Instagram and counterfeiting in 2019: new features, old problems

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1.
INTRODUCTION

Instagram is finally ready to sell top-brand products directly within its app. A new secure feature called "Checkout with Instagram" will soon enable its US users to purchase items from 23 top brands in fashion, apparel and beauty "without leaving the app thanks to stored payment info" – according to a Techcrunch report[1].

After reaching 1 billion monthly active users last June[2], this is another milestone for the photo and video-sharing social network. With 130 million people who monthly tap Instagram's product tags on shopping posts, it's no wonder that "Instagram Wants to Be Your Mall"[3].

However, these developments will inevitably exacerbate a widespread problem: A broader production of counterfeit products and fake luxury goods, with its negative impact on our social media experience and our societies at large. We are dealing with a multi-billion dollar underground economy particularly active on major social media platforms and surely eager to somehow exploit this new Instagram feature.

In May 2016 our Ghost Data team produced a research titled "Social media and luxury goods counterfeit: a growing concern for government, industry and consumers worldwide", published by The Washington Post[4] and then taken up government officials and international organizations involved in the fight against counterfeiting. Our main goal was to find out how Instagram innovations were actually transforming entire industries, such as fashion and luxury item sales. Top brands were hiring so-called "influencers" to push certain products or collections, while also investing heavily in editorial groups exclusively covering social media. And large e-commerce companies promoted advertising campaigns specifically aimed at platforms like Instagram.

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[1] Josh Constine, "Instagram launches shopping checkout, charging sellers a fee", Techcrunch
https://techcrunch.com/2019/03/19/instagram-checkout/

[2] Josh Constine, "Instagram hits 1 billion monthly users, up from 800M in September", Techcrunch
https://techcrunch.com/2018/06/20/instagram-1-billion-users/

[3] Matthew Schenier, "Instagram Wants to Be Your Mall", The New York Times
https://www.nytimes.com/2019/03/19/style/instagram-wants-to-be-your-mall.html

[4] Andrea Stroppa, "Social media and luxury goods counterfeit: a growing concern for government, industry and consumers worldwide",
The Washington Post, https://www.washingtonpost.com/blogs/the-switch/files/2016/05/IG_A2016_ST2.pdf?tid=a_inl_manual

Along the way, however, these new commercial strategies fueled a rapid escalation in trading of fake goods[5] - with negative consequences for our society at large (as detailed in the following chapter).

It is also worth noticing that Instagram is attracting a steady stream of conspiracy theories, viral misinformation, and extremist memes. This disturbing trend started in 2016, when major social media platforms became the ideal tools to quickly spread extremist and even violent ideologies across the world. A tendency that is particularly targeting younger users on Instagram: Facebook, Twitter, and YouTube are less and less places where young people go to socialize, but Instagram is[6].

Even several Islamic State supporters used Instagram Stories for propaganda and recruiting purposes. Our September 2017 study[7] identified more than 50,000 accounts linked to Islamic State supporters posting Instagram Stories. After a crackdown by Twitter and Facebook , our research confirmed the Islamic State's ability to reconstitute its online networks – even if today such activities on social media (and on the ground) are essentially vanished.

These are just a few examples of subtle or dangerous content circulating on Instagram and the potential traps awaiting for its users, no matter how "secure" a platform could be.

A situation only poised to grow with the dramatic increase of Instagram user base and features, also due to the various issues affecting Facebook and its slower growth in North America. In this context, the just announced "Checkout with Instagram" option will further expand its reach worldwide while at the same exacerbating such hidden problems. If Instagram is becoming our mall of choice, could we risk to fall prey of counterfeiting activities? Are such activities still carried on and and how they changed since 2016? Finally, what can be done to prevent these criminal activities in light of Instagram new features and reach?

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[5] Richard Partington, "Online retail fuelling rapid rise in sales of fake goods, says OECD", The Guardian
https://www.theguardian.com/technology/2019/mar/18/online-retail-fuelling-rapid-rise-sales-fake-goods-says-oecd

[6] Taylor Lorenz, "Instagram Is the Internet's New Home for Hate", The Atlantic,
https://www.theatlantic.com/technology/archive/2019/03/instagram-is-the-internets-new-home-for-hate/585382/

[7] Lori Hinnat, "Islamic State backers find ephemeral platform in Instagram", AP News,
https://www.apnews.com/97119155ed934ad9ad438890a29828a2

In order to properly address these issues and their implications, our Ghost Data team just produced a follow-up study to our initial 2016 research. Before describing our major findings below, let's start with a summary of the counterfeiting phenomenon, including some important trends emerged in our previous study, along with an overview of Instagram steady success since April 2012, when Facebook bought the 13-person company for one billion USD.

2.

COUNTERFEITING IS A COSTLY AND DANGEROUS GLOBAL ISSUE

"The amount of total counterfeiting globally has reached to 1.2 trillion USD in 2017 and is bound to reach 1.82 trillion USD by the year 2020 which includes counterfeiting of all equipment/products from defence equipment to counterfeiting of watches." The 2018 Global Brand Counterfeiting Report[8] estimates that the losses suffered due to online counterfeiting globally has amounted to 323 billion USD in the year 2017. According to the analysis made in the report, losses incurred by Luxury Brands because of sale of counterfeiting through internet accounted to 30.3 billion USD.

Counterfeiting also poses threats to the welfare of consumers, disrupts the whole society and harms business reputation. Even when business organizations spend a lot of money, time and resources on protecting their brand and trademarks, the counterfeit market is booming rapidly. Last August, for example, a a six-year investigation led to a seizure of "enough counterfeit Gucci bags, Hermes belts and Tory Burch purses to fill 22 shipping containers" with charges filed against 33 people[9].

In addition to the above situation, our 2016 research revealed that a big shift was taking place in the online world of counterfeiting. About 20% of posts about top fashion brands on social media that we analyzed featured counterfeit and/or illicit products. These sellers are no longer hidden in some far-away "souks" or confined in a rough neighborhood market. They operate "in the open", posting a wide range of ads and images on social media and openly selling their goods worldwide. Today there is almost a direct line between "producers" and consumers with no filter or barrier of any sort. The internet is being used as a giant amplifier to attract more customers and finalize their orders. Then an international carrier service will deliver the "original" goods on their front door. Just like any legitimate global economy.

[8] Laura Wood, "Global Brand Counterfeiting Report 2018-2020", AP News,
   https://www.apnews.com/ef15478fa38649b5ba29b434c8e87c94

[9] Liz Robbins, "Investigators Seize Fake Luxury Goods Worth Half a Billion Dollars", The New York Times,
   https://www.nytimes.com/2018/08/16/nyregion/fake-luxury-goods-handbags.html

According to our study of last July, Instagram might have as many as 95 million bots posing as real accounts[10]. And most fake accounts selling counterfeit merchandise usually upload a large quantity of posts every day, resulting in a chaotic and negative user experience.

Even if recently Instagram's security options and detection algorithms have been tuned up, online counterfeit activities are still a dynamic and on-ongoing affair. We are facing a global challenge that requires a comprehensive strategy at International level. Is therefore crucial to first gather reliable data and accurate figures: this is the goal of our Ghost Data research projects conducted in the last few years.

[10] Andrea Stroppa, "Instagram's Growing Bot problem", The Information, https://www.theinformation.com/articles/instagrams-growing-bot-problem

3.
INSTAGRAM IS THE NEW FACEBOOK

Getting Instagram was a huge win for Facebook as a perfect tool to harness people's growing obsession with their mobile devices and sharing every moment of their life. Instagram gained about 30 million users since it first launched in January 2011, but after the Facebook acquisition a bit over an year later it started growing at an astronomical pace. Every nine months, without fail, Instagram added another 100 million users somewhere in the world. Then, at the end of 2016, it grew to 600 million users from 500 million in only six months. Finally, in June 2018 Instagram reached 1 billion monthly active users, up from 800 million in September 2017[11], with a sign-up booming particularly in Asia and Latin America.

Today, Instagram's 700+ employees work in offices that lack any visible evidence of its corporate parentage, while at time of its acquisition by Facebook there were about a dozen employees. And its corporate culture is as concerned with creativity and design as Facebook's is with engineering and data. Actually Facebook did impose its most important belief on Instagram: an obsession with growth. But if it's true that initially Instagram relied on Facebook for its success, today Facebook may depend on Instagram for its longevity and success[12].

In addition, Facebook is facing a wide range of major problems, such as unprotected user data, privacy breaches, covert campaigns to influence political elections[13]. The company is still dealing with the long wave of early 2018 Cambridge Analytica scandal, when one University of Cambridge academic was able to collect tens of millions of Facebook users' data without their knowledge, using a personality profiling quiz app[14].

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[11] "Number of monthly active Instagram users from January 2013 to June 2018 (in millions)", Statista,
https://www.statista.com/statistics/253577/number-of-monthly-active-instagram-users/

[12] Farhad Manjoo, "Why Instagram Is Becoming Facebook's Next Facebook", The New York Times,
https://www.nytimes.com/2017/04/26/technology/why-instagram-is-becoming-facebooks-next-facebook.html

[13] S. Shane & V. Goel, "Fake Russian Facebook Accounts Bought $100,000 in Political Ads", The New York Times
https://www.nytimes.com/2017/09/06/technology/facebook-russian-political-ads.html

[14] Issie Lapowsky, "How Cambridge Analytica Sparked the Great Privacy Awakening", Wired,The Washington Post,
https://www.wired.com/story/cambridge-analytica-facebook-privacy-awakening/

These issues are certainly part of a more general trend: Facebook attracts less younger users and just experienced its first decline in North America users – while younger people love Instagram, which is still growing in its home market[15]. Even Stories, the ephemeral photo and video feature effectively stolen from Snapchat, is an ongoing success on Instagram but not on Facebook: The daily users reach for Instagram's Stories is 400 million, while for Facebook's and Messenger's combined is 300 million. Not surprisingly, Instagram Stories are becoming a top option for selling advertising outside of the core feed, given that Facebook isn't growing as quickly as it has in the past[16].

Analysts are indeed quick to point out that Instagram Stories could generate over 2 billion USD in this year, also projecting a whopping 7.5 billion USD in ad revenue for Facebook by 2021, up from an estimated 750 million USD last year. As a comparison, Analysts expect Snapchat's revenue to come in around 1.5 billion USD in 2019, up 30% from a disappointing 2018[17].

Given its prominent role within the Facebook company, the various e-commerce features added over the past couple of years make perfect sense. Particularly the shopping option added in summer 2018 to the popular Stories format that has been spreading across social media like wildfire. The new "Checkout with Instagram" feature is only a natural next step to "make Instagram the next Facebook"[18].

In this ever-expanding landscape, however, we should not lose sight of unforeseen issues and potential problems. In addition to obvious issues related to user privacy and security, we the questions mentioned in our introduction deserve greater attention. If Instagram is becoming our mall of choice, could we risk to fall prey of counterfeiting activities? How will such activities be carried on Instagram in light of this new e-commerce turn? How can users safely navigate through these stormy waters and how can Facebook prevent such criminal activities?

[15] Sarah Frier, "Instagram Looks Like Facebook's Best Hope", Bloomberg, https://www.bloomberg.com/news/features/2018-04-10/instagram-looks-like-facebook-s-best-hope

[16] Kurt Wagner, "The 'Stories' product that Facebook copied from Snapchat is now Facebook's future", Recode, https://www.recode.net/2018/10/30/18044962/facebook-stories-business-user-growth-q3-earnings-zuckerberg

[17] Adam Levy, "Instagram Stories Will Generate More Ad Revenue Than All of Snap This Year", The Motley Fool, https://www.fool.com/investing/2019/03/17/instagram-stories-more-ad-revenue-than-snap-2019.aspx

[18] Farhad Manjoo, "Why Instagram Is Becoming Facebook's Next Facebook", The New York Times, https://www.nytimes.com/2017/04/26/technology/why-instagram-is-becoming-facebooks-next-facebook.html

These are some of the issues addressed by our Ghost Data team, three years after our initial research about "Social media and luxury goods counterfeit". Given the larger context mentioned above, it seems increasingly useful to take a closer look to our major findings and their implications.

4.
INSTAGRAM AND COUNTERFEITING IN 2019

As explained above, counterfeiting is a dangerous global issue that is greatly expanding its reach on major social media platforms. Since our 2016 study, this trend has gained strong traction on Instagram by exploiting its penetration especially among young users worldwide. The online sale of counterfeit products and fake luxury goods has grown to a multi-billion dollar underground economy particularly eager to exploit Instagram's success and features.

Three years later we decided to investigate today's counterfeit activities on the platform, analyzing new techniques, tricks and reach deployed in accordance with the new functionalities of Instagram Stories. Given that such content disappears after 24 hours, counterfeiters quickly jumped on this option enabling them to leave virtually no trace of their activities.

The good news is, however, that in order to show off its fake goods an account must somehow gain broader visibility: that is, it needs to reach as many people as possible to sell its products. This provided a great starting point for our new study. Therefore, we updated the same algorithm developed in 2016 to gather data based on several key characteristics.

This initial step was enough to identify such counterfeit accounts despite their ephemeral contents.

Overall our 2019 research analyzed about 4 million Instagram posts or Stories that included hashtags related to fashion brands, knowing even too well that counterfeiters tend to use plenty of such hashtags in order to better reach potential customers (as explained in details later).

5.

IN SEARCH OF 'LEGITIMATE' SELLERS OF COUNTERFEIT GOODS

We started by creating a list of the main features to consider and their respective levels of importance.

General features	Bot features
nickname	nickname
-	name and surname
profile description	profile description
web site	web site
post details and hashtag	post details and hashtag
last 20 posts	last 20 posts
-	post frequency
-	ratio following/followers

IMPORTANCE

low	medium	high

Back in 2016 we differentiated between manual or normal accounts and software-generated accounts (bots). However, we should keep in mind that there could also be accounts created manually but managed by software and vice versa, or accounts created automatically but managed manually. There are also hybrid cases, where the account management is carried alternatively either by software or a human, or even by several people.

As mentioned earlier, counterfeit accounts initial goal is to gain a broader visibility. Therefore they include certain keywords and hashtags both in their username and biography, as well as in post description and Stories themselves, in order to attract a large number of potential customers.

For example, some of the frequently used terms are "cheap", "replica", "original", "AAA", "1:1", along with references to specific items or brands (handbag, shoes, LV, Chanel, VLTN [...]).

In our previous study we already noticed that some accounts collected by our algorithm were legitimate e-commerce entities, that is, small shops or boutiques selling their own products on Instagram. We quickly found and excluded them by using keywords recurring in these legitimate accounts.

For this new study we further refined the keyword list and improved our data review with text analysis techniques. We also translated those keywords in several languages (including Russian, Chinese, Thai, Malay, Arabic [...]) to exclude any legitimate seller operating in a language other than English.
Furthermore, through a data analysis technique we extrapolated the most common words used by these accounts, excluding keywords related to counterfeiting.

Here below are the most common keywords that emerged and have been and excluded by our study:

| collab | collaboration | collabs | designer | married | art | a.m | p.m | am |

| pm | street | avenue | zip | square | plaza | personal assistant | food lover |

| travel | traveller | globetrotter | personal shopper | sales assistant | personal buyer |

| sales advisor | shopping advisor | shopper advisor | preloved | singer | actor |

| actress | makeup | make-up | blogger | creative | editor | student |

| influencer | fitness | illustrator | magazine | from | open | close | celebrities |

| celebrity | economist | blog | resell | hypebeast | ads | hair | [...] |

6.

