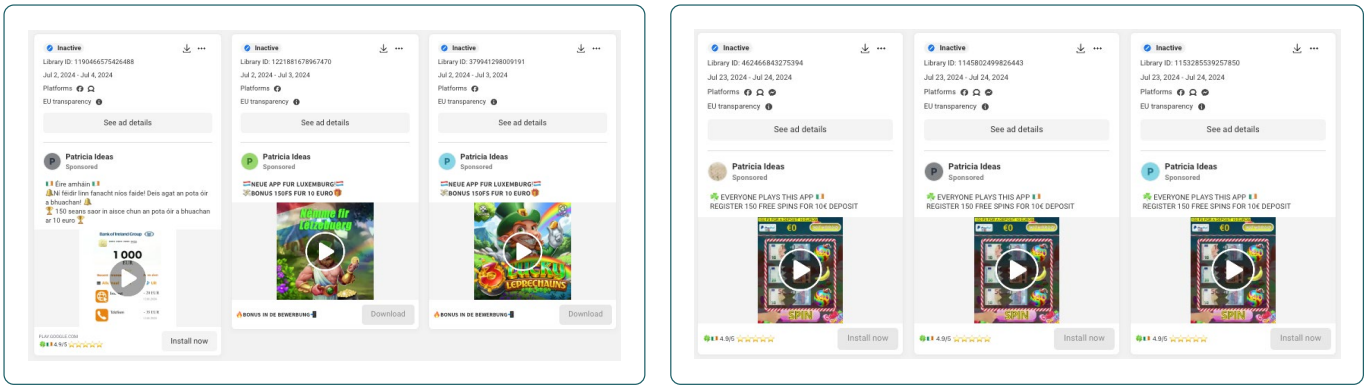


Figure 43: Screenshots of multiple pages with the username "Patricia Ideas." Over 830 ads, mostly promoting online gaming apps and medical supplements, have been launched by pages with this username. (Source: Meta Ad Library)

A Combined Analysis of the Networks' Advertising Activity

Our analysis of 6,000 Doppelganger ads targeting EU audiences from June 2022 to June 2024 reveals involvement from multiple inauthentic networks. We identified two recurrent transparency issues: the non-disclosure of budgets and the removal of ads from the Ad Library archive.

The 6,000 ads targeted 57,902,159 users in the EU, with an estimated budget between $118,048 and $674,923. Due to many ads lacking data on ad spending, these estimates are based on the average budget of 20 percent of ads for which we obtained figures. For 1,177 (48 percent) of the 2,450 ads with data that were online as of February 2025, we could not obtain budget information. This could be due to Meta changing classification from political to commercial or insufficient scrutiny by the platform to consistently label budget information across ads.

Our estimates do not consider important variables like targeted location and ad reach, suggesting actual spending could be considerably higher than our calculations. This aligns with findings from a report by Reset Tech, CheckFirst, and AI Forensics, which reported a budget of $338,000 for the Doppelganger operation after August 2023. Additionally, our estimates likely underrepresent the total spending, as our sample focused mainly on ads targeting Germany and France, while the Doppelganger operation was active across other countries.

Our findings indicate that Meta consistently removes Doppelganger ads from their Ad Library archives without explanation. As of February 2025, 58 percent of ads from our dataset are no longer available, raising serious concerns about Meta's transparency practices. They may have been recategorized from political to commercial ads, which would impact their availability in the Ad Library. Given the significant public attention Doppelganger has gained as a major foreign influence operation targeting EU audiences with pro-Kremlin propaganda during Russia's increasing military aggression in Europe, Meta's lack of transparency regarding these activities raises serious concerns.

Network Activation on the Doppelganger Campaign

The timeline below illustrates the activation of the seven networks related to the Doppelganger operation. The four networks presented in the chapter "Meta's Response: Selective Ad Moderation and No Action Against Advertisers" are highlighted in dark orange, and the three presented in the chapter "Large-Scale Inauthentic Behavior Networks Identified in Previous Investigations" are marked in light orange. Additionally, at least 17 unmapped networks have been running Doppelganger ads during this period, highlighted in blue. This timeline is based on Reset Tech's collection of 6,000 Doppelganger ads.

