IP editing in Arabic

collective skepticism reflected in community policy

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Introduction

This report summarizes an investigation into IP editing, also referred to as "anonymous" editing, on multiple Wikipedias. Undertaken on behalf of the [WMF Growth team](#), this research was also carried out in **Spanish**, **Bengali**, and **Japanese** Wikipedias, with the broad goal of answering two questions:

A. Who are the main populations of IP editors, and how are they distributed within the communities that Growth works with?
B. Which populations of IP editors could be encouraged to create accounts, and which populations should be accommodated as IP or "anonymous" editors?

This research indicates that IP editing is a widespread phenomenon, and that the motivations for it are diverse. Furthermore, the nature of IP editing—and community reception of it—differ across Wikipedias.

The main findings of this research include:

- **The policies and tools available to patrollers play a major role in mediating their communities' stance towards IP edits**—communities with effective, time-saving tools may be more receptive of IP edits, while communities that mandate extra or secondary scrutiny of all IP edits may be more skeptical.
- **"Anonymity" has different meanings in different contexts**. For knowledgable editors, being "anonymous" often means avoiding scrutiny of their editing history from other editors, rather than avoiding public disclosure of their IP addresses.
- *Casual* **IP editing is widespread**. Many casual IP editors don't want or need an account to make minor changes, or they prefer not to log in on shared devices.
    - **Many** *casual* **IP edits come from** *potential* **new editors** who are experimenting and exploring, and who may not know how easy it is to create a Wikipedia account.
- *Strategic* **IP editors often log out in order to work on specific, controversial topics.** Editors' association with these topics may result in unwanted scrutiny from other editors, and it may also impede their ability to maintain their social networks and communications with others in the community.
- *Strategic* **IP editing is highly variable between Wikipedias**—communities that attach higher stakes to editing controversial topics may see more frequent and more visible strategic IP editing.

Methodology

A. Research began by **collecting and interpreting WMF metrics** that describe different characteristics of IP editing in 13 candidate Wikipedias specified by the Growth team. These metrics include:

- Revert rates by community and by platform,
- Numbers of pages edited and new pages created by IP editors,
- IP editor contributions to non-content (e.g., Talk) pages,
- Main topic areas worked on by IP editors,
- Comparisons of IP and logged-in, non-bot editors, and
- Comparisons of IP and New Editors.

After exploring this data, the pool of study communities was narrowed to four—**Arabic**, **Spanish**, **Bengali**, and **Japanese**—each of which present unique characteristics of IP editing. Arabic appears to be very skeptical of IP edits based on revert rates, for example, while Spanish and Japanese appear to treat IP edits similarly to those made by New Editors.

B. Within each of the four study Wikipedias, **anonymous, unrecorded background conversations** were conducted with community experts—many of whom had some sort of pre-existing relationship with the WMF—in order to explore and interpret the broad trends that had emerged from an examination of the metrics associated with IP editing.

C. Following these conversations, **a survey was prepared, translated, and distributed** in the study communities. This survey aimed to explore community stance and editor beliefs regarding IP editing, including editors' view of the risks posed by visible IP addresses, the relationship they see between IP editing and vandalism, and range of possible motivations for IP editors that might be observable in their communities.

D. Finally, editors who indicated their interest during the survey were invited to participate in a **60-minute, semi-structured interview** in which previously identified topics and themes were explored. Several participants in Arabic, Spanish, and Japanese were also shown early versions of an [IP Masking prototype](#).

IP editing across Wikipedias

See Appendix B for a more detailed presentation of the metrics that support the statements in this section.

A spectrum of IP acceptance: From Japanese to Arabic

Wikipedias tend to be highly variable in both the rate at which their IP edits are reverted, and in the proportion of total unreverted edits that come from IP. Among a starting pool of 13 study Wikipedias—summarized in the Appendix—Japanese numerically appears to be the most "accepting" of IP edits, while Arabic emerges as the least accepting study Wikipedia.

IP contribution to total unreverted edits: From a lot (Japanese) to a little (Arabic)

Study Wikipedias present a range of IP contribution rates to the total of unreverted, non-bot edits, with Japanese receiving the largest contribution and Arabic receiving the smallest.

- IP edits always make a larger contribution to mobile edits than they do to desktop.
- The proportion of IP edits to non-content pages mirrors their contribution to content pages—as the overall rate of IP contribution rises, so does their contribution to non-content pages.[1,2]

Proportion of IP edits to total non-bot edits[3]

	%IP (total)	*%IP (mobile)*	*%IP (desk.)*	*%IP (non-content)*
ja	26.3%	37.5%	22.7%	11.0%
es	20.0%	43.9%	14.7%	6.0%

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[1] There is a weak positive correlation (Pearson) between *total unreverted IP %* in content and non-content pages; $r = .41$***.

[2] For all statistical tests, * indicates $p < .05$; ** indicates $p < .01$; *** indicates $p < .001$.

[3] The percentages in this table represent the average monthly number of unreverted IP edits divided by the average number of unreverted, logged-in, non-bot edits for the year 5/2020-5/2021.

bn	9.4%	16.2%	5.4%	2.1%
ar	5.0%	17.1%	2.2%	1.7%

A range of reversion: From relaxed (Japanese) to constant (Arabic)

Study Wikipedias also fall along a spectrum with respect to the rate at which they revert IP edits, with Japanese reverting IP the least frequently and Arabic reverting the most frequently.

- IP mobile edits are the most frequently reverted of all platform types, while IP desktop edits are the least frequently reverted.
- The influence of individual Wikipedia's policies are apparent in revert rates:
  - **Arabic's** Flagged Revisions policy mandates that IP edits receive extra scrutiny, and Arabic IP edits are correspondingly reverted at a much higher rate than those of other Wikipedias.
- **Bengali** has consistently low revert rates for IP edits, however the overall contribution of IP edits to total unreverted edits in Bengali Wikipedia is low compared to most other study Wikipedias (9%).

Revert rates by platform[4]

	IP mob. web	IP mob.	IP desk.	IP total
ja	.23	.22	.08	.13
bn	.35	.34	.15	.26
es	1.16	1.14	.73	.89
ar	2.94	2.85	1.21	2.27

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[4] Revert rates were calculated by dividing the number of reverted edits by the number of unreverted edits for a given Wiki for a particular month. Rates presented here represent the average of monthly totals for each Wikipedia for the period representing 5/2020-5/2021.