INSTAGRAM COUNTERFEITERS ACTIVITIES

As shown in the following chart, most counterfeiters published at least 100 posts each. 32% of them published between 100 and 500 posts, while over 21% published more than a thousand posts.

Posts

Category	Percentage
> 100 and <= 500	32.64%
> 1000	21.42%
> 500 and <= 1000	12.54%
> 40 and <= 80	10.67%
> 20 and <= 40	8.21%
> 10 and <= 20	5.18%
> 80 and <= 100	3.95%
> 5 and <= 10	2.94%
<= 5	2.45%
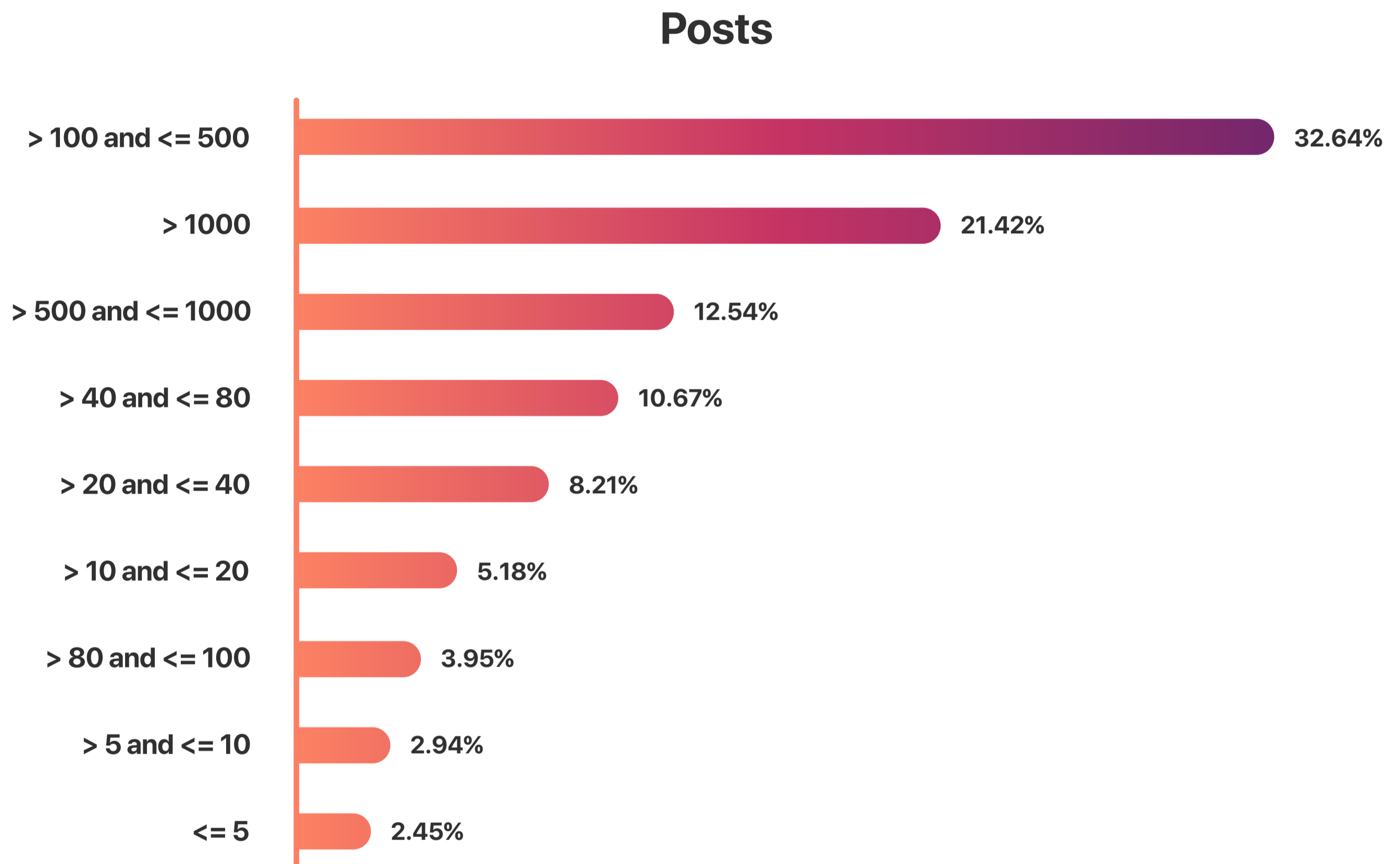
7.
DIFFERENT ACCOUNTS
FOR DIFFERENT PURPOSES

Obviously enough, Instagram accounts involved in counterfeit activities show off a variety of products, have different goals and feature various marketing techniques. Some of them sell only at wholesale prices and their main goal is to sell large quantities of fake products. Generally they post videos like the following one, showing a Chinese factory producing Adidas Yeezy shoes, with an exclusive design due to a collaboration between Adidas and rapper Kanye West.

Stories #1
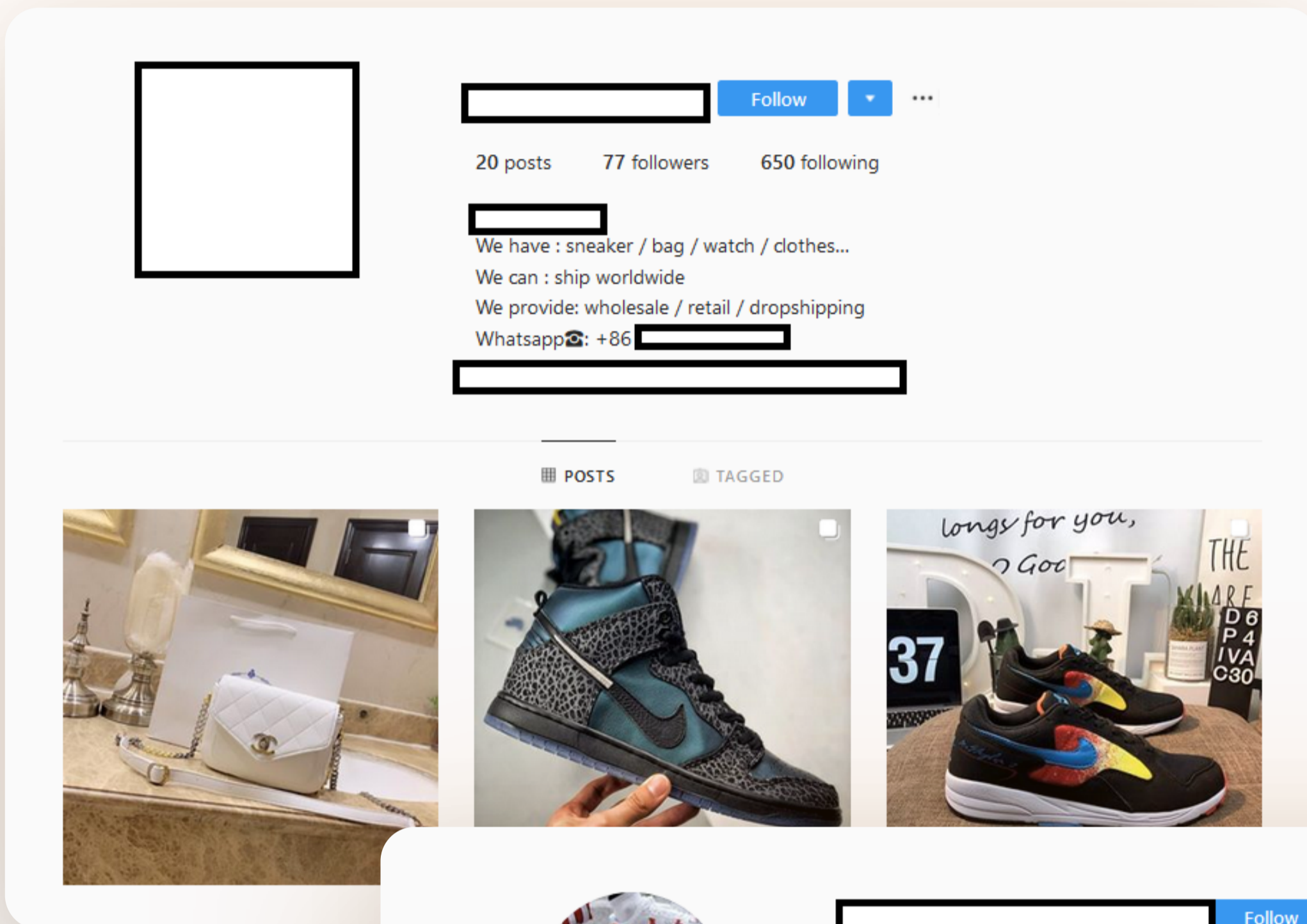
https://ghostdata.io/upload/cf_1.mp4
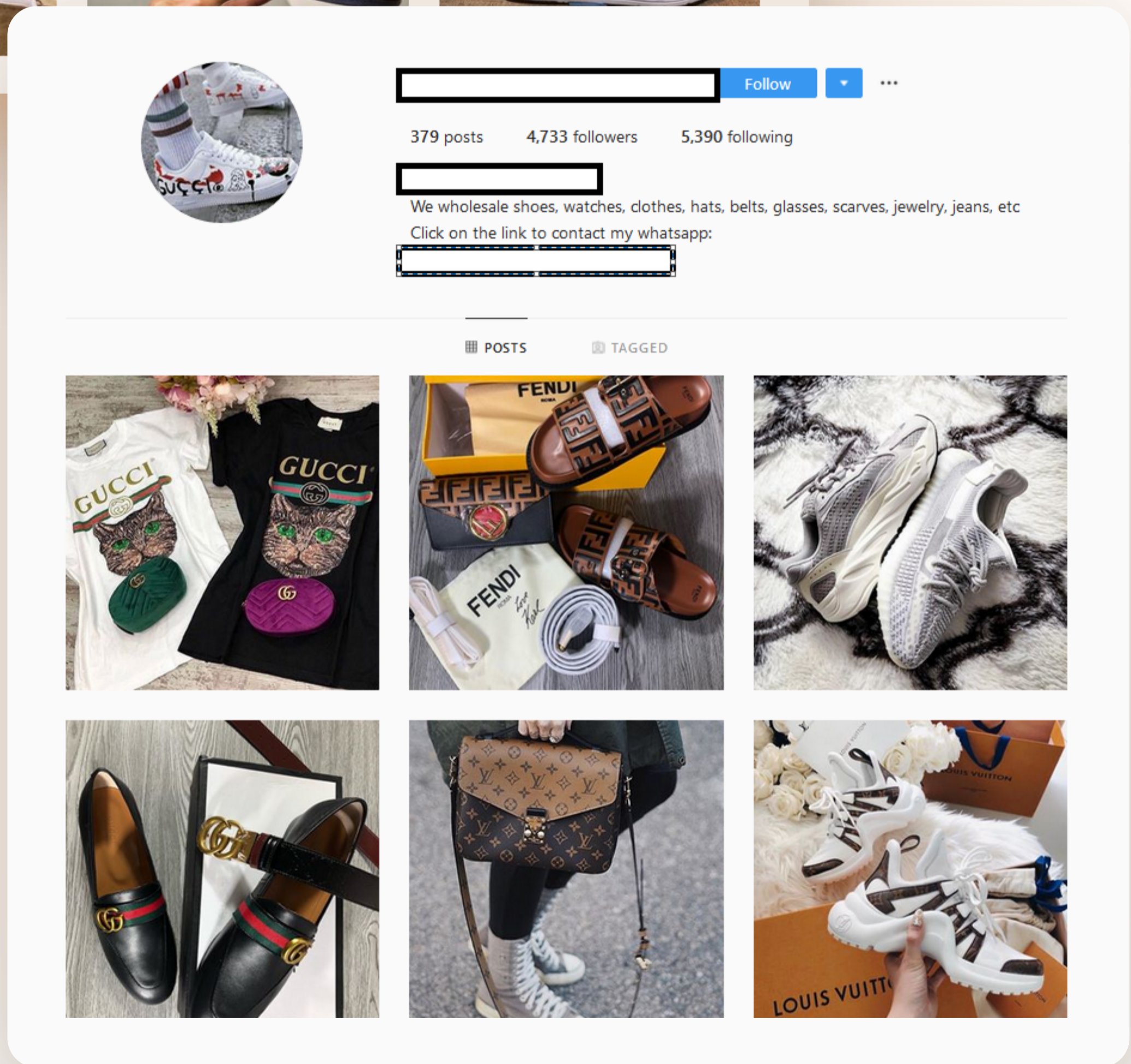
Stories #2

https://ghostdata.io/upload/cf_2.mp4

Here are two examples of content and items posted by counterfeit wholesale sellers, easily recognized for their poor and basic outline:
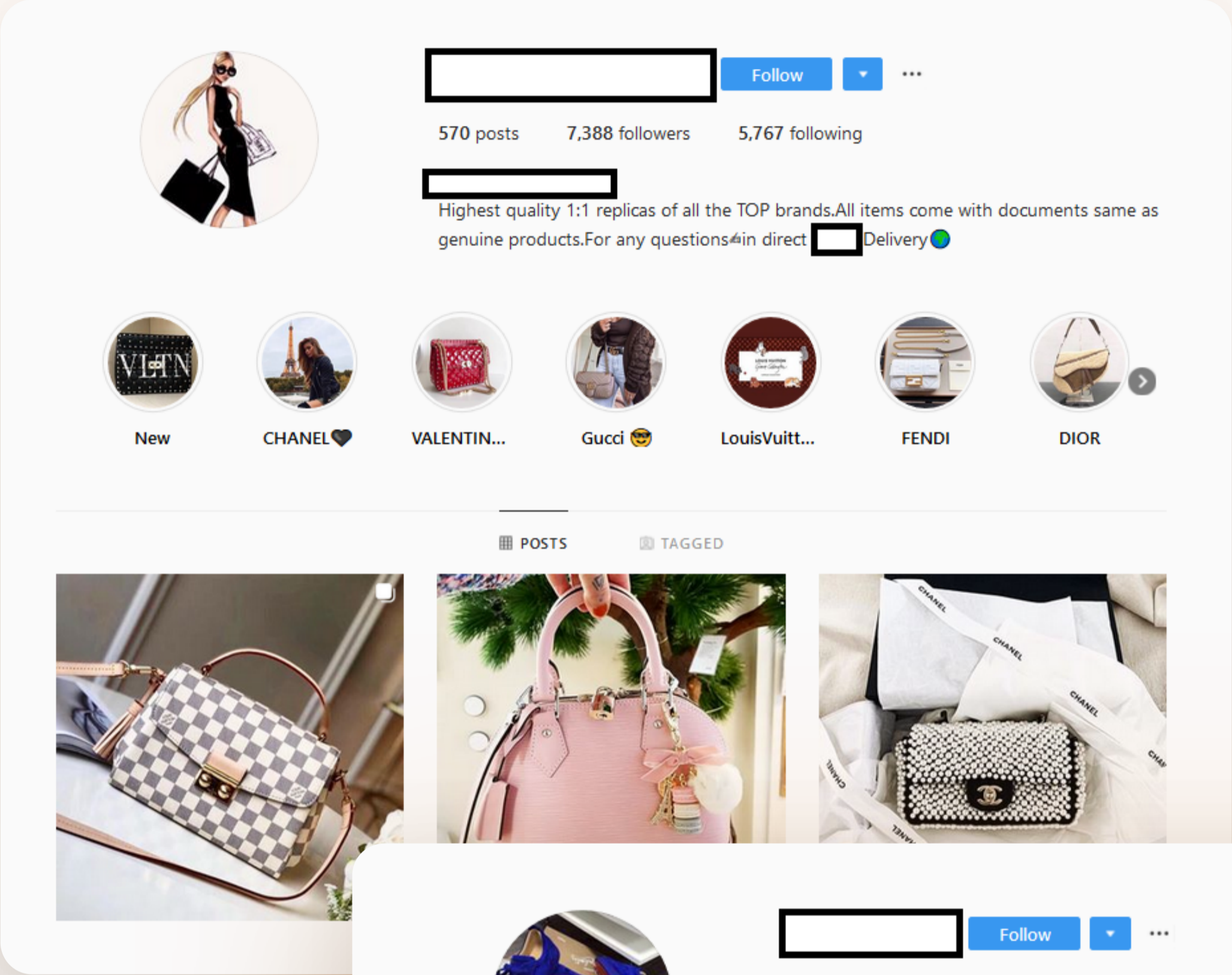
Follow