The timeline shows when assets first joined the advertising campaign, omitting any repeated activation of networks. For instance, "Botiful" had pages reactivated multiple times throughout 2022 and 2024.

Network of Facebook Advertisers Used in the Doppelganger Campaign

The timeline illustrates the tactic of constant reiteration between assets from different networks employed by the operatives behind the campaign. At least ten additional identified networks are not displayed in this timeline.

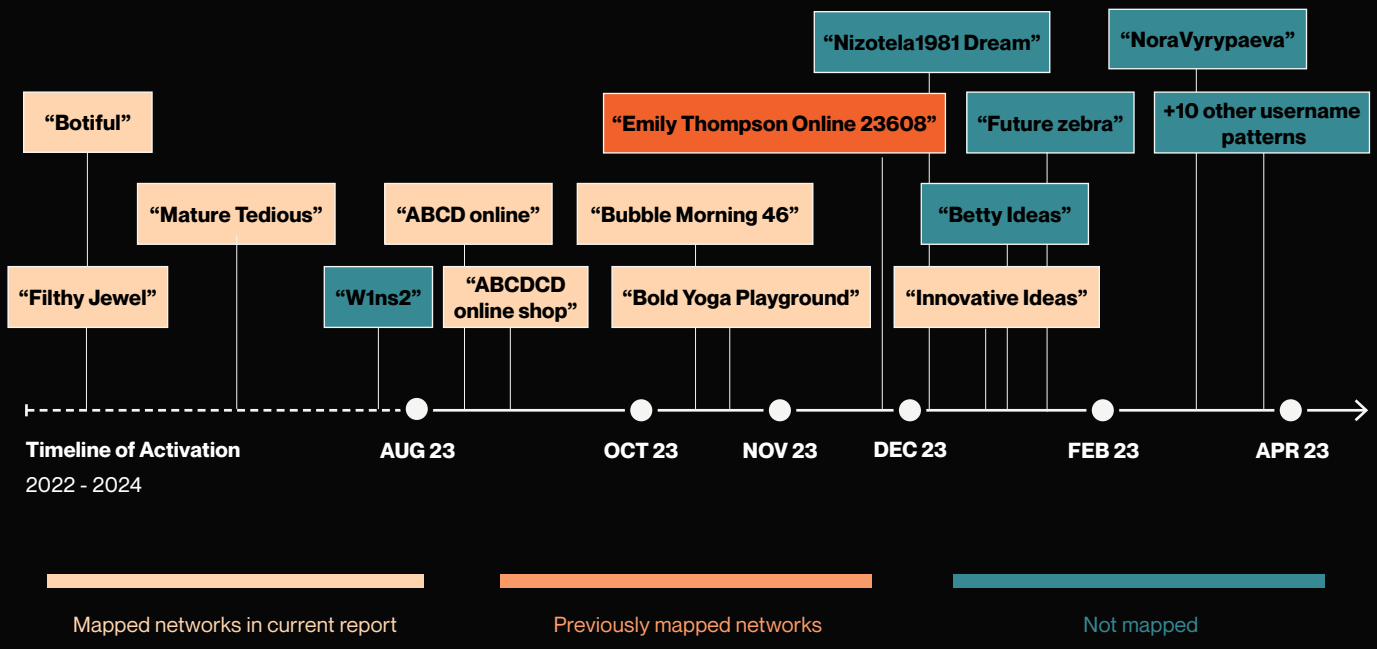


Figure 44: Activation timeline of inauthentic Facebook page networks used for political advertising in the Doppelganger campaign (2022–2024). These networks are named based on the username patterns employed to generate individual pages within these ecosystems. This investigation focuses on four Facebook networks (in dark orange), potentially totaling up to 2.9 million pages.