Additionally, the higher an individual Wikipedia's IP revert rate is, the lower the contribution of IP edits to that Wikipedia's total unreverted edits[5]—i.e., the more a Wikipedia reverts IP edits, the smaller the overall contribution of IP edits to all unreverted non-bot edits.

Different distributions of IP edits: From dense (Japanese) to dispersed (Arabic)

A measurement of IP edit density[6] reveals that "useful"—i.e., non-reverted—IP edits also fall along a range between study Wikipedias. In Arabic, each article edited from IP saw an average of .53 unreverted IP edits, while in Japanese, IP-edited articles had an average of 1.98 IP edits. In other words, Japanese articles worked on by IP editors see roughly four times the number of retained IP edits per article than Arabic articles worked on by IP editors.

Wikipedias revert IP more frequently than New Editor edits (except for Japanese)

All study Wikipedias—with the exception of Japanese—revert IP edits at a higher rate than they revert edits by New Editors.[7]

- **Japanese** is the only study Wikipedia in which NE edits are reverted at a *higher* rate than IP edits during the study period, regardless of platform. However, the reversion rates for both groups are very similar.
- **Arabic** again displays the effects of policies that affect the reception of both NE and IP edits.
  - Arabic reverts NE edits at the highest rate of all study Wikipedias (.59 over the year 2020-21), and it also reverts IP edits at the highest rate (2.27) of all study Wikipedias..
  - The Arabic Flagged Revisions policy subjects both IP and NE edits to secondary scrutiny, which likely contributes to the higher revert rates for both groups.

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[5] There is a weak negative correlation (Pearson) between the *total percentage of IP edits* to *total IP revert rate* among the 13 study Wikipedias, based on the monthly averages of those variables for the period 7/2019-5/2021; r = -.22**

[6] *IP edit density* was calculated by dividing the number of unreverted IP edits by the total number of articles edited from IP for each month in the study period (5/2020-5/2021).

[7] "New Editors" (or NE) refers to edits made by non-bot accounts with an account age of 0-30 days.

- *Mobile* is the most-frequently reverted platform for both IP and NE edits, while *desktop* is the least-frequently reverted for both groups.

IP vs New Editor revert rates

	NE mob. web	IP mob. web	NE mob.	IP mob.	NE desk.	IP desk.	NE total	IP total
ja	.25	.23	.24	.22	.14	.08	.18	.13
es	.66	.116	.65	.114	.35	.73	.43	.89
bn	.20	.35	.20	.34	.08	.15	.14	.26
ar	1.26	2.94	1.27	2.85	.22	1.21	.59	2.27

IP editing in Arabic: Community skepticism of "anonymous" edits

The Arabic editing community is largely skeptical of IP edits and IP editors—among the larger Wikipedias, Arabic presents a very low rate of contributions from IP, and IP edits themselves are reverted at a far higher rate than those made to other study Wikipedias. Arabic participants in this research tend to articulate the view that IP editing is widely used to commit vandalism, and indeed the structural limitations placed on IP editing by the community exceed those seen in Wikipedias of comparable size.

Viewed from one perspective, Arabic's skepticism toward IP editing may appear to be contradictory—on the one hand, active community members tend to be highly aware of the risks associated with surveillance of online activity, given that many or most of them live in regions where such surveillance is a real and visible risk. On the other hand, many community members also describe a community dynamic in which disclosing certain aspects of an editor's offline identity is an important social resource.

This research indicates that the Arabic community's IP skepticism derives from several interrelated, Arabic-specific phenomena:

- **The [Flagged Revisions](#) policy mandates that every IP edit receives secondary scrutiny** by an approved patroller, greatly increasing the time and resources necessary to patrol IP edits.
- **Identifiability as a human being is a key component of editor legitimacy**—identifiability helps maintain relationships, and identifiability becomes more important as an editor becomes more involved in the community.
- **Cultural and political trends in the Arab world** may combine to produce skepticism of "anonymous" actors and activities.

It may not be possible to separate these factors from each other to determine a singular "cause" of Arabic Wikipedia's observed IP skepticism. However, the sweeping application of Flagged Revisions unquestionably produces a situation in which a limited population of patrollers is required to expend a great deal of additional time and energy patrolling IP edits. In this situation, quick revision of IP edits is often easier, faster, and more consequence-free than revision of edits coming from accounts.

The Arabic community

See appendix A for a more detailed description of the Arabic survey respondents and interview participants.

Arabic Wikipedia is highly skeptical of IP edits and editors

Through both their survey responses and interview participation, Arabic editors who participated in this study collectively indicate that the Arabic community has a highly skeptical stance towards IP edits and IP editors. Although many participants acknowledge that this skepticism may be sometimes misplaced, and that IP editors often make "good" edits and have legitimate reasons for not logging in, experienced editors as a whole tend to see a clear link between IP editing and non-encyclopedic behavior that includes vandalism, advertising, and promoting political or religious ideologies.

A lot of people only try to commit vandalism due to its ease of commission in light of the lack of a requirement to create an account. This places the true editors in a problem, because all of the new articles and edits are viewed with suspicion by the patrollers. – interview participant

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For many Arabic editors, "IP" = "vandalism"

Arabic participants stressed the relationship between IP editing and vandalism, noting the apparent lack of consequences associated with anonymous vandalism. The IP-vandalism connection was also emphasized in [a recent public discussion about the IP masking initiative](#) among established Arabic community members. Participants in this discussion generally mentioned IP editors in conjunction with their alleged intent to commit vandalism. In addition to vandalism, interview participants also noted the relationship between IP editing and advertising in the Arab World—companies and individuals that use Wikipedia for promotional purposes are seen as forming a noteworthy subset of IP edits.

For their part, the 12 Arabic patrollers that responded to the survey also collectively indicated that *more*, rather than *less* vandalism in Arabic comes from IP editors:

In your opinion, how much vandalism on Arabic Wikipedia comes from IP?