20 posts   77 followers   650 following

We have : sneaker / bag / watch / clothes...
We can : ship worldwide
We provide: wholesale / retail / dropshipping
Whatsapp☎: +86

POSTS   TAGGED

Follow
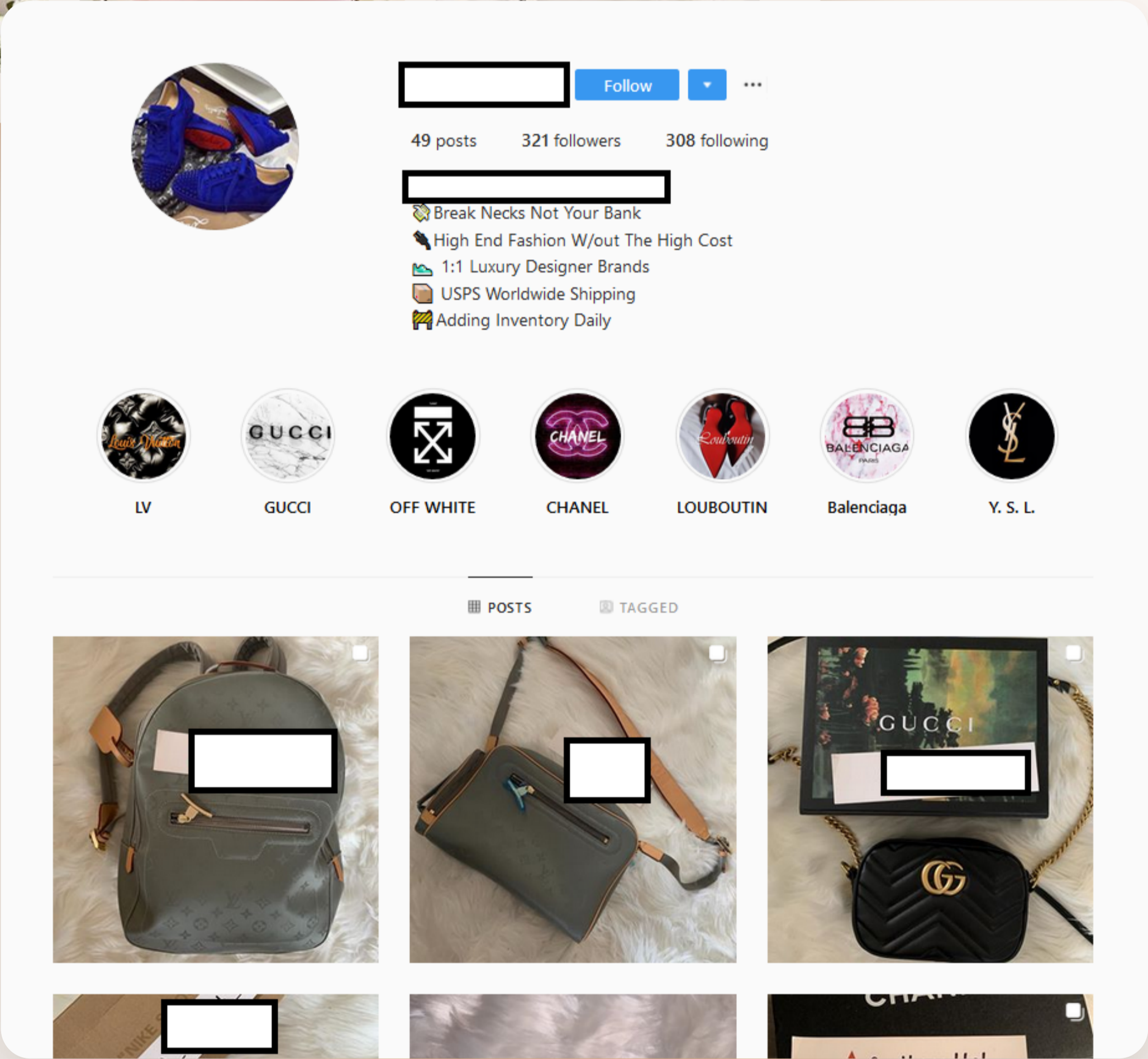
379 posts   4,733 followers   5,390 following

We wholesale shoes, watches, clothes, hats, belts, glasses, scarves, jewelry, jeans, etc
Click on the link to contact my whatsapp:

POSTS   TAGGED

Other accounts instead do their best to resemble a legitimate e-store. They take advantage of Stories functionalities and create an appealing profile to catch a potential buyer's eye, as in the following examples:

Follow ▾ •••

422 posts   588 followers   1,531 following

😊honest luxury brand supplier 100%！！
👍original quality wholesale price!!
👉need order add my WhatsApp +86
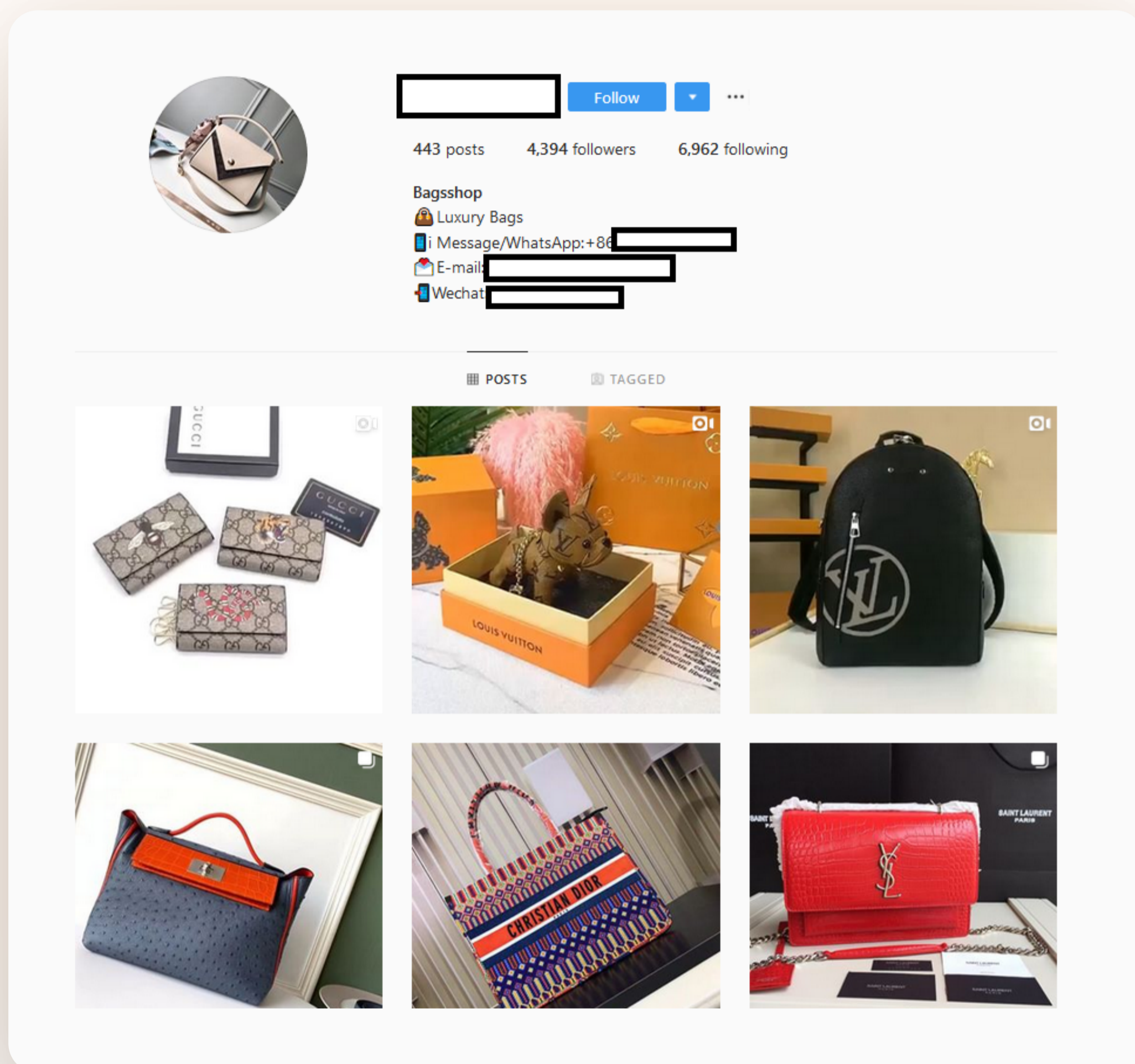WeChat:

⊞ POSTS   ▣ TAGGED

The following user went a step further, with a creative profile for its fake Fendi items quite similar to the profile of genuine original brands:

Still other counterfeiters upload ad hoc videos to offer more visual details to potential buyers:


Some Instagram counterfeit accounts manage to amass large quantities of followers and offer products that seemingly have just been released by famous fashion brands,have just come out of fashion houses. The following profile, in addition to having over 20,000 followers and following just over 400 users, proposes the new Versace sneakers "Chain Reaction"[19] or items from the new Gucci collection, such as the jacket showed in the lower right side[20].

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[19] „Versace Chain Reaction", Versace, https://www.versace.com/eu/en/chain-reaction-sneakers/

[20] Gucci, Jacquard Cotton Jacket", Gucci, https://www.gucci.com/ca/en/pr/men/mens-ready-to-wear/sweatshirts-hoodies/mens-sweatshirts/gg-jacquard-cotton-jacket-p-496919X9V054245?position=245&listName=ProductGrid&categoryPath=Men/Mens-Ready-To-Wear/Sweatshirts-Hoodies/Mens-Sweatshirts
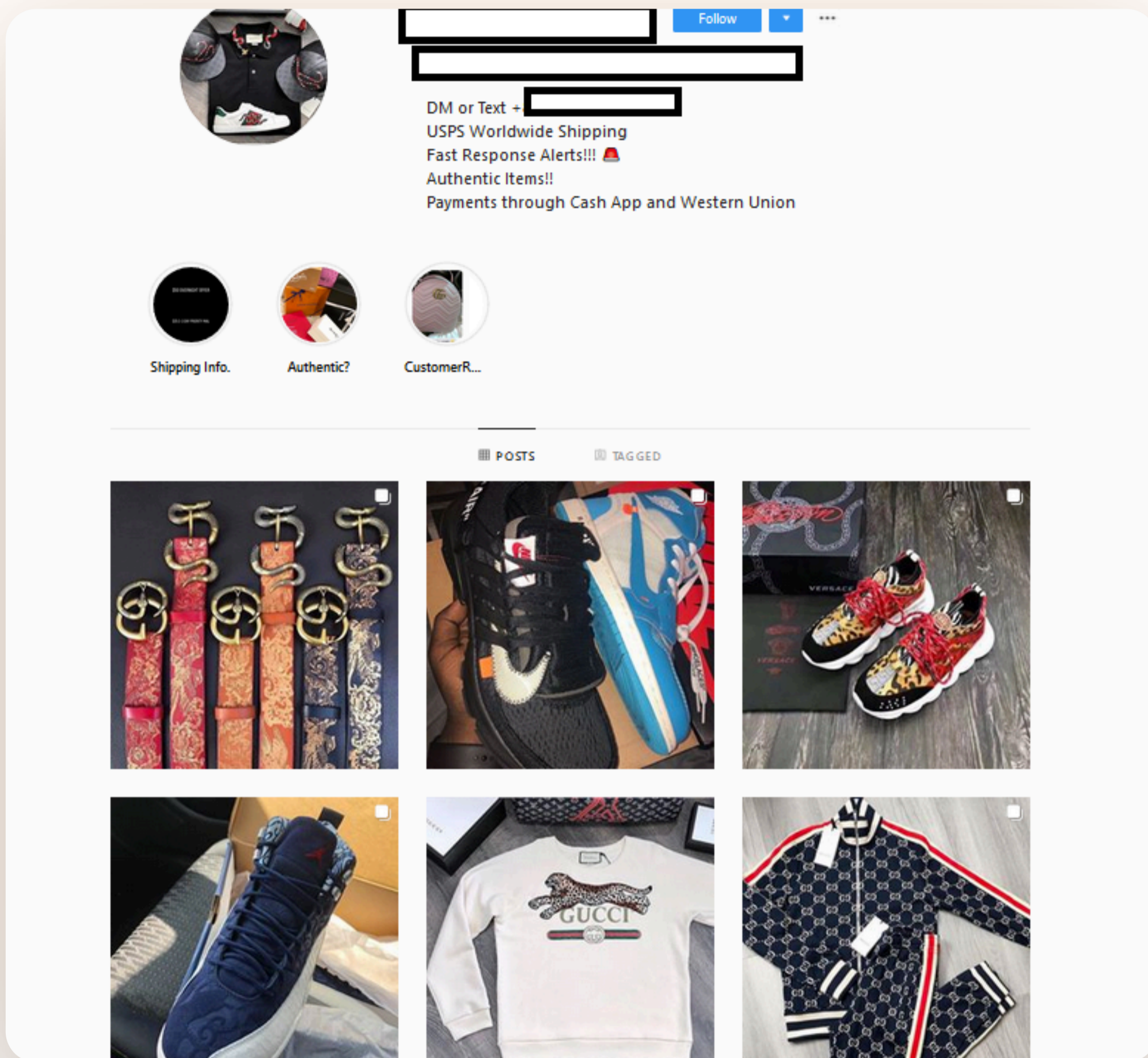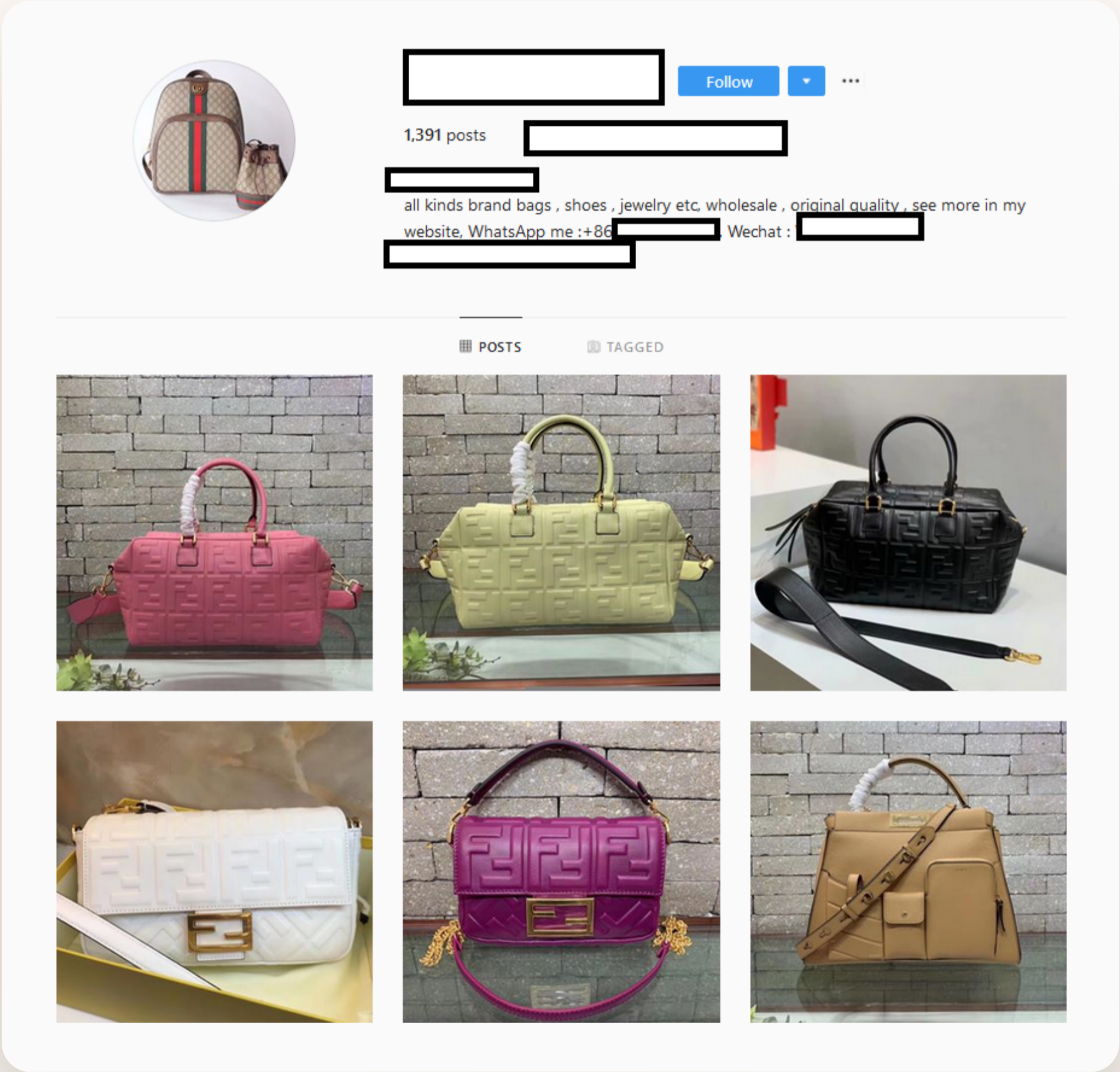
Another good example is the following user profile: a store selling fashion handbags that now offers the latest models from the Gucci women's collection[21].