Advertising Transparency Gaps and Other Recurrent Issues

Our investigations into large-scale networks of inauthentic advertisers have uncovered ongoing transparency issues with advertising pages and campaigns. While this report mainly focuses on Meta's tolerance of these dormant ecosystems, it is essential to highlight Meta's systemic lack of oversight over advertising activities across its platforms.

The table below summarizes our findings, categorizing the most frequently observed issues as either content-related (ads) or asset-related (advertising pages).

Summary Table of Transparency Gaps

Level of Occurrence	Most Frequently Observed Transparency Gaps and Platform Advertising Issues
Ads	**Removal of political ads from the Ad Library:** Many political propaganda ads are frequently completely removed from Meta's Ad Library archive, with ad copy and creative deleted. Fifty eight percent of our sample of 6,000 Doppelganger ads has been completely deleted. This occurs despite the platform's commitment to maintaining records of political ads under the EU's DSA, hindering research into FIMI campaigns in the EU.
Ads	**Removal of scam ads from the Ad Library:** Commercial ads are consistently removed from Meta's Ad Library archive, with ad copy and creative deleted. This is especially problematic for ads relating to scam campaigns promoting fake, misleading, or dangerous products and services. **Deleting ads from political and scam campaigns erases evidence of malicious campaigns, hindering researchers' abilities to track and understand these operations.**
Ads	**Non-disclosure of ad budgets:** Meta's Ad Library systemically provides no data regarding the budget information for **political ads** in the EU. Many ads from the Doppelganger campaign in late 2023 and 2024 lack this disclosure. As of February 2025, 1,177 of 2,450 Doppelganger ads (48 percent) did not reveal ad spend. Meta does not disclose budget details for **commercial ads**, making it almost impossible to assess the advertising activities of inauthentic networks and estimate the platform's revenue from these campaigns. It seems that Meta benefits more from these networks' commercial activities than from their political propaganda campaigns.

Level of Occurrence	Most Frequently Observed Transparency Gaps and Platform Advertising Issues
Ads	**Ineffective, inconsistent ad content moderation:** Problematic ads often remain on the platform, even after ads with identical copy or creative are removed for violating Meta's policies. This is common in scam campaigns but also occurs in the moderation of political propaganda ads.
Advertisers	**Not de-platforming problematic advertising pages:** Advertising pages that run problematic ads often remain active on the platform despite violating Meta's advertising policies. While the platform deletes the ads, the pages remain active, resulting in empty archives. With their advertising history removed, the pages are then repurposed to launch new ads while Meta continues profiting from their advertising activities.
Advertisers	**Selectively de-platforming advertising pages:** Advertisers running identical ads are selectively de-platformed. While pages with many problematic ads may be removed, smaller advertisers running fewer ads with the same content—often remain active despite having promoted identical ads. This suggests that Meta's inconsistent enforcement of content moderation, particularly in scam campaigns.
Advertisers	**Lack of transparency on advertiser identity:** Advertising pages consistently fail to disclose the true identity of the entity or individuals behind the ads in political and scam campaigns. Meta permits fraudulent beneficiary and payer names on political ads, with operations like Doppelganger using script-generated names.
Advertisers	**Lack of transparency on page admin location:** Advertising pages systematically do not display the page admin location in the Transparency Section, even when actively running political or scam ads. Meta's concealment of this information hinders the identification of the service providers behind malicious campaigns. In some cases, the admin location is listed as "not available."
Advertisers	**Listed advertising pages prepped for future campaigns:** Pages from inauthentic networks systemically appear as advertisers in Meta Ad Library searches, yet their advertising profiles are empty, with no active or past ads. The platform provides no transparency on whether these pages have previously run ads or existed as pre-prepared Business Manager assets. Their mere existence as listed advertisers is problematic, as the pages could be activated in future campaigns.

Table 4. The table lists recurring issues with Meta's advertising platform identified during the investigation.

Platform Recommendations and Conclusions

This chapter summarizes our findings and provides recommendations for Meta to more effectively combat inauthentic advertising.