5				
4				
3				
2				
1				
0				
1 (very little)	2	3	4	5 (a great deal)
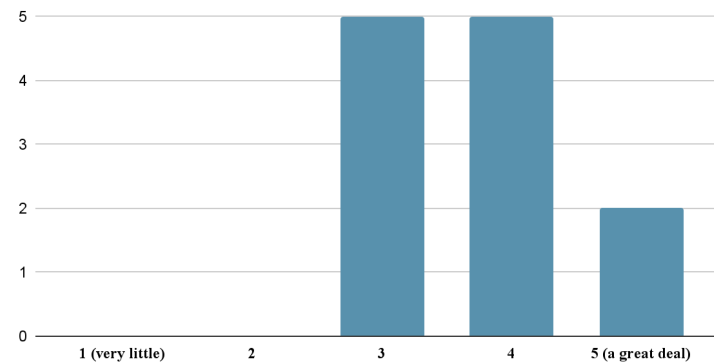
I don't understand a lot about technology, but I know that IP addresses represent a vandalism threat to us in Wikipedia, and they represent a threat of privacy violation for their owners. — Arabic editor commenting on IP masking proposal

Patrollers see IP vandalism in specific controversial topics

Experienced Arabic editors tend to hold a nuanced view toward IP vandalism—interview participants point out that, while IP vandalism is generally widespread, it is also disproportionately concentrated in a few controversial topic areas, including politics, histories of religions, and articles related to ethnicities.

Arabic topics and topic areas regarded as receiving disproportionate IP vandalism
- [The crown prince of Saudi Arabia](#) article is frequently vandalized from IP.
- The [Tunisian president Qays Said](#)'s article shows recent evidence of vandalism from IP.
- Evidence of ongoing regional geopolitical disputes can be seen in the [Western Sahara article](#), in which IP addresses have made multiple contributions that are quickly reverted.
- Articles related to the [Arab tribes](#) and historical religious figures also see a lot of IP-derived vandalism, as IP editors attempt to change information in family trees, for example.

- Article topics relating to sexuality, gender, and non-conforming human behavior are also noted as being frequently vandalised from IP, including [the LGBT Community](#).[8]

Usually, anonymous editors commit vandalism because they know that they won't be blocked or identified. – interview participant

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IP and New Editors can both be problematic, but IP is *more* problematic

- Arabic patrollers report that they scrutinize IP and NE edits equally, but they revert IP more frequently.
- Edits made by an account imply more social responsibility on the part of patrollers, while reverting IP edits is consequence-free.
- Some participants find that the Arabic community has become increasingly skeptical of IP editing in recent years.

Arabic patrollers consulted for this research tended to express the fact that they pay equal attention to IP and New Editor edits, and that both types of edits are frequently problematic. Both types of edits are subject to the Flagged Revisions policy, as well, which mandates secondary scrutiny by approved patrollers.

Many editors and patrollers engage in an almost automatic revision of IP edits, almost as if, when there's an IP edit, they click immediately on revert.
— interview participant

When asked what groups they pay attention to most when patrolling, the 12 self-identified Arabic patrollers who responded to the survey indicated that they pay attention to IP editors and New Editors equally:

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[8] Referred to in Arabic as مجتمع الميم *mujtamaʕ-u l-mīm* "the M community," because the names of the constituent groups all begin with the Arabic letter م *mīm* "M".

What groups do you pay the most attention to when patrolling?
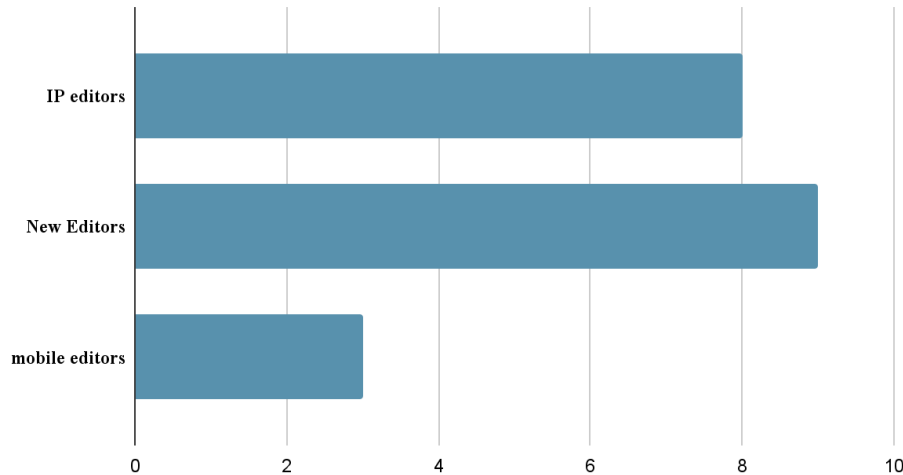
However, although they report paying attention to both groups equally, consulted patrollers also tended to agree that IP edits are generally *more problematic* than those made by New Editors. This agreement is reflected in revert rates—as noted above, Arabic IP edits were reverted at roughly four times the rate of New Editor edits during the study period. Arabic patrollers themselves corroborate this through their survey responses, in which the 12 patroller respondents collectively indicate that they tend to *almost always* revert IP edits when they see them:

How often do you revert IP edits when you see them?
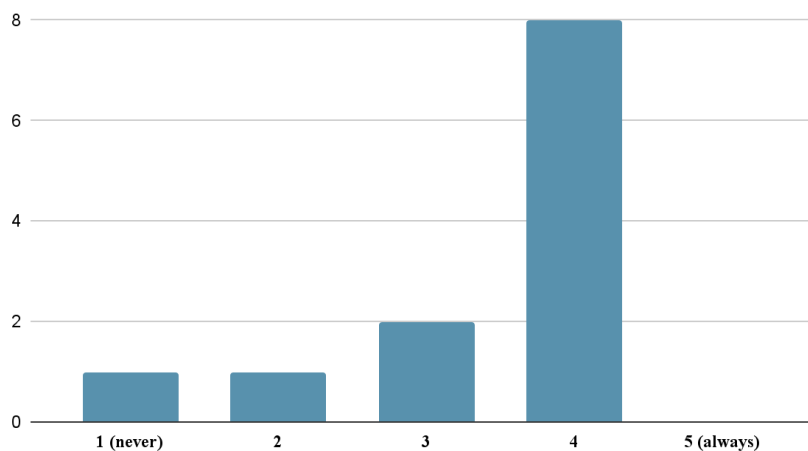
It's very easy to revert IP edits. The reverters don't think about it. Who's going to complain about it? — interview participant

When asked about the tendency of Arabic patrollers to treat IP edits more skeptically than those made by New Editors, interview participants often focused on the social consequences of revision. Given that IP edits aren't associated with accounts, and given that they are often reflexively viewed through the lens of vandalism, patrollers often face very limited consequences for quick reversion of an IP edit. An account-holding New Editor, however, may ask the reverter for clarification, appeal to their mentor, or otherwise make use of the mechanisms of appeal that are often under- or un-utilized by IP editors. Ultimately, edits made by an account—even an account held by a New Editor—imply a greater degree of responsibility and are correspondingly reverted with more caution.