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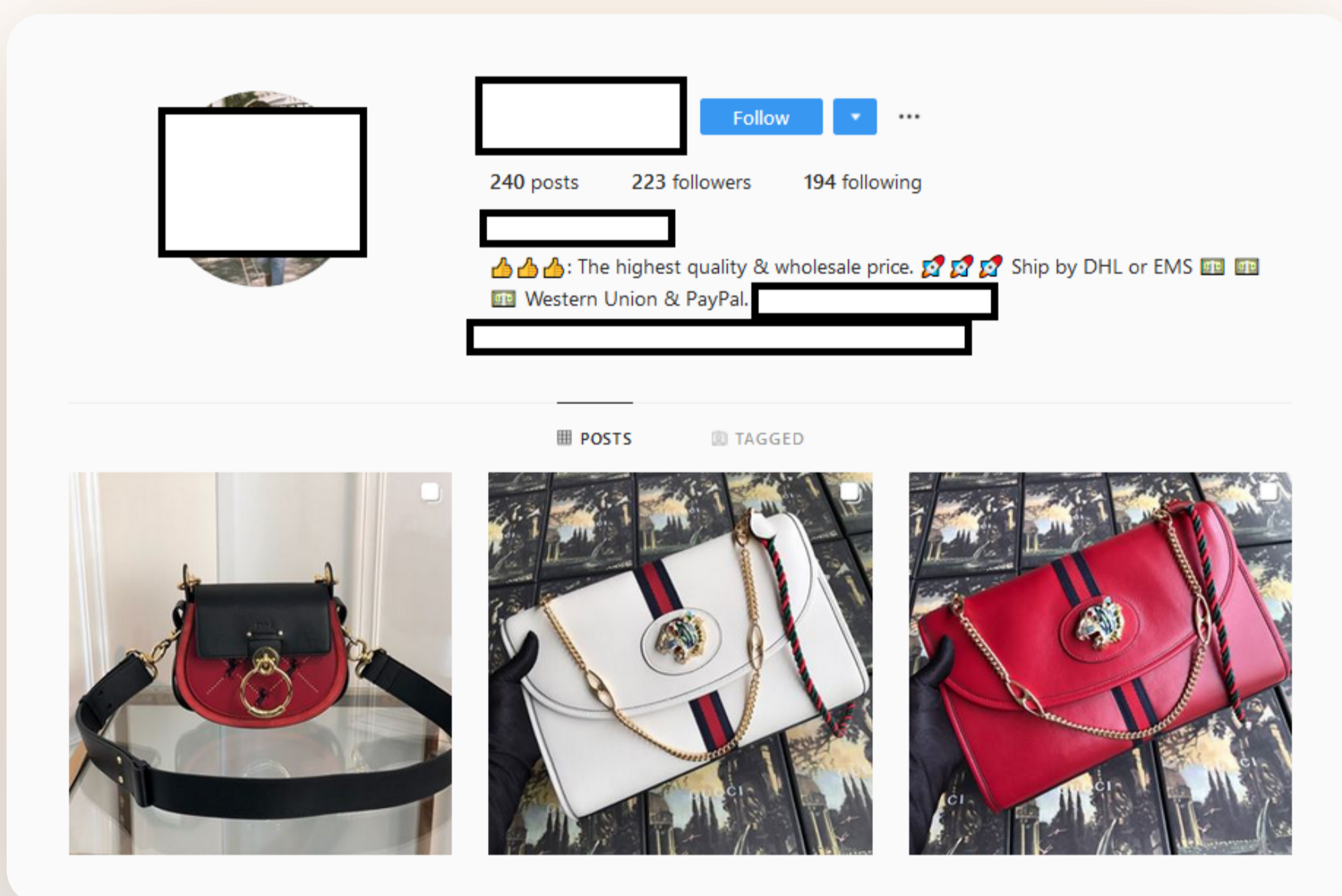
[21] "Rajah Medium Shoulder Bag", Gucci, https://www.gucci.com/it/en_gb/pr/women/handbags/womens-shoulder-bags/rajah-medium-shoulder-bag-p-5646970OLKX8609

Finally, some profiles link directly to a single specialized seller: we found about 18 accounts pointing to a same seller. And there is no lack of low-quality accounts that often are just part of large automated networks (botnets). It is not uncommon for those accounts to post several offerings throughout the day: the one here below produces an average of 24 daily posts.
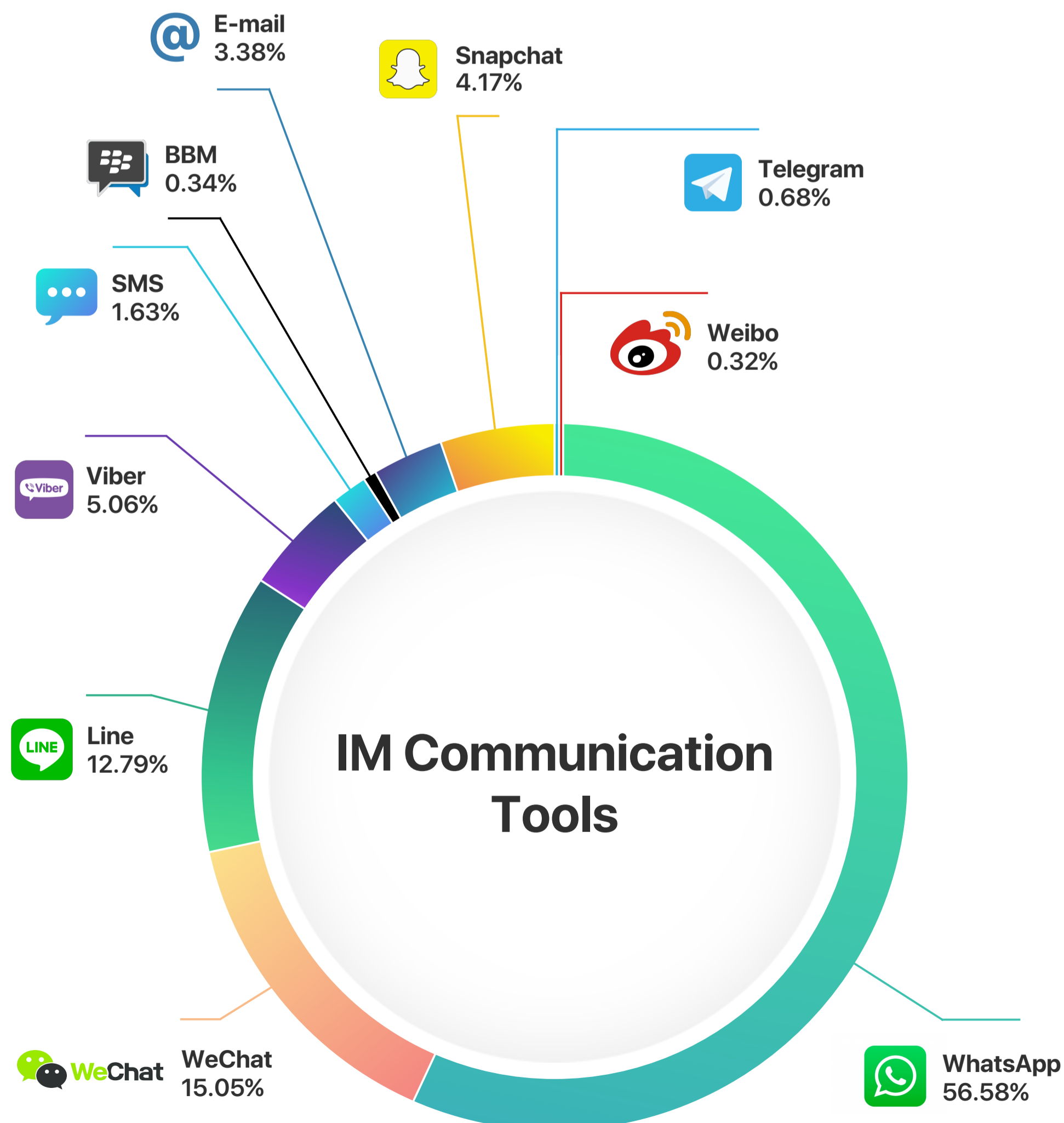
8.
COUNTERFEITERS COMMUNICATION TOOLS

While Instagram is the top showcase platform for counterfeiters, their methods of IM communication are mostly based on mobile external applications. This is both for ease of use and security. If a user account is closed by Instagram for violation of their Terms of Service (ToS), the counterfeit merchant would lose any contact with potential buyers.

As in 2016, Whatsapp is still the most preferred communication app: based on our sample subjects, it is being used regularly by almost 57% of counterfeiting accounts active on Instagram. Instead Wechat, a Chinese app with integrated payment options, and then Line, a new freeware app for instant communications, are respectively at 15.05% and 12.79%. The Snapchat app is used only by 4% and Telegram by less than 1% of counterfeiters.

IM Communication Tools

- E-mail 3.38%
- Snapchat 4.17%
- BBM 0.34%
- Telegram 0.68%
- SMS 1.63%
- Weibo 0.32%
- Viber 5.06%
- Line 12.79%
- WeChat 15.05%
- WhatsApp 56.58%

These days IM apps are more reliable and secure, providing end-to-end encryption, plenty of options and easiness of use. There is also a very low risk that an account could be closed due a violation of their ToS. Indeed, such step requires specific evidence that a Whatsapp or Wechat account is being used to communicate about a sale of counterfeiting products. But even if an account is forcibly closed, it's easy and cheap to open a new one: activating a virtual phone number costs just a few cents[22].

We should also add that in China and Russia the so-called 'click farm' continue to generate millions of fake accounts on social media and mobile apps, ready to be sold in bulk to the highest bidder[23].
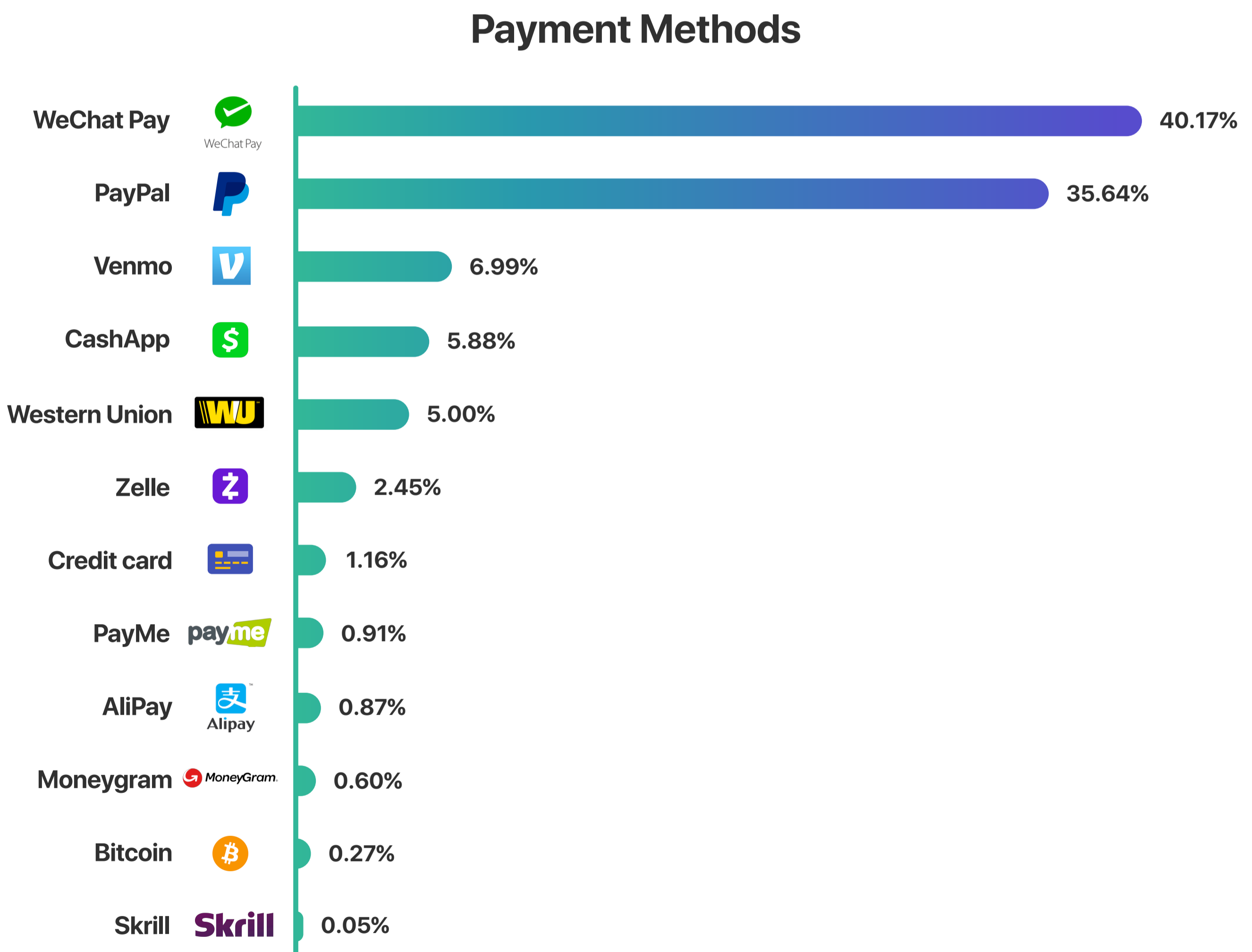
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[22] https://www.smspva.com/

[23] Sophie Williams, "Chinese click farm where 10k smartphones boost app ratings", The Daily Mail, https://www.dailymail.co.uk/video/news/video-1463233/Chinese-click-farm-10-000-phonse-makes-fake-app-ratings.html

9.
COUNTERFEITERS PAYMENT METHODS

It is extremely important for counterfeit agents to choose an appropriate online payment system. Payment systems must be immediate, secure and well-known, so that potential customers can fall for an impulse buying and trust the entire transaction. Their system of choice is also helpful to identify their operative base, as we will explain further below.