Meta's CIB and IB Policies Lack Transparency

Large-scale networks of inauthentic accounts violate Meta's policies on deceptive behavior automated accounts. The platform's Community Standards prohibit coordinated and inauthentic behavior, described as the "use of fake accounts" and "complex forms of deception, performed by a network of inauthentic assets controlled by the same individual or individuals.". Batch-produced automated accounts are also prohibited.

Meta's quarterly Adversarial Threat reports highlight the malicious activities of inauthentic account networks worldwide. They distinguish between inauthentic behavior (IB) and coordinated inauthentic behavior (CIB), defining IB as easy to identify with automated algorithms. IB operations are defined as "relatively non-complex and repetitive" using "large numbers of low-sophistication fake accounts," as well as "financially motivated, (sharing) many tactics with spam and scam activity." CIB operations are defined by Meta as strategically coordinated efforts involving more complex behaviors that require both manual verification and automated detection processes.

The Threat Reports exclusively focus on the takedown of CIB operations, typically involving small boutique networks of just a few accounts. Since the launch of the Doppelganger operation in 2022, Meta has taken down approximately 84,384 Facebook assets and 2,777 Instagram assets connected to worldwide CIB operations. CIB networks linked to Russia accounted for merely 2,941 Facebook assets (Pages, Groups, Accounts) and 1,096 Instagram accounts, according to data from Meta's Adversarial Threat reports 2022–2024. These takedowns are considerably smaller than the overall scale of Facebook networks associated with the Doppelganger campaign, which contains millions of latent advertisers.

It is rare for the platform to share details about large-scale takedowns of inauthentic accounts, typically described as IB networks. An example can be found in Meta's Quarterly Adversarial Threat Report from Q2 2022, which reported the removal of a giant network of 50,000 accounts from the Philippines using "automated detection at scale." This detection relied on "identifying repetitive patterns of behavior." While the report does not detail these patterns, it shows that Meta can detect large-scale networks, raising questions about why an ecosystem of 3.8 million easily identifiable pages remains active.

To ascertain if Meta acknowledges the issue of inauthentic advertising networks linked to the Doppelganger campaign, one can analyze the company's statements related to the operation for mentions of these fraudulent networks. Since 2022, Meta has released nine updates on the Doppelganger operation in its Adversarial Threat reports. These updates have focused on analyzing the domains and ads associated with the pro-Kremlin campaign and the tactics used to evade detection. However, the reports fail to address the extensive networks of inauthentic advertising pages promoting these domains and ads.

The Doppelganger operation updates include screenshots from ads published by pages belonging to the seven mapped networks. For example, Meta outlined the "Botiful" network's username pattern on page 22 of their September 2022 CIB report. Additionally, pages 17 to 18 of Meta's Quarterly Adversarial Threat Report from Q1 2024 features screenshots of Doppelganger ads from the networks "Bubble morning 46" and the "Adjective + Adjective" username pattern (like "Lumbering Virtuous," "Safe Bad," and "United Glorious") and other patterns from unmapped networks. As of February 2025, pages with usernames identical to those in this Threat Report are also listed as advertisers in Meta's Ad library.

Meta's "Update on Doppelganger," published in its Quarterly Adversarial Threat Report from Q2 2024, states that fake accounts are"quickly detected and removed," likely referring to inauthentic advertisers rather than dormant networks. However, our findings indicate that some advertising pages involved in the Doppelganger campaign remain on the platform despite having run propaganda ads.

Meta's lack of transparency regarding the pro-Kremlin operation on its platforms is deeply concerning. The absence of details about the disruption of dormant Facebook ecosystems in any of its reporting leads us to speculate about the action it takes to de-platform inauthentic pages. The persistent nature of this operation, combined with insufficient data in its Threat Reports, constitutes a systemic risk under the EU's DSA, which explicitly stipulates that VLOPs and VLOSEs assess potential systemic risks within the EU.

Meta's Advertising Iceberg

We use an iceberg metaphor to illustrate Meta's actions against inauthentic advertising on its platform. Meta can address this issue at three levels:

Ad level:

The moderation of problematic promoted content and removal of ads linked to political propaganda or scam campaigns in violation of its policies.