Some unfortunately revert IP edits immediately, which is a perennial and old dispute. The correct thing to do is evaluate the "edit" and not the "editor." — Arabic editor commenting on IP masking proposal

Finally, interview participants who described their own past or current IP editing behavior also noted that they have observed an increasing skepticism towards IP edits in recent years.

If I started now, I'd create an account because now in 201, no matter how simple or good [my IP edit] is, an admin will immediately revert it. — interview participant

Patrolling multinational Wikipedias may be difficult

- Quick rejection of new articles subject to Flagged Revisions may be more efficient than attempting to make notability judgements about topics from distant national contexts.

When asked why the reception of IP edits appears—at least according to WMF statistics—to be relatively more skeptical in Arabic Wikipedia than in other Wikipedias of a similar size, some interview participants noted the fact that Arabic Wikipedia encompasses an incredible diversity of countries, cultures, ethnic and linguistic backgrounds, and points of

view.[9] In such a context, it might be difficult for a patroller from Lebanon to easily make a judgment about the notability of an article subject from Morocco, for example.[10]

The 16,000-editor question: Should Arabic Wikipedia require an account to edit?

- In spite of the widespread association of IP edits with vandalism, consulted community members generally agree that Arabic Wikipedia should remain open to IP editing.
- IP participation is regarded as absent from these kinds of high-level policy discussion in Arabic.

Given that experienced community members tend to closely associate IP editing with vandalism and other non-encyclopedic behaviors, interview participants were asked if it wouldn't be more effective to simply block all IP edits outright, for example as the Portuguese Wikipedia community decided to do in 2020. Most interview participants acknowledged that such a decision would likely have supporters in the Arabic Wikipedia community, given that many editors do indeed have a reflexively negative view of IP edits and editors. However, interview participants—most of whom have deep experience in the community—also noted that such a decision would run contrary to the movement's guiding philosophy that "anyone can edit."

Even though we don't have a lot of people who edit anonymously, we should always keep this principle alive. — interview participant

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When asked how important it is that "people can edit Wikipedia without logging in to an account," most of the 19 survey respondents corroborated this view, providing responses that clustered around *extremely important*:

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[9] The Arab League has 22 Arabic-using member states, for example, not to mention the various large Arab diaspora communities around the globe. Participants interviewed for this report joined from four Arab countries and three European countries.

[10] Arabic admins and power editors also tend to be concentrated in specific regions of the Arab World, which may in turn privilege the coverage of topics and articles associated with those regions.

How important is it that people can edit Wikipedia without logging in to an account?
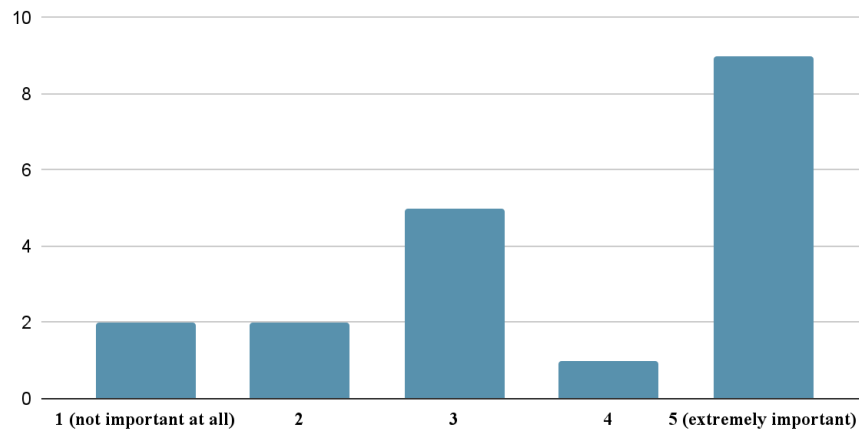
Finally, IP editors themselves may be largely absent from this type of high-level policy question—IP editors are regarded as rarely participating in public discussions outside of occasional contributions to talk pages. Their participation in public discussions on the policy scale is regarded as rare.

Arabic IP editors

Arabic IP editors have legitimate reasons for not logging in

- Consulted Arabic editors broadly agree that **many IP edits are legitimate**:
  - *Casual* **IP edits** are made by less experienced editors, and likely make up the majority of legitimate Arabic IP edits.
  - *Strategic* **IP edits** by knowledgeable editors are less common, but nevertheless represent an attempt to navigate potentially limiting community dynamics.

In spite of the prevailing Arabic community association of IP editing with vandalism, interview participants and survey respondents generally agree that *some* IP editors have legitimate reasons for wanting to edit "anonymously." When the 19 Arabic survey respondents were asked to rank several possible IP-editing motivations in order of importance, *committing vandalism* was indeed the second-highest ranked motivation. The highest ranked motivation, *working on controversial topics*, however, can be considered a legitimate reason for IP editing.[11]

How important are the following reasons for explaining why some editors don't log in?	*mean*	*SD*	*#*
Working on controversial topics	2.59	.71	17
Committing vandalism	2.32	.82	19
Disputes with other editors	2.22	.81	18
Not seeing the value in having an account	2.21	.63	19
Avoiding government surveillance	2.17	.79	18
Forgot to log in	1.89	.74	19
Forgot password	1.84	.83	19
Not wanting to create a personal edit history	1.83	.71	19

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[11] For each motivation, respondents were asked to select *not important at all*, *somewhat important*, or *very important*, to which scores of 1, 2, or 3 were respectively assigned.

Only wanting to make minor edits (e.g., spelling)	1.79	.71	19
Wanting to avoid advertisers	1.41	.51	17

Survey respondents also suggested other possible motivations for IP editing, including:

- Avoiding bans and blocks,
- Editing from a device that's not their own, and
- To save time.