As shown in the following chart, the most used payment system is by far WeChat Pay, owned by the Chinese giant Tencent: it is accepted by about 40% of Instagram counterfeiters[24]. Other common payment systems are Paypal (35%), Venmo[25] (7%), CashApp[26] and Western Union (5% each).

Payment Methods

Payment Method	Percentage
WeChat Pay	40.17%
PayPal	35.64%
Venmo	6.99%
CashApp	5.88%
Western Union	5.00%
Zelle	2.45%
Credit card	1.16%
PayMe	0.91%
AliPay	0.87%
Moneygram	0.60%
Bitcoin	0.27%
Skrill	0.05%

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[24] WeChat Pay, "Weixin.qq", https://pay.weixin.qq.com/index.php/public/wechatpay/home

[25] Paypal, "Venmo Payments", https://www.paypal.com/us/smarthelp/article/venmo-payments-faq3445

[26] Julia Glum, "Should You Use Venmo, Zelle or Cash App? Everything You Need to Know About the Hottest Mobile Payment Apps", Money.com, http://money.com/money/5376350/venmo-cash-app-zelle-better/

10.
COUNTERFEITERS SHIPPING OPTIONS

Another important factor for this kind of operations is the shipping option. As for the communication and the payment systems just described, this last step must be effective, safe and reliable. As for any legitimate purchase, even counterfeit sellers must ensure that a package arrives at its destination safely and promptly anywhere in the world. In fact, if a shipment gets lost or doesn't show up, all various online payment systems mentioned above provide options for an immediate reimbursement.

aramex
delivery unlimited
2.45%

UPS
9.68%

FedEx
0.91%

DHL
32.70%

Shipping Companies

EMS
54.25%
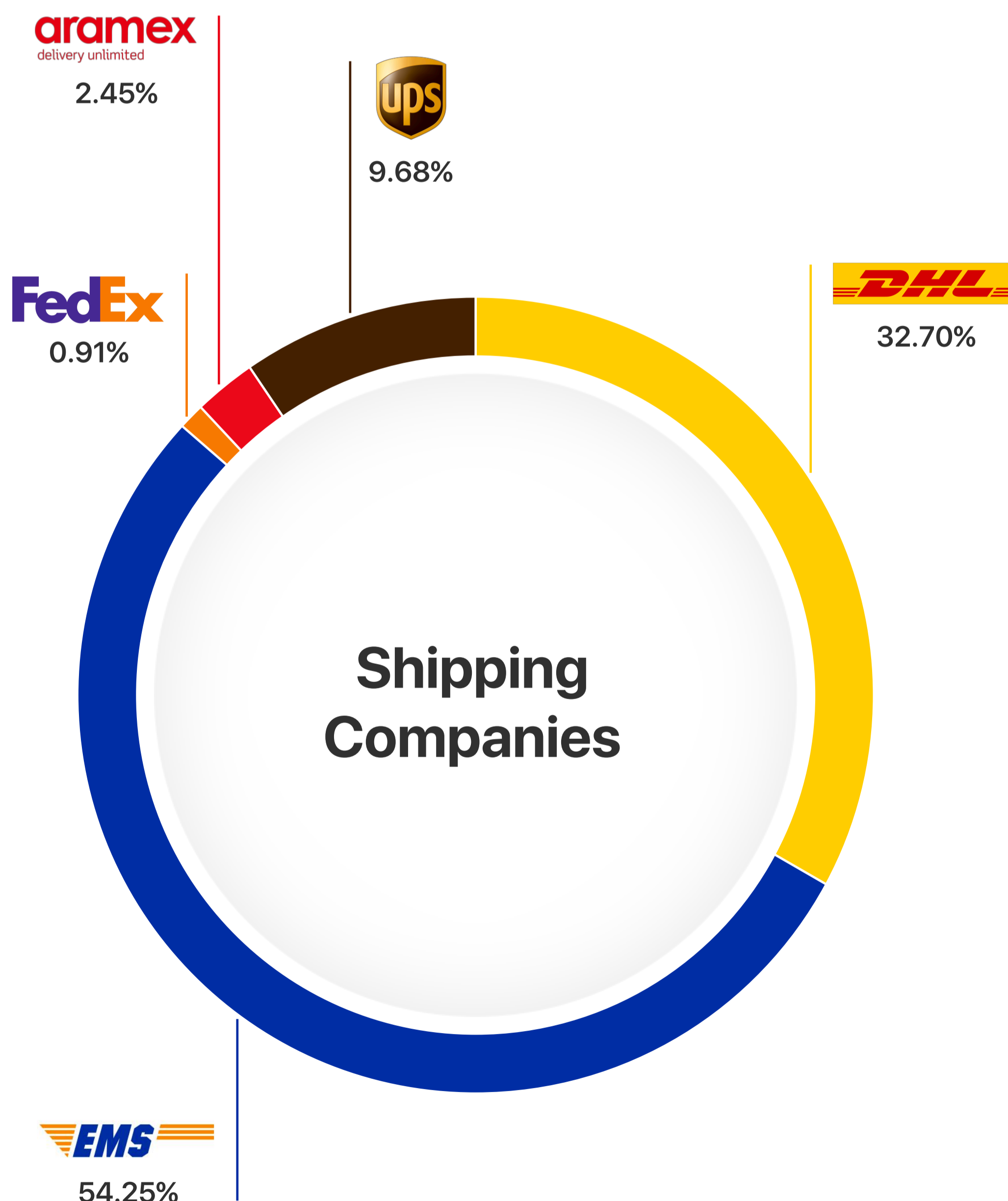
As shown in the chart above, the vast majority of counterfeiters – an average of 8 out of 10 – use International shipping services provided by EMS Global Delivery Network[27] (54.25%) and DHL[28] (32.70%).

Back in 2010, a special report published by Reuters[29] detailed how easily people could buy fake Louis Vuitton products online and having them shipped via EMS to their address.

Also important is a recent report by OECD that outlines the exponential growth of shipping counterfeit items as "small parcels" anywhere in the world and the role played by shipping companies like DHL and others in this context[30].

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[27] "About us", EMS Global Delivery Network, https://www.ems.post/en/about-us-contacts/about-us

[28] "About us", DHL, https://www.logistics.dhl/gb-en/home/about-us.html

[29] Doug Palmer, Melanie Lee, " Special report: Faked in China: Inside the pirates' web", Reuters.com
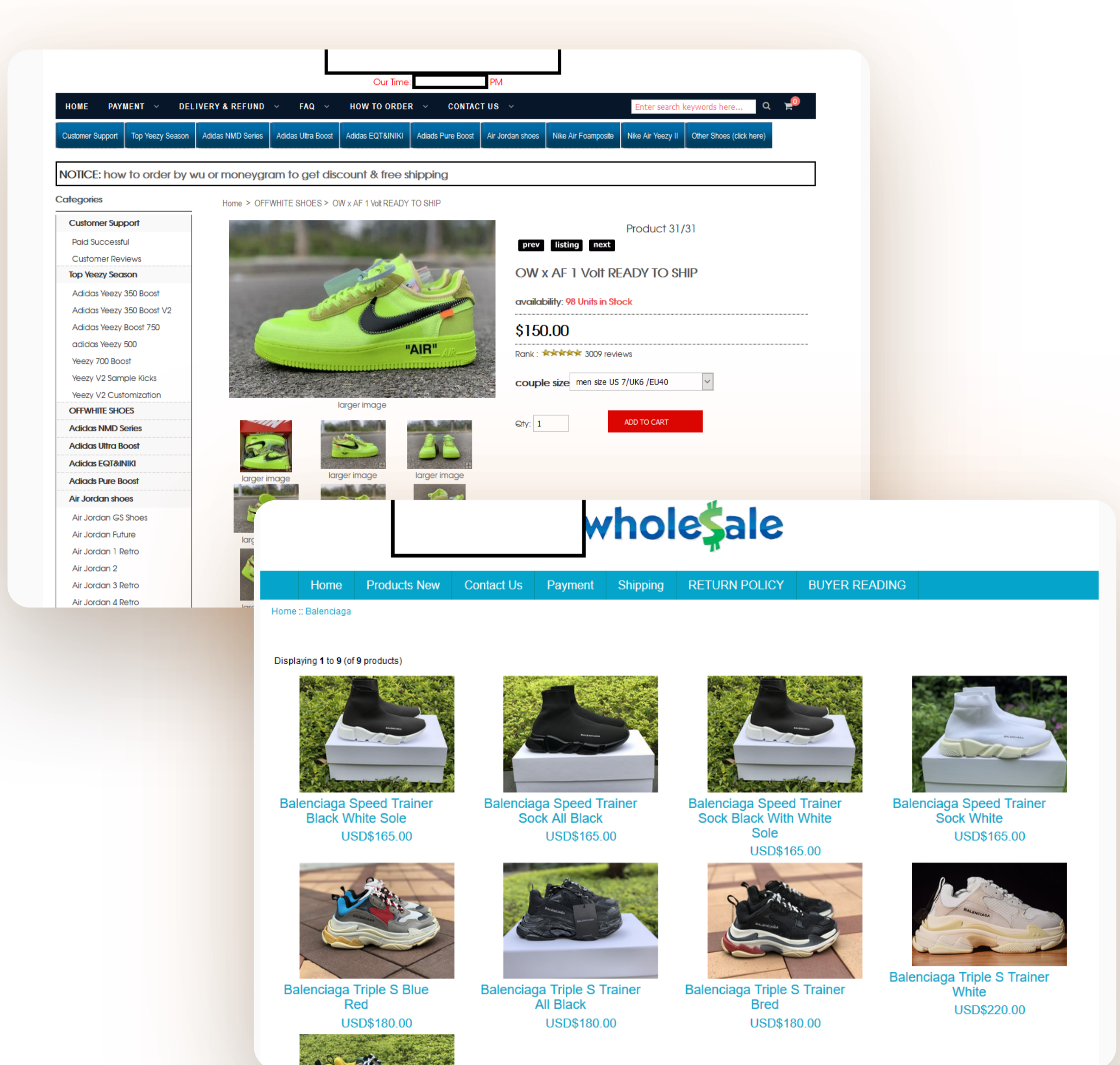https://www.reuters.com/article/us-china-counterfeit-idUSTRE69P1AR20101026

[30] OECD, "TRADE IN FAKES IN SMALL PARCELS: FACTS AND TRENDS", europa.eu
https://euipo.europa.eu/tunnel-web/secure/webdav/guest/document_library/observatory/documents/reports/
Trade_in_fakes_in_small_parcels/Trade_in_Fakes_in_Small_Parcels_en.pdf

11.
COUNTERFEITERS EXTERNAL WEBSITES

In addition to promote direct sales from Instagram and using common IM apps, several counterfeiters also provide an external website to further display their products and sell through their own e-commerce platform.

Here below we gathered some examples of such websites, while pointing out that counterfeiters seem to prefer particularly Yupoo, a platform well suited to set up stores for products of any kind.

In our research we identified 431 stores of counterfeit products active on Yupoo. It is worth noticing that, while recently Alibaba boasted its success in removing counterfeit products from its platform, a major Singapore newspaper detailed how counterfeiters are widely expanding and differentiating their activities on the International online market. Quoting from that article, "To cater to international buyers, counterfeiters were also increasingly hawking their goods on foreign social media, such as Whatsapp and Instagram, and through third-party image hosting sites such as Yupoo"[31] .

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[31] Lim Yan Liang, "Alibaba claims success in fight against fake goods on Taobao", The Straits Times, https://www.straitstimes.com/asia/east-asia/alibaba-claims-success-in-fight-against-fake-goods-on-taobao

Another interesting finding is that several counterfeit accounts (over 7% of total) have external e-stores based on Russia domains (.ru), with the exception of local social networks.