Page level:

Takedown of problematic advertisers' active pages that have violated Meta's policies with their ads.

Network level:

Proactively de-platforming entire ecosystems that are known to have been systemically providing advertising assets for such campaigns.

Meta focuses solely on ad moderation, overlooking the deeper issues. By addressing dormant ecosystems before they become advertisers, resources for content moderation would be spared, and the activities of these advertisers would be disrupted. Relying only on ad moderation is unsustainable, given the billions of ads promoted daily on Meta's platforms.

If Meta de-platforms networks that systematically violate advertising policies, the platform will prevent future problematic advertising campaigns.

Meta can enhance the detection and prevention of large-scale inauthentic networks of Facebook pages through several measures:

- Implement strict pattern recognition algorithms to detect common usernames based on frequently used keywords that appear in the usernames of active advertising pages. Algorithms can detect similarities in profile bio details, especially when identical or nearly identical text or filler content appears in groups.
- Utilize image recognition algorithms to detect identical or nearly identical profiles and cover photos across multiple pages.
- Monitor the rate and timing of page creation. Automated networks often create pages in bursts, follow predictable patterns or use the same IP or device.
- Identify pages with little to no genuine user interaction or organic activity, focusing instead on automated actions like ad pushing.
- Establish more rigorous sign-up verification to ensure accounts are genuine.
- Necessitate identity verification, including emails and phone numbers, especially for active advertisers.
- Require identity information of advertisers before ads are submitted for review.
- Analyze patterns linking accounts through shared IP addresses or device fingerprints to review for suspicious activity.
- Enhance cluster detection through machine learning and human-centered methods to identify username combinations from Facebook searches. A human-centered approach enhances network detection without additional technology and at little cost.

Conclusions

The continued existence of large-scale advertising networks on Meta should be a serious concern for the company and policymakers worldwide, as their campaigns undermine platform integrity, violate advertising policies, and potentially deceive, manipulate, or harm targeted users.

These networks are easy to detect and should be de-platformed before they can launch advertising campaigns, ensuring a safer environment for users and legitimate advertisers. If Meta tolerates these activities for profit, it raises serious ethical questions about prioritizing revenue over the credibility and trust of its services.

To comply with its obligations under the EU's DSA, Meta must take decisive action against these advertisers, as their presence constitutes a systemic risk according to EU regulations.

Appendix: Mapping of Networks

The list below outlines a sample of keywords employed in the creation of the pages in the "Bold Yoga Playground" network. The mapping process helps to detect a set of pre-selected words that are utilized to create potential username combinations. Additionally, this process identifies the specific position of each word within the username structure, which may either be fixed or variable. In the case of the "Bold Yoga Playground" network, the positioning of the keywords remains fixed (Adjective – Position 1, Noun – Position 2, Noun – Position 3). Usernames can be generated by combining words from each column according to the predetermined structure. Specifically, the process involves selecting one word from the Adjective (Position 1) column, followed by one word from the Attributive Noun (Position 2) column, and concluding with a word from the Noun (Position 3) column. By combining these words together in different strings, a variety of unique usernames can be created. For example, a potential username could be "Bold Yoga Playground". "Adventurous Adventure Arena," "Clever Beauty Campus," depending on the selection of words from each respective column.

Adjective (Position 1)	Attributive Noun (Position 2)	Noun (Position 3)
Adventurous	Adventure	Arena
Artistic	Art	Bistro
Bold	Astrology	Blog
Clever	Beauty	Campus
Cool	Books	Castle
Cozy	Business	Collective
Creative	Cats	Corner
Daring	Coffee	Exchange
Energetic	Cooking	Forum
Entertaining	Crafts	Gallery
Exciting	Culture	Gym
Fantastic	Dance	House
Friendly	Design	Hub
Fun	DIY	Island
Innovative	Dogs	Library
Inspiring	Education	Network
Intuitive	Entrepreneurship	Platform
Passionate	Environment	Playground
Sophisticated	Fashion	Society
Stylish	Finance	Space
Trendy	Fitness	Workshop

The full list is available upon request from the author.

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