Excluding vandalism, avoiding blocks, and other forms of non-encyclopedic behavior such as advertising, the *legitimate* motivations for IP editing in Arabic can be grouped into two broad categories:

Casual IP editing	Strategic IP editing
Editing from public/non-owned device	*Working on controversial topics*
Quick typo correction	*Avoiding disputes with other editors*
Forgot password/forgot to log in	*Avoiding government surveillance*
Not understanding/not seeing the value in having an account	

Casual IP editing

- *Casual* IP edits make up the majority of legitimate IP edits in Arabic, and often come from *potential* new editors who are experimenting, exploring, and otherwise figuring out how Wikipedia works.

Exploration by *potential* new editors

A great deal of Arabic IP edits are likely made by *potential* new editors who may not fully understand the functions of Wikipedia or IP addresses. In fact, many new Arabic editors apparently have some degree of prior editing experience at the time they create their accounts—out of approximately 100,000 Arabic responses to [the Growth team's Welcome](#)

[Survey](#) directed at new account holders, 18% of respondents report prior editing experience.[12]

Working on others' devices

- Editing from a non-owned device simultaneously reduces the perceived risk of IP disclosure, as well as increases the pressure to edit while logged out.

Interview participants also stressed the frequency with which many Arabic editors can find themselves editing on devices that don't belong to them. Many editors are students who make use of their schools' or universities' computer labs. Many other editors reside in countries with limited digital penetration and infrastructure.[13,14] These editors may often find themselves editing from internet cafes or similar public locations, and many of them may be reluctant to sign in to a personal Wikipedia account that may divulge—or be perceived to divulge—personal information about the account creator when accessed.

The fastest and easiest way to correct mistakes. Thousands of weekly edits to correct simple mistakes come from IP. Creating an account and logging in just to fix a simple typographical error isn't practical. — survey respondent

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Casual IP editors supply essential labor

- IP editors supply a great deal of error-correcting labor, even in IP-skeptical Arabic Wikipedia.
- Many *casual* IP edits come from *potential* new editors who may not know how easy it is to create an account.
- Account creation is likely more appealing for editors who want to participate in the social aspects of the community, and less appealing for editors who want to quickly and occasionally make minor edits.

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[12] Approximately 8% of Arabic respondents report "few" previous editing experiences, and 10% report "many." These percentages are roughly equal for the 39,000 desktop responses and 64,000 mobile responses.

[13] The WikiArabia 2021 conference included a presentation by the [Wikimedia Sudan User Group](#), for example, which touched on the serious challenges related to digital penetration and digital literacy in that country.

[14] [The digital divide](#) between the countries that contribute to Arabic Wikipedia is extreme—while only 3% of Kuwaitis report never using the internet, for example, 42% percent of Egyptians are offline.

Some editing prior to account creation may derive from the fact that internet users—Arabic-speaking or otherwise—may be reluctant to create a semi-permanent account when their intended task can be accomplished without one. Some interview participants speculated that many potential Wikipedia editors may also not know that the amount of time and information disclosure necessary to create a Wikipedia account is actually quite limited when compared to other popular online networks.

The first time you do an edit on Wikipedia you think, this is so cool, this is so powerful. . . . Creating an account is an unnecessary hassle at the moment you do it. — interview participant

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Furthermore, logged-out, error-correcting Arabic IP editors are viewed by many in the community as a source of essential labor. IP editors supply a great deal of orthographic and linguistic error correction, and many of them may not be sufficiently motivated to create an account if they don't see value in having one—having an account may be more appealing for those editors interested in joining a community.

I created an account [after 4 years] because I knew there was a community and I wanted to climb the ladder. — interview participant.

Strategic IP editing

- *Strategic* IP edits likely make up a smaller proportion of legitimate Arabic IP edits, and they are made by editors who have relatively more knowledge about how the community functions.
- *Strategic* IP editing encompasses a series of motivations held by knowledgeable editors who are attempting to navigate specific Arabic community dynamics.

Avoiding unwanted scrutiny

- Editing certain topics can attract unwanted attention from other editors. It is often easier to log out than it is to manage the hounding and scrutiny that can sometimes pursue editors to other areas of their work.

Interview participants note that certain topics of articles in Arabic Wikipedia may be inherently controversial, regardless of the stances of the individual editors working on

them. These topics—including histories of religions, religious figures, Arab tribes, and royal families—often receive a lot of vandalism, and editing these topics at all may attract unwanted attention and scrutiny that can "follow" the editors to other areas of their on-Wiki work. In these cases, editing while logged out can help editors avoid unwanted stress and complications.

Sometimes I think that if I edit an article that's more likely to be controversial with my name, it will bring more attention than what's objective, and people will start being more scrutinizing, not in an objective way, but rather in a way that I see as counterproductive, just wanting to prove me wrong. Or taking the time to follow my recent edits everywhere just to see what else I have done wrong from their point of view. So you can find yourself quickly in the middle of a virtual attack on your edits, and it gets hectic and tiring. — interview participant.

Maintaining intra-Wikipedia social relationships

- Experienced Arabic editors are largely "known" to each other, and patterns of editing certain controversial topics can harm editors' relationships with other community members.

[Working on these topics] will likely make it difficult for me to have other interactions that are not related to these articles. . . . Some people will think "oh we know this person, he thinks in that specific way, and as such his opinions are not worthy of our attention or fair discussion." — interview participant.

Certain classes of articles—especially those related to forms of non-conforming human behavior—are noted as being potentially stigmatized and stigmatizing within the network of active Arabic editors. In these cases, working on topics related to sexuality, alcohol consumption, etc., may associate an editor with negative stereotypes that might make it more difficult to maintain their social network and interactions with other active editors.

[Editing certain articles makes] it more difficult for me to have interactions in general in the community. Especially articles related to non-conformant behavior such as sexuality, and increasingly even political oriented subjects or matters. Articles about people who are currently in power in the Arab world, about governments, about violations of human rights. . . . Sometimes I think that editing anonymously could be easier or safer or less confrontational with the rest of the Wikipedia community. — interview participant.

Maintaining alternate accounts is inefficient

Interview participants note that, in light of the significant restrictions placed on new Arabic accounts—including primarily the Flagged Revisions policy—the creation and maintenance of alternate accounts for the purpose of editing controversial topics is inefficient. Even in light of the fact that IP contributions are frequently reverted, attempting to improve articles from IP may be more desirable than attempting to curate one or more alternate accounts to the point that a strategic IP editor can use them to contribute without being reverted.