Domain .ru
7.59%

External URLs
Domain Extensions

Domains (.com, .net, .org [...])
92.41%
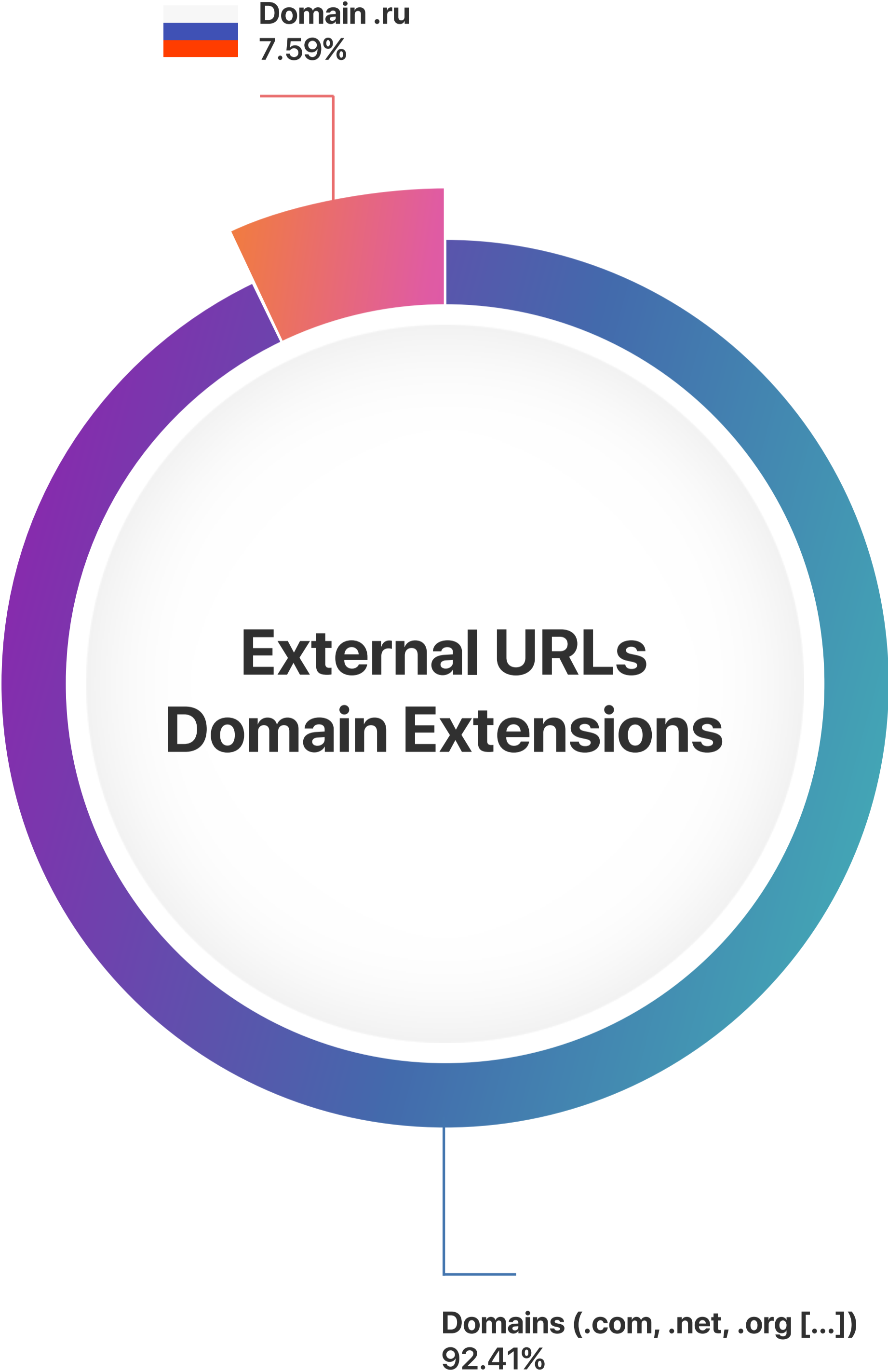
12.
TOP COUNTRIES INVOLVED

In regard to the top countries from where these counterfeiters operate, the list is similar to our 2016 findings. To pin down the countries from where these counterfeiters operate we took into several data: their web domains[32], phone numbers and email hosting services, along with languages and character coding and language[33]. These evidences leave little doubts about such origin countries, even if we can never have a definitive proof.

Malaysia
3.86%

Turkey
4.45%

Ukraine
4.65%

Indonesia
13.44%

China
43.23%

Top Countries Involved

Russia
30.37%

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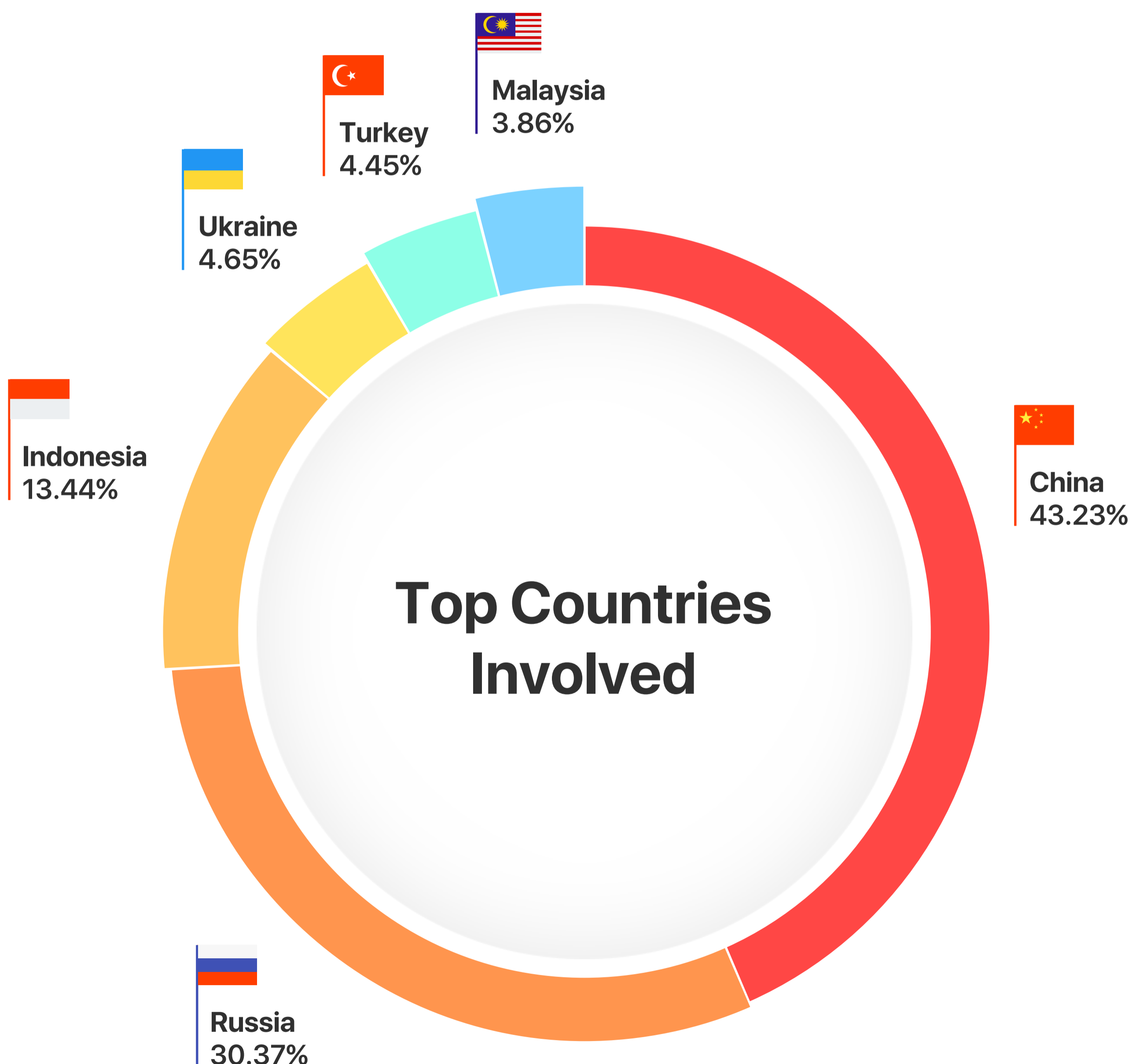
[32] "Whois Lookup, Domain availability & IP search", Domain Tools, http://whois.domaintools.com/

[33] "Detecting languages, Cloud translate API", Google, https://cloud.google.com/translate/docs/detecting-language

China is still the top country where most counterfeit products originate, covering over 43% of such activities on Instagram. Then we have Russia (30%), Indonesia (13.5%) and far below Ukraine, Turkey and Malaysia, with shares between 4.65% and 3.86% each.

Our data are very similar to the main findings of the 2018 Special Report published by Office of the United States Trade Representative (USTR) – as shown in the following screenshot[34].

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[34] "2018 Special 301 Report", USTR, https://ustr.gov/sites/default/files/files/Press/Reports/2018%20Special%20301.pdf

13.
DATA ANALYSIS & VISUAL RECOGNITION
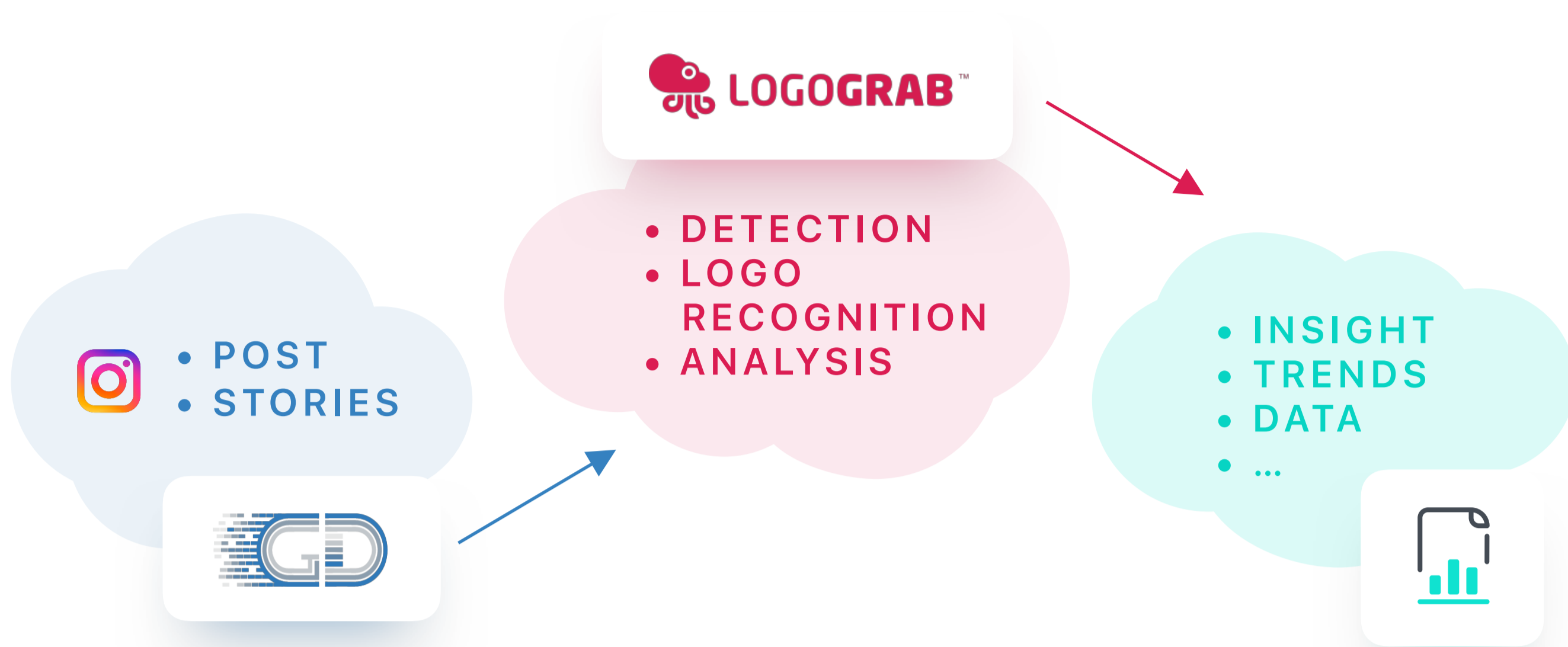
For this study we applied several techniques and tools, including network analysis and visual recognition. Thanks to social network analysis we were able to quickly identify the counterfeiters accounts on Instagram by analyzing common patterns and characteristics of their posts, Stories and profiles. And a partnership with LogoGrab[35], an Irish company leader in visual logo recognition, produced a precise analysis of content published by the same counterfeiters, while also detecting, for example, all the brands targeted.

This is a significative improvements from our 2016 research, mostly focused on text analysis. Especially today, these analysis of online visual contents are much more accurate and effective than text-based traditional studies.

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35 "The leading logo and mark recognition API", Logograb, https://www.logograb.com/

For example, let's consider the image below published by an Instagram account openly selling counterfeit goods:
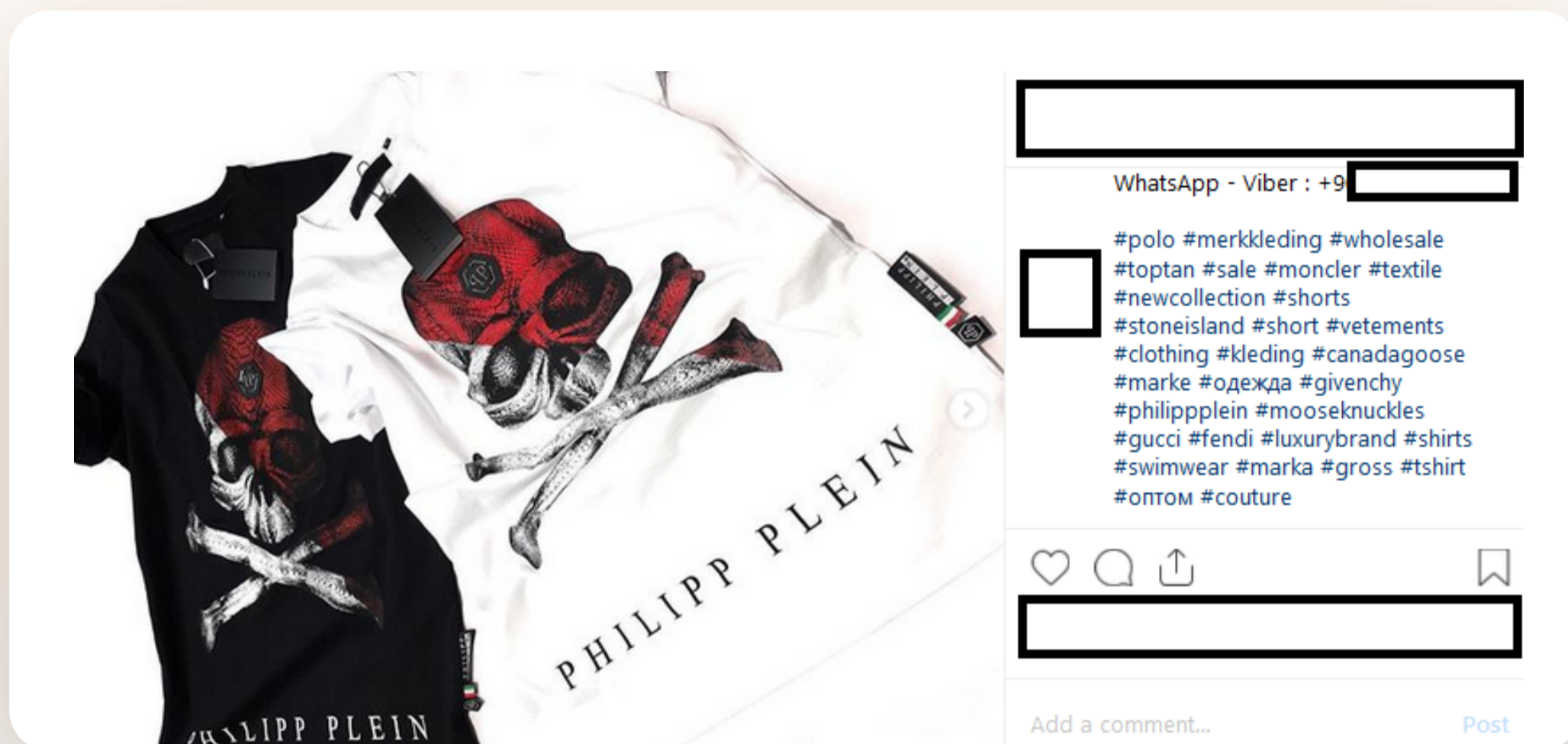
While the picture features only two Philipp Plein t-shirts, multiple hashtags are displayed on the top right side, including brands never mentioned in the post content: Moncler, Stone Island, Gucci, Fendi. Since hashtags are one of the best ways to get larger visibility on Instagram, it's crucial to increase their presence in any possible way, especially including famous fashion brands like Gucci and Fendi (even if some says that using more than 10 hashtags per Instagram post actually could be damaging your visibility).

Along with the LogoGrab team, we decided to integrate our different strategies: our analysis of textual content in posts and Stories, a highly scalable skill in terms of volume and speed, combined with the major LogoGrab technique, specialized in logo and mark recognition. This unique collaboration enabled us to have a better picture of the brands most targeted by Instagram counterfeiters, as detailed throughout this report.

Here below are some examples of logo recognition provided by LogoGrab technology and integrated with data gathered by Ghost Data:

LogoGrab is an Image Recognition software company focused on logo and mark recognition. Image Recognition is a field of Artificial Intelligence (also called Computer Vision) whereby the software is capable of autonomously detecting items and features present in images and videos. Image Recognition typically requires large amounts of training images to learn how an item or feature may look when seen in an image or video. Unfortunately, this approach works only at very limited scales when applied to logo and mark recognition.

LogoGrab has developed a proprietary and patented 'Adaptive Learning Engine' (ALE) that doesn't require training data. This unique approach makes LogoGrab's logo and mark recognition software scalable, both in terms of speed of the activation of a new logo, as well as the volume of images and videos that can be processed. LogoGrab's technology learns to recognize new marks and logos in minutes without any bias and adapts to customer data in order to deliver the highest level of accuracy.

This approach allows for the processing of large volumes of social media images against large libraries of logos and marks. Counterfeit logos can be identified either via inference of other post signals, such as the post title and description, or by accepting lower confidence results, therefore exposing logos that are similar, but not identical to, the real brand. Once identified, any fake logos can be trained with LogoGrab's Adaptive Learning Engine, making them instantly available for monitoring.

BRANDS MOST MENTIONED BY COUNTERFEITERS

As noted earlier, an Instagram post or Stories content does not always correspond to its associated hashtags. It is certainly not by chance that counterfeiters include the hashtags of luxury brands that are currently on top in the fashion world and that are quite active on social media. It is another successful strategy for attracting potential buyers.

Indeed, the official accounts of Gucci, Louis Vuitton and Chanel are among the most visible on Instagram: they feature, respectively, 33.2 million, 31 million and 33.9 million followers. As a comparison, for example, Balenciaga has 9.3 million and Fendi 12.3 million followers.

Brand	Percentage
Gucci — GUCCI	15.99%
Louis Vuitton — LV	11.73%
Chanel — CHANEL	10.04%
Balenciaga — BALENCIAGA	6.91%
Dior — Dior	6.67%
Fendi — FENDI	5.49%
Prada — PRADA	5.11%
Hermes — HERMÈS	4.58%
Nike — NIKE	4.66%
Off-White	4.57%
Adidas — adidas	4.37%
Givenchy — GIVENCHY	4.35%
Yves Saint Laurent — SAINT LAURENT	4.26%
Valentino — VALENTINO	4.05%
Supreme	3.76%
Versace — VERSACE	3.47%
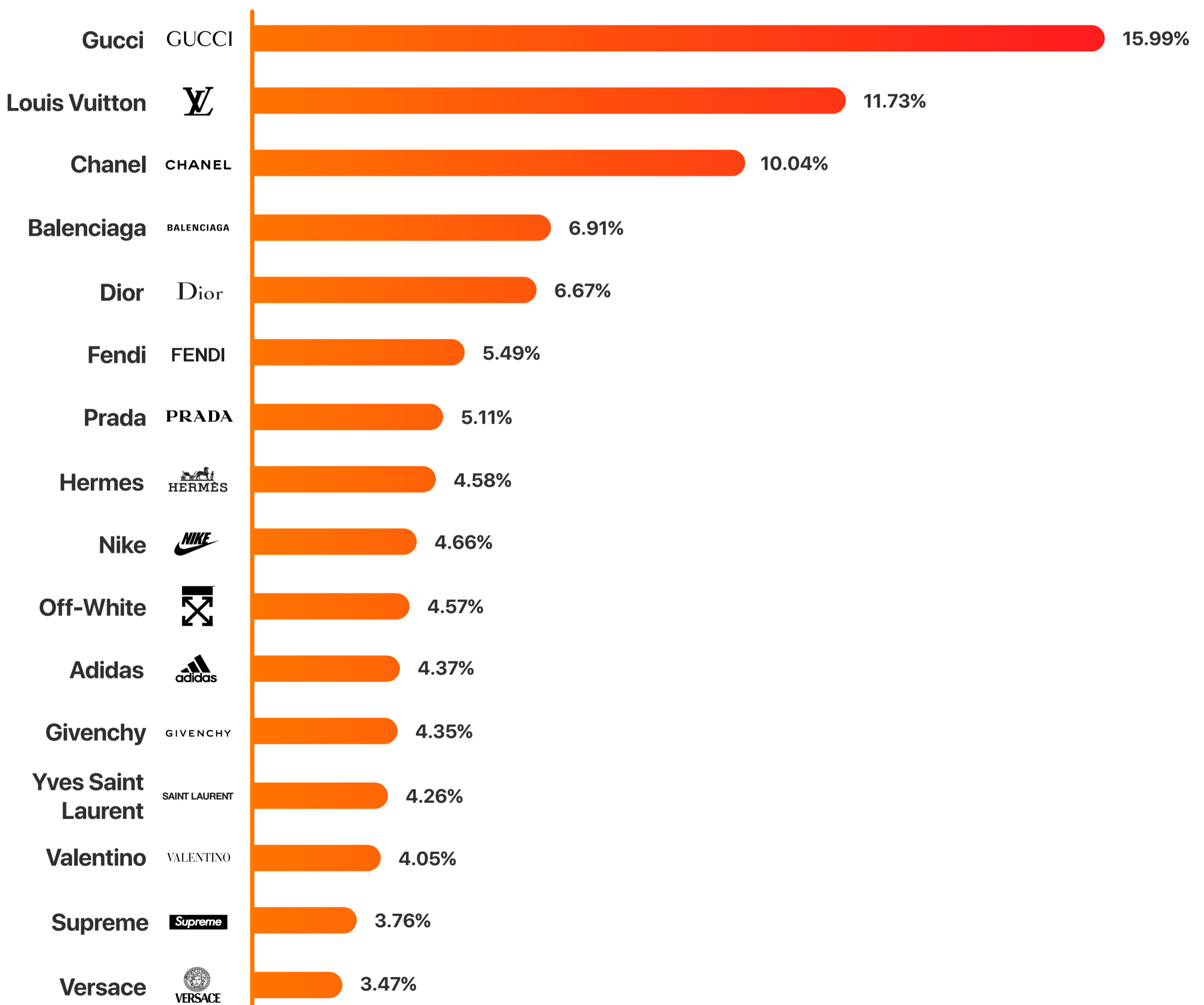
This analysis covered a random sample of 669,662 posts containing the hashtags of fashion brands listed above and their related variations (eg. #louisvuitton, #lv, #gucci [...])

BRANDS MOST TARGETED BY COUNTERFEITERS

For this analysis, Logograb and its logo detection technology processed 15,560 images and 134 videos. As shown in the following chart, the top brands mentioned in those counterfeiter posts are Louis Vuitton (21%), Chanel (19%) and Gucci (14%). Then followed Nike (5%), Fendi (5%), and Balenciaga (4.82%).

Brand	Percentage
Louis Vuitton	21.03%
Chanel	19.37%
Gucci	14.32%
Nike	5.64%
Fendi	4.95%
Balenciaga	4.82%
Yves Saint Laurent	4.74%
Coach	3.60%
Adidas	3.16%
Dolce & Gabbana	3.06%
Dior	2.82%
Versace	2.59%
Givenchy	2.56%
Prada	2.54%
Hermes	2.46%
Michael Kors	2.33%
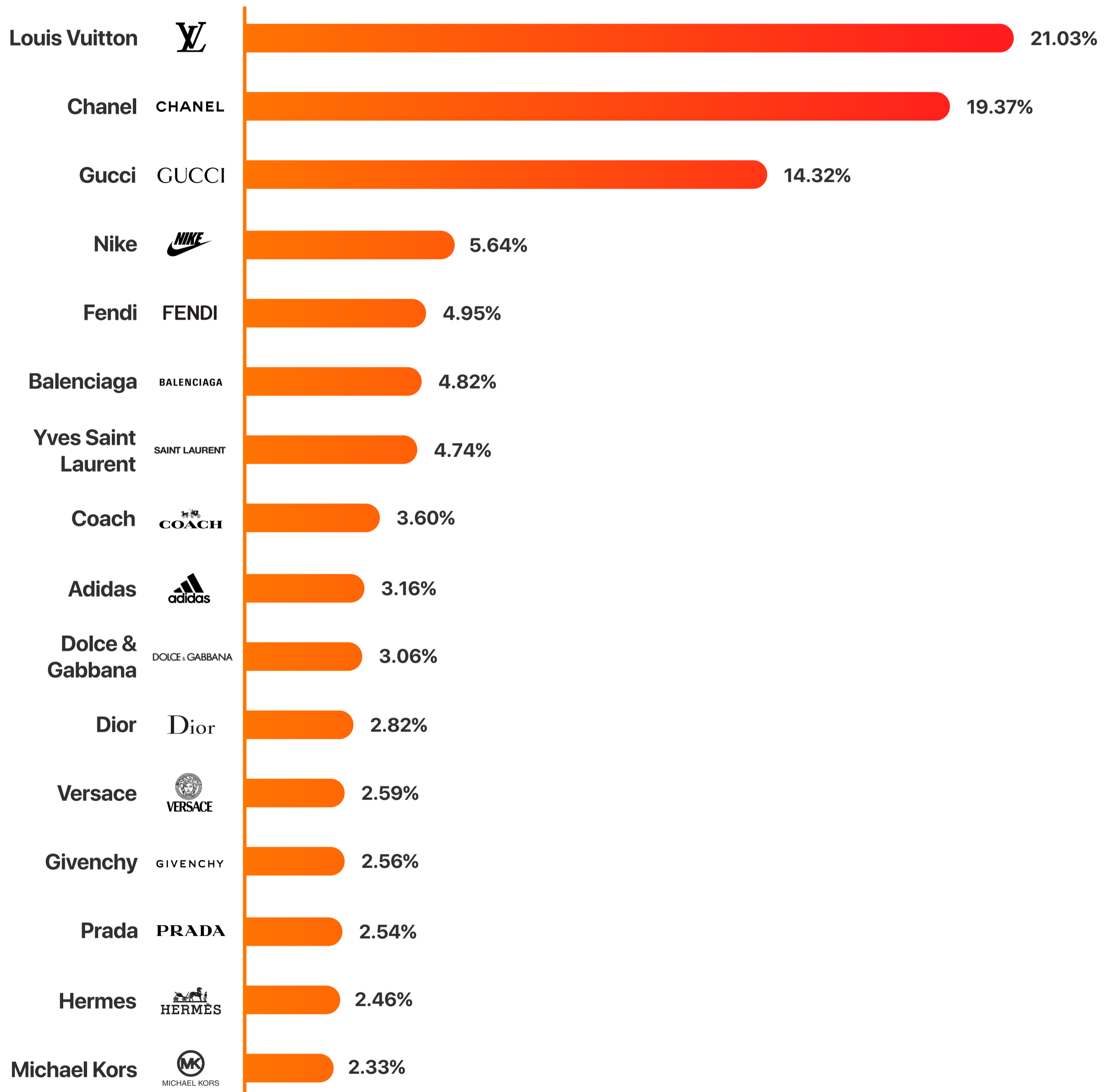
THE EFFECT AND "LIKES" OF FAKE CONTENT

In order to study the general fallout and the "likes" generated by fake content accounts, we analysed 105,000 posts uploaded within 24 hours (on 3 April 2019) that included the top five hashtags targeted by counterfeiters: Gucci, Louis Vuitton, Chanel, Balenciaga and Dior.

More specifically, we addressed this question: if a user is browsing posts featuring the Gucci hashtag, as in the following image, what are the chances that this user could actually land on content posted by a counterfeit account?
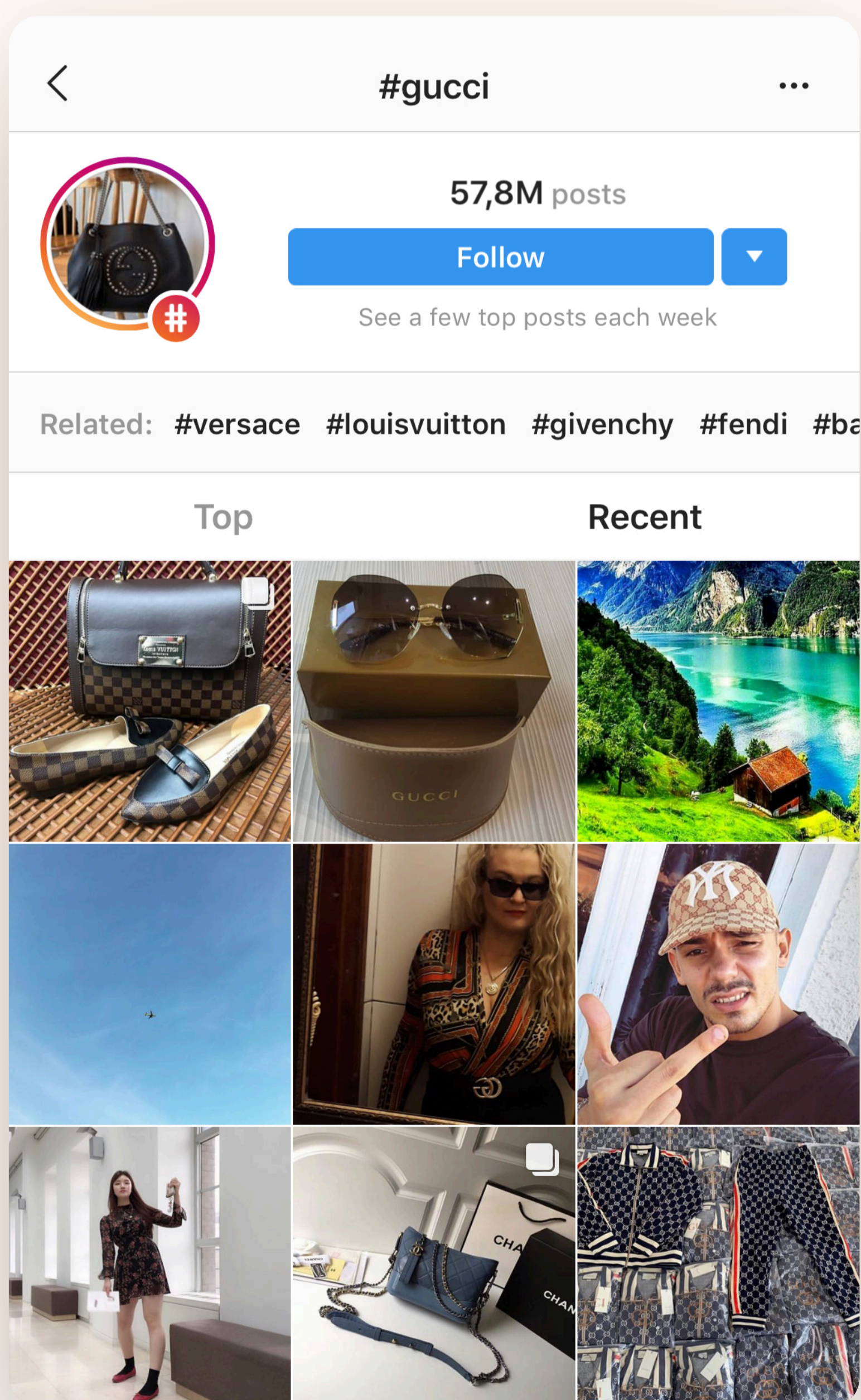
The following chart provides some useful answers. We can notice that more than 1 out of 10 posts is some kind of content posted by counterfeiters. Overall this is a significant share: over 15% of Instagram content related to a specific hashtag or brand is generated by accounts dedicated to illegal activities. Also, over 16,000 posts published by individual counterfeit accounts have gained a total of 435,757 "likes".