It's expensive, new accounts have many restrictions on them, and there is the danger of someone accusing you of using a dummy account . . . it gets practically equal to editing anonymously. — interview participant.

The IP knowledge gap

- Experienced editors tend to see more potential risk in their intra-community interactions than they do in publicly visible IP addresses.

Several recent WMF research and policy initiatives aim to address the perceived security and privacy risks associated with the public, semi-permanent records of IP addresses displayed on article history pages when editors make non-logged-in changes. These risks stem from the fact that an IP address can potentially be reveal identifiable information such as:

- The device or type of device used to connect to the internet;
- Geographical location;
- Internet service provider;
- School or employer (if an edit is made from a work or school device).

Framing of this issue in WMF discussions often focuses on the fact that, from an information security perspective, editing from a registered account can be regarded as *more anonymous* than editing from IP. Conversations with Arabic editors, however, indicate that the privacy risks associated with IP editing—as well as the meaning of "anonymity" in the Wikipedia context—are not necessarily understood in the same way by the editing communities.

Editors have variable degrees of IP knowledge

- Arabic editors don't fully agree about how much information an IP address reveals, but they generally agree that IP addresses should be hidden from others.

Editors' knowledge of the functions and risks of IP addresses is highly variable. Experienced editors tend to be much more aware of these risks than new editors, and many community members hold the view that IP edits tend to come from potential new community members who simply don't know how Wikipedia and IP addresses work yet.

People—in [my] society at least—don't even know what "IP" means. They're not aware of IPs and the possibility that something exists which could reveal

them. Awareness of this is very limited. The people who know about these things are very rare. — interview participant.

This diversity of awareness is reflected in the responses of the 19 Arabic survey respondents. When asked how much personal information they think their IP address reveals about them, their answers show a notable lack of agreement:

How much personal information do you think your IP address reveals about you?
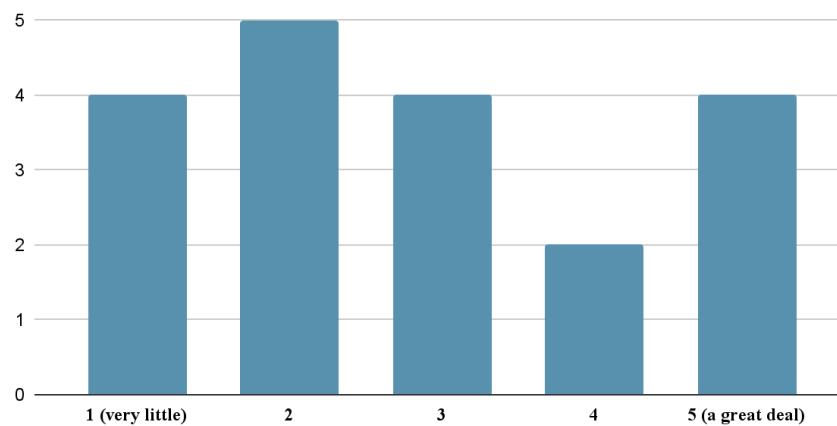
In my case [IP editing] was out of ignorance. . . . You go, click on edit, and you don't know your IP will be shown. You edit, and that's it. — interview participant.

In spite of the lack of consensus regarding how much identifiable information an IP address can disclose, Arabic survey respondents tend to agree that they should be hidden if possible—responses to the question of how important it is that IP addresses be hidden from others on the internet show a clear trend toward *extremely important*:

How important is it that your IP address be hidden from others on the internet?
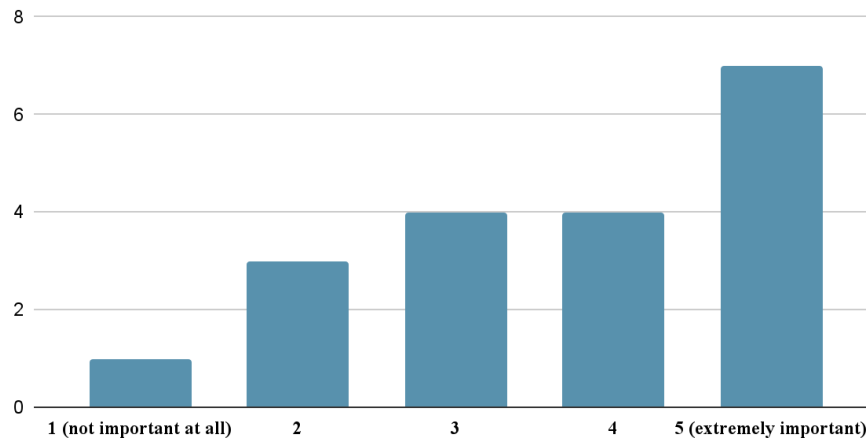
I'm very sure that many people don't know that their IP address is disclosed. Now there's a message, but in my time there wasn't, and I had no clue that there would be some IP shown there. — interview participant.

What does it mean to be "anonymous" on Wikipedia?

- For many Arabic editors, being "anonymous" derives from avoiding an edit history, rather than avoiding public IP records.
- The pressure to log out while editing controversial topics may grow in tandem with editing experience—the longer an editor has cultivated their social network, the higher the stakes of editing while logged in.

Consulted Arabic editors indicate that anonymity is often a valued strategic asset, and that many experienced editors go to great lengths to maintain it. "Anonymity," however, is not typically described as deriving from the hiding of an editor's IP address and the potentially identifying information that their IP address may impart. Anonymity on Wikipedia, rather, is described as *anonymity from other editors*—given that editing controversial topics may attract unwanted scrutiny to an editor's edits and may damage their social relationships, editing from IP is sometimes regarded as more safe, and less revealing, than editing from an account. The pressure to log out may in fact increase as editors become more knowledgeable and have more experience in the community—the longer they've

maintained their online persona, the more they have to "lose" by associating their account with controversial editing behavior.

Usernames don't necessarily map to a physical being, but they map to a persona. An entity that you have created online and cultivated for many years, and in many cases you don't want to jeopardize this persona. . . . And in this sense, editing using this persona is not favorable for many, unless you can create dummy ones and use a new one every time you want to go into one of those anonymous editing expeditions, but we know that this is not easy in Wikipedia. — interview participant.

How do editors see the risks of IP editing?

- Experienced editors are likely to know more about IP addresses and their risks than new editors.
- The *perception of risk* associated with IP addresses varies according to geographical context.

Experienced Arabic editors tend to be more knowledgeable about IP addresses and their risks than newer editors. In the context of this research, however, experienced editors also repeatedly pointed out the fact that IP addresses likely divulge different types of information in different global contexts, and that the very real risks to editors and admins in the Arab world don't solely or even largely depend on governments' access to IP addresses. Finally, Arabic-speaking internet users may generally be more aware of the risks associated with online activities than internet users in other global regions—Arab countries arguably make up the top five VPN users worldwide.[15]

People in the Arab world are versed in the techniques of concealing their IPs and using proxies and VPNs because of the need. Many of them live under regimes where there is censorship, and increasingly people have been aware of surveillance and its dangers. — Arabic interview participant.

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[15] atlasVPN measured VPN penetration as function of VPN downloads vs. total population, resulting in a VPN penetration rate of 16% in Saudi Arabia and 24% in Oman, for example.

Arabic Wikipedia is contributed to by people who live in a number of countries with authoritarian governments that invest a great deal of resources in surveilling their citizens' online behaviors, and Arabic editors tend to be very aware of this. Many Arab governments also invest heavily in the censorship of online information, and are subsequently highly intolerant of online activities—including editing Wikipedia—that could be interpreted as circumventing or undermining those censorship efforts. On the other hand, interview participants knowledgeable about digital security also emphasize that the risks posed by authoritarian governments to editors aren't necessarily centered around editors' IP addresses—the tools available to governments are simply so sophisticated that a publicly visible IP address may not even be the most effective way for an interested government to surveil a specific editor.[16]

Assuming that an IP is an actual mapping to a computer or a house is not entirely correct. It could be, but it's not always the case. — interview participant

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Arabic participants also pointed out that IP addresses may not divulge as much identifiable information in the Arab world as they do in other contexts. Many Arab internet users are assigned [dynamic IP addresses](#) when they connect to the internet. These addresses can change frequently, so that a single editor may log a different IP address for each individual edit. Additionally, large numbers of people may share the same IP address, so that multiple residents of the same apartment building might be logged as editing from the same IP address, for example. Ultimately, the *perception of risk* associated with IP addresses varies according to geographic context.

It might be difficult to establish the place that an edit was made from due to the use in some Arab countries of Dynamic IP addresses which constantly change. The situation in other countries like Europe and the United States is different, so vandalism is easier to commit in the Arab world than it is outside of it. — survey respondent

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[16] The recent [Pegasus scandal](#) was mentioned as an example of the sophisticated tools that governments have access to in order to monitor their citizens' activity. An Israeli company sold software to multiple Arab governments that allowed anyone's phone to be turned into a listening device without their knowledge.

Identifiable account names

Active Arabic editors often disclose personal information through their accounts

- The higher an editor rises in the community, the more pressure they face to divulge personal information through their account.
- Identifiability is a key component of legitimacy, and legitimacy is required to build trust with other editors.

Arabic editors and admins interviewed for this report tend to agree that active Arabic editors, and especially Arabic admins, tend to reveal aspects of their offline identities through their account names at a higher frequency than might be observed in other Wikipedias. Multiple interview participants shared the link to the list of Arabic admins, for example, noting that only 3 or 4 account names of the 26 admins were clear pseudonyms with no connection to the account holders' offline identities. Interview participants also shared the list of top Arabic contributors by edit count, noting that the top range of the list is dominated by accounts that impart some degree of personal information.

For us, writing your real name strengthens the trust that others have. People tend to mistrust anonymous interlocutors. But a real name and picture provides more credibility. This is related to the Arab personality. An Arab person doesn't prefer to deal with someone unknown. I want to know your real name. — interview participant

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Interview participants tend to agree that the use of identifiable account names becomes relatively more important as an editor rises in prominence in the community, and that most of the editors at the "top" of the community are known to each other as real, offline humans. The types of humanity-establishing information that active Arabic editors often disclose via their accounts include:

- Name,
- Profession,
- Nationality,

- Gender identity, and
- Religious identity.

This issue interacts with the public performance of gender identities in Arabic Wikipedia, as well—women editors may face different pressures related to the disclosure of their gender identity than men.[17]

Some—but not all—women prefer not to give us their real names. But they are few. — interview participant

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Editor legitimacy is linked to editor identifiability

Taken together, these observations indicate that identifiability as a human is a key component of legitimacy in the Arabic Wikipedia community, and that this legitimacy is a key factor mediating relationships between editors. Interview participants point out that personal knowledge of their interlocutors on-Wiki is an important resource for managing and resolving disputes. Maintenance of a personal relationship with another human is argued to reduce the aggression of disputes.

Increased involvement in the community leads to increased pressure to disclose

Interview participants noted that the pressures to disclose aspects of their offline identities via their Wikipedia accounts grow in tandem with editors' increased involvement in the community. These pressures can come from multiple directions:

A. **Becoming more active on Commons and other sister sites**

English is the *lingua franca* of Wikimedia communities such as Commons and WikiData, and some Arabic editors report having changed their account names to be more revealing of personal information as they become more active on those sites. Participants note that it's easier to communicate with non-Arabic Commons editors

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[17] [A 2013 study of gender disclosure on a internet forum used by Saudi students](#), for example, found that gender information was an important way through which interpersonal communications were organized. The authors note that "forum users expect an indication of gender. It may not matter in a simple request for information, but when opinions and complaints are voiced, participants want to know more about who they are communicating with, and in particular their gender, to ensure that they respond appropriately" (p. 243).

if their account name is written in Latin letters, and one participant noted that they decided to divulge their offline name as they found themselves communicating and maintaining a social network with an increasingly global audience.

B. Attending Wikimedia conferences and events

The incentives to participate in regional and global events, such as WikiArabia conferences, are often enticing enough for potential attendees to consider compromising their anonymity.

C. Opportunities for employment by the WMF

Active community members who have not already disclosed personal information in their accounts may do so if they are enticed by relatively lucrative—in regional terms—offers of employment with the Foundation.

D. Communicating with other editors in off-Wiki networks

A great deal of Arabic Wikipedia's organizational communications occur in off-Wiki networks.[18] Participation in [several Facebook groups](#)—widely noted as key sites of organizing and communication—requires the use of "real" names, for example. In this context, anonymity-minded editors may simply find that the maintenance of a unified pseudonym across multiple platforms is more time consuming than using versions of their offline names.