Illicit posts **Legit posts**

| 15.56% | 84,44% |
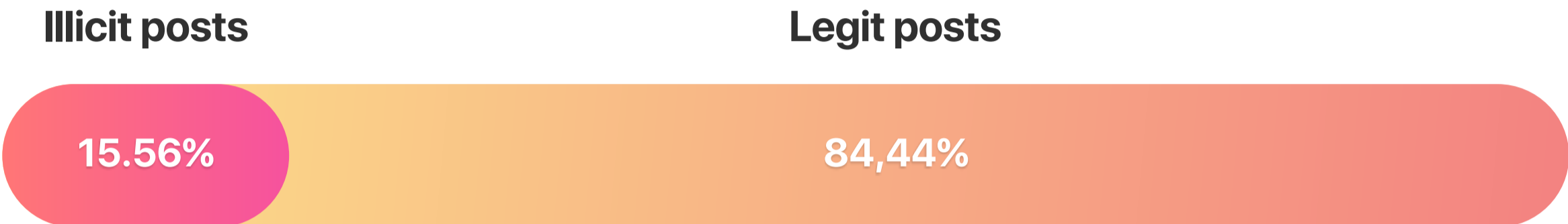
15.
MAJOR FINDINGS OF OUR 2019 STUDY

- In this study we identified 56,769 counterfeit accounts active on Instagram, with a growth of more than 171% when compared to three years ago (20,892 counterfeit accounts).

- As mentioned above, the total of posts published by counterfeiters on the hashtag timelines of fashion brands dropped to 15.5% from 20% in 2016.

- In 2016 these counterfeit accounts published a total of 14.5 million posts while in 2019 they published more 64 million posts and an average of over 1.6 million Stories every month – a growth of more than 341% when compared to three years ago.

- As in 2016, Whatsapp is still the most preferred IM app: it is being used regularly by almost 57% of counterfeiting accounts active on Instagram. Instead Wechat drops to 12% from 15% in 2016.

- The top International shipping services used by counterfeiters are EMS Global Delivery Network (54.25%) and DHL (32.70%).

- China is still the top country of origin for Instagram counterfeiters, even if with a marginal drop (43%) compared to 2016 findings (55%). Then follows Russia with over 30% (25% in 2016) and countries like Indonesia, Ukraine, Turkey and Malaysia. Our data are very similar to the main findings of the 2018 Special Report published by the Office of the United States Trade Representative (USTR).

- The top payment system is by far WeChat Pay (about 40%). Other common payment systems are Paypal (35%) and Venmo (7%), while less than 1% of counterfeiters accept Bitcoin.

- The five most mentioned brands by counterfeiters are Gucci, Louis Vuitton, Chanel, Balenciaga and Dior.

- The top brands featured in images and videos posted by counterfeiters are Louis Vuitton, Chanel and Gucci: 21%, 19% and 14% respectively. Nike reaches just over 5%. Louis Vuitton, Chanel and Gucci combined account for more than half of counterfeit fashion items available on Instagram.

- Based on our analysis, we can estimate that these counterfeiters are able to reach an audience of at least 20 million people only through users who follow them.

- Today counterfeiter accounts are more active than three years ago (as well as in comparison to common users in general): over 32% of them have in fact published over between 500 and 1,000 posts, while more than 21% have published more than 1,000 post. In 2016 most of the counterfeiters had between 100 and 500 posts and only 16% had over 1,000 posts.

Finally, the following chart shows the mechanism of the current counterfeit market on Instagram:
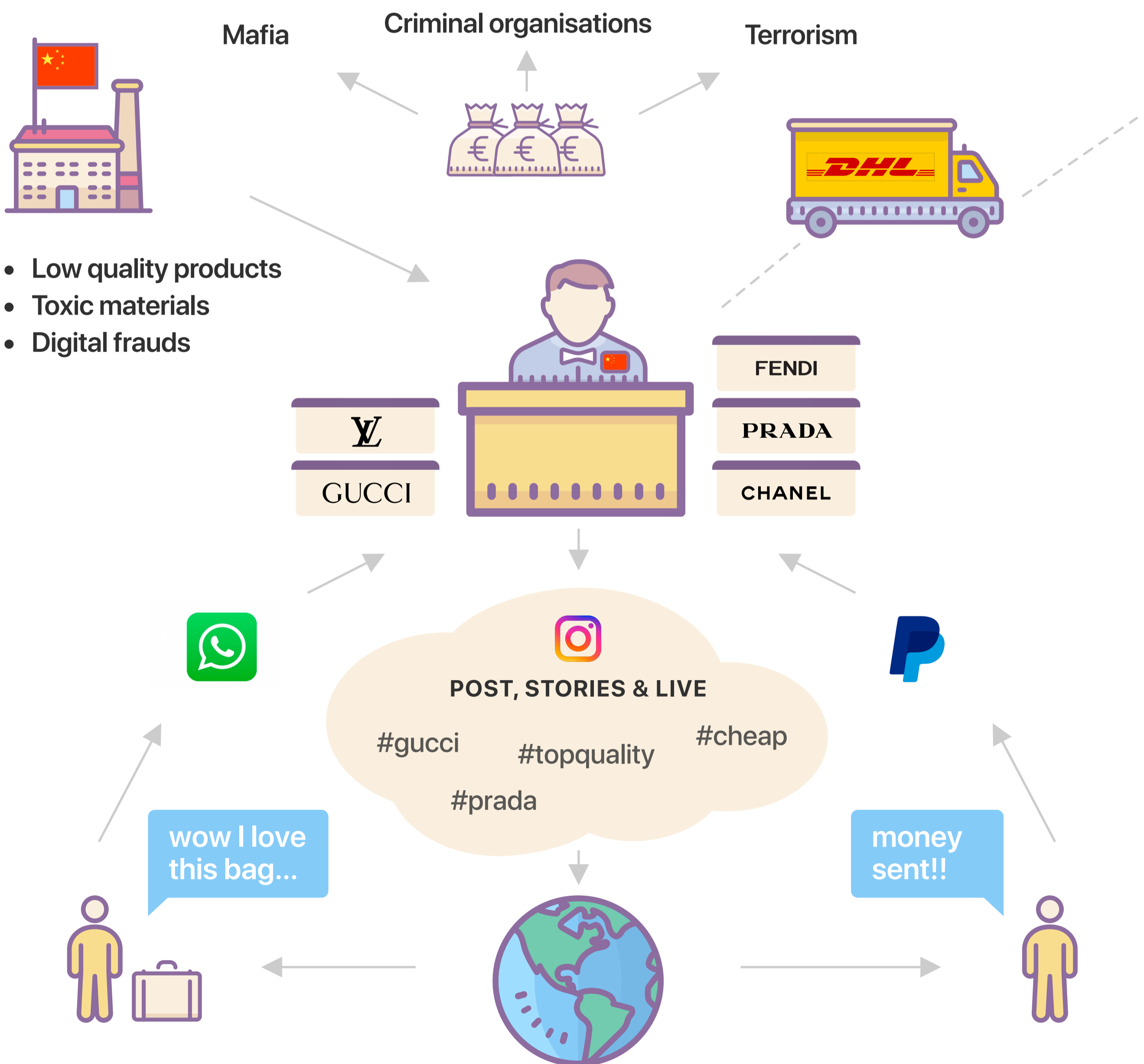
16.
CONCLUSIONS

Our study analyzed about 4 million of public content items published on Instagram and variously referring to famous fashion brands. We identified about 56,769 accounts involved in counterfeiting activities and that published a total of over 64 million posts. From the 20,892 accounts identified in 2016, there is a >160% growth. In 2016 these counterfeit accounts published a total of 14.5 million posts while in 2019 they published a total of more 65 million posts and an average of over 1.6 million Stories every month.

As mentioned above, the total of posts published by counterfeiters on the hashtag timelines of fashion brands dropped to 15.5% from 20% in 2016. A possible explanation is the increase of various content related to fashion issues, due to Instagram surge as the social network preferred by this industry. A crucial role also played a series of policing and security measures recently introduced by Instagram.

Actually counterfeit accounts could be much larger if we extended our research to other Instagram accounts that, even if selling fake items, do not provide many details about their items for sale (such as keywords like AAA, 1:1, original quality, etc.) or purposely omit the true nature of their products. Finally, we should keep in mind that we have only analyzed part of the public contents related to the fashion industry.

In any case, it's evident from our major findings (summarized in Paragraph 15) that counterfeiting is still a widespread and dangerous global issue, even more so when taking advantage of today's online platforms. As detailed earlier, counterfeiting also poses threats to the welfare of consumers, disrupts the whole society and harms business reputation. And even when a lot of money is spent on security options and enforcement operations, counterfeiters are smart enough to circumvent there measures on major social media platform.

This disturbing trend came to light a few years ago, along with the spread of extremist and even violent ideologies, particularly targeting younger users on Instagram: these days Facebook, Twitter, and YouTube are less and less places where young people go to socialize, but Instagram is. In order to find out a realistic

estimate of such phenomena, in May 2016 our Ghost Data team produced a research titled "Social media and luxury goods counterfeit: a growing concern for government, industry and consumers worldwide". Our main goal was to find out how Instagram innovations were actually transforming entire industries, such as fashion and luxury item sales. Even before that, in 2013, we started to address broader issues surfacing in these popular online environments, including botnets and malware, computational propaganda and intelligence, terrorism and counterfeit activities. For instance, in September 2017 our study identified more than 50,000 accounts linked to Islamic State supporters posting Instagram Stories.

All our studies are fueled by a pragmatic approach and aim at highlighting complex issues and exposing actual data in order to help find some answers and constructive ideas.

On the counterfeit issue our findings show that not much as changed on Instagram since 2016. Actually things seem to have changed for the worse. now Instagram boasts over 1 billion monthly active users and 130 million people who monthly tap its product tags on shopping posts. However, this is also increasing the presence of counterfeit products and fake luxury goods, with its negative impact on our social media experience and our societies at large. We are dealing with a multi-billion dollar underground economy particularly active on major social media platforms and surely eager to somehow exploit this new Instagram feature.

It is true that "Instagram is the new Facebook", but at the same time the image and video sharing platform is becoming the preferred choice for counterfeiters of any kind. In this realm Instagram faces serious problems and needs to step up its security features and implement new solutions. Something that hopefully will soon be addressed by its new executives: recently the two Instagram co-founders have been replaced by Adam Mosseri[36], while Chris Cox, one of Facebook top managers, has left the company[37].

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[36] Mike Isaac, "Instagram's Co-Founders to Step Down From Company", The New York Times, https://www.nytimes.com/2018/09/24/technology/instagram-cofounders-resign.html

[37] Jullie Carrie Wong, "Chris Cox: longtime Facebook executive exits as network focuses on privacy", The Guardian, https://www.theguardian.com/technology/2019/mar/14/facebook-chris-cox-chris-daniels-top-executives-depart

Even better, such complex situation requires a new model of collaboration between platforms, companies, governments, universities, private companies, and tech organizations. The same fashion brands needs to be directly involved in these broader operations. Indeed, the success of counterfeiters is also due to their ability to quickly adapt their prices and offerings. Top brands such as Gucci and Balenciaga, which are growing exponentially and have a great consumer following, are also becoming the most counterfeit brands worldwide, as shown by our data[38]. Only a wide partnership with all stakeholders involved could come up with innovative solutions.

Ghost Data and LogoGrab, for example, have combined here their respective skills, data analysis on big data and visual recognition techniques, in order to experiment with predictive models able of intercept and asses the many facets of counterfeiting activities. The rich-quality information gathered in this research, along with their creative inter-connections and new AI technologies, could help paving the way toward a successful fight against this dangerous phenomenon.

On the other hand, large companies like Instagram must move from a passive approach based on content moderation to a pro-active approach in policing their platforms. Counterfeiters are quick to take full advantage of the many tools available to them: proxies, botnets, fake accounts, ephemeral contents, encrypted chats, anonymous payment systems. Obviously enough, all stakeholders involved in these platforms and related companies must rethink their strategies for a fight that, as of now, seems quite asymmetric.

It should be noted that other major e-platforms are seriously stepping up this fight: against counterfeiting: Amazon has launched its "Project Zero" which "will let brands remove counterfeit listings of their products"[39], while Alibaba stated that it had seized almost half a billion dollars of counterfeit goods in 2018 through the Alibaba Anti-Counterfeiting Alliance[40].

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[38] "Revenues Are Up by More than 27 Percent for Gucci, Balenciaga, Saint Laurent's Parent Company Kering in Q3", The Fashion LAW,
http://www.thefashionlaw.com/home/revenues-are-up-by-35-percent-for-gucci-balenciaga-saint-laurents-parent-company-in-q3

[39] Chaim Gartenberg, "Amazon's Project Zero will let brands remove counterfeit listings of their products", The Verge,
https://www.theverge.com/2019/2/28/18244603/amazon-project-zero-counterfeit-listing-remove-products

[40] Ben Wodecki, "Half a billion in counterfeit goods seized by Alibaba alliance operations", IPPro Magazine,
http://www.ippromagazine.com/ippromagazinenews/article.php?article_id=6621

As part of a government effort to crackdown on these illicit practices, a few days ago US President Donald Trump issued a memorandum aimed at curtailing "trafficking through third-party online marketplaces". These marketplaces, he added, include "Alibaba, Amazon and eBay"[41].

In the meantime, Mark Zuckerberg is now saying that "The Internet needs new rules"[42], hinting that is time to turn on the light on several problems, including online counterfeiting, that have been under-estimate for way too long. Unfortunately, many sources insist that so far Facebook has done very little to actually address such issues both on its own platform and on Instagram. For instance, Instagram still offers free promotion and gets no commission for user sales (instead eBay charges for the featured posts). By implementing some of these simple measures, Instagram could do its part in preventing these criminal activities ion its platform. However, the problem could just be that Visha Shah, Instagram's New Head of Product, "sees e-commerce on Instagram as potentially the next great revenue driver after advertising"[43].

Again, these are complex issues that requires a coordinated effort to produce innovative and effective solutions. We hope that some findings of our new study – eg, since 2016 Instagram counterfeit accounts grew by 171% – will help in getting a better picture of online illicit trafficking and thus push all actors involved to take a big step toward a collaborative outcome to curb this dangerous global issue.

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[41] Maegan Vazquez, "Trump signs memo aimed at stopping counterfeit goods", CNN,
https://edition.cnn.com/2019/04/03/politics/counterfeit-goods-donald-trump-presidential-memo/index.html

[42] Mark Zuckerberg, "The Internet needs new rules. Let's start in these four areas", The Washington Post,
https://www.washingtonpost.com/opinions/mark-zuckerberg-the-internet-needs-new-rules-lets-start-in-these-four-areas/2019/03/29/9e6f0504-521a-11e9-a3f7-78b7525a8d5f_story.html

[43] Alex Heath, "Q&A: Instagram's New Head of Product, Vishal Shah", Cheddar, Medium.com
https://medium.com/cheddar/q-a-instagrams-new-head-of-product-vishal-shah-8ebba9241591