Most of the very experienced editors or admins are known [to the community]. And they're known because every now and then they want to go to a conference. We don't have a lot of opportunities for this in our region due to economics. If you have the chance to go to Egypt and get your plane tickets and meals paid for, you might compromise your anonymity. — interview participant

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[18] [Recent WMF research](#) explores the extent to which different global Wikimedia communities rely on off-Wiki communication channels.

How risky is this disclosure?

Interview participants point out that the revelation of personal information through account names and profile pages is actually relatively limited. Partial names or initials, as well as allusions to professional and national identities, are seen as bolstering editors' *implied* identities rather than revealing their *actual* offline identities. Outside observers may find it difficult to establish more concrete information about an editor's offline life beyond the limited information imparted by an account name.

It's personal information, but personally I think that if you didn't know that person from their social media pages or elsewhere, it's hard for you to find out more information about them. — interview participant

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The governance factor

States vs. (anonymous) individuals

Interview participants noted the fact that governments in the Arab world are collectively known to invest significant resources in the surveillance of their citizens' online behaviors. Many of these governments take a correspondingly controlling approach to the production and dissemination of information online, including on Wikipedia. Beyond digital surveillance, however, many interview participants also speculated that the Arabic Wikipedia community's skepticism of IP editing derives in part from the nature of the relationship between Arab states and their individual citizens. Several participants noted that anonymity is not a valued quality on a societal level, and that Arab states have a well-established history of promoting skepticism of anonymous actors and actions.

Being anonymous in our region is not something that is valued. If you're doing something hidden, then you're doing something bad. — interview participant

Real risks to editors and admins

Experienced Arabic editors tend to be quite aware of the stakes associated with editing, and of the fact that the stakes of editing topics that touch on regional politics may be even higher. The fact that several community members have had Wikipedia-related interactions with regional security services is widely known, for example. In a [particularly high profile incident](#) in 2007, an Arabic Wikipedia admin was detained at an airport in the region and pressured to reveal the IP address of a specific editor. Interview participants also recounted other instances in which admins or prominent editors were identified in regional media outlets after editing topics related to regional politics, after which they changed their account names.

I don't come from a very democratic country. I'm interested in writing about politics, but I always think about [my account] being in my name. — interview participant

Interview participants also note that the region's political conflicts are reflected in editing conflicts—for example in the fact that political topics related to Syria, Egypt, and Saudi Arabia see a great deal of vandalism, unresolved debate, and general controversy within the community. In this environment, government surveillance is a real, serious issue, and editors knowledgeable about its severity may often simply avoid editing any topics that might attract it.

Increasingly over recent years, and since the [Arab Spring](#) also, there has been, in my opinion, an increase in authoritarianism within the community.
— interview participant

The policy factor

Flagged Revisions mandates more work for patrollers

Community stance toward IP edits is heavily mediated by the tools and policies in place that determine how much work IP edits are to patrol. As noted above, Arabic's Flagged Revisions policy drastically increases the work associated with patrolling IP edits, and the application of this policy in Arabic Wikipedia is much more wide-ranging than in English, for example, where flagged revisions largely applies to a subset of specific articles that have been flagged as disputed. In light of the fact that the population of Arabic patrollers is limited, Flagged Revisions can be seen as incentivising quick reviews and sweeping revertions.

If you edit as IP on Arabic Wikipedia, you'll be reverted with no notification of why it was reverted. — interview participant

Policies that limit IP editors also limit New Editors

Arabic's Flagged Revisions policy also limits the work and experiences of New Editors, even if New Editor edits aren't met with the same propensity for reversion. Although experienced editors may be knowledgeable enough to create and manage multiple accounts—either in order to work on controversial topics or to more effectively publish non-encyclopedic content—new editors don't have access to this knowledge and are subsequently frustrated by the rejections, reversions, and deletions that result from the Flagged Revisions policy.

New editors often write me asking for their edits to be reviewed. It causes a lot of frustration for new editors. — interview participant

Experienced editors tend to agree that this policy can cause frustration for new editors, who want to see their edits appear directly. It "breaks their enthusiasm for publishing," in the view of an interview participant.

When you're an [established] editor, you can write about anything and people won't delete it. You can do anything you want and it won't be deleted. Admins focus on beginners and IP addresses. — interview participant

Conclusions

Interviewed Arabic editors largely agree with the picture of IP editing painted by WMF statistics—namely that Arabic IP edits are reverted at a far higher rate than in other Wikipedias, that the surviving edits make up a tiny proportion of all edits, and that **the community as a whole is relatively skeptical of IP editing**.

As to *why* the Arabic community appears to be more skeptical of IP editing than other Wikipedias, this research indicates that:

- **The Arabic Flagged Revisions policy** mandates that a limited population of patrollers review every IP edit. In this context, quick reversion is simply an efficient patrolling strategy.
- **The community of experienced Arabic editors values personal relationships**, and identifiability as an offline human is an important source of legitimacy.

In spite of this skepticism, multiple populations of Arabic editors nevertheless appear to engage in IP editing for various legitimate reasons. *Legitimate* IP editing can be grouped into two categories:

- **Casual IP editing** by new and *potential* new editors who are interested in saving time, making minor edits quickly, and are uninterested in creating accounts; and
- **Strategic IP editing** by experienced editors who want to work on controversial topics, but want to avoid the negative social consequences of doing so.

Finally, this research also indicates that the alleged risks associated with IP editing, as well as the meaning of the concept of "anonymity" itself, are not necessarily understood in the same way by all stakeholders. For many editors,

- **Perceived editing-related risks more often come in the form of unwanted scrutiny and damaged relationships**, rather than from public disclosure of the IP address they happen to have been assigned at the time of editing.
- **"Anonymity" means avoiding an identifiable link between editors' accounts and editing behavior**, rather than avoiding the public disclosure of their IP address.

Appendix A: Arabic participants

This investigation connected with a group of experienced and knowledgeable Arabic community members. Participants included 19 survey respondents and 10 editors who participated in interviews and conversations:

1. Unrecorded background conversations with community experts (4 conversations).
2. A survey distributed on-Wiki and in off-Wiki networks (19 responses).
3. Semi-structured, recorded interviews with active editors (6 interviews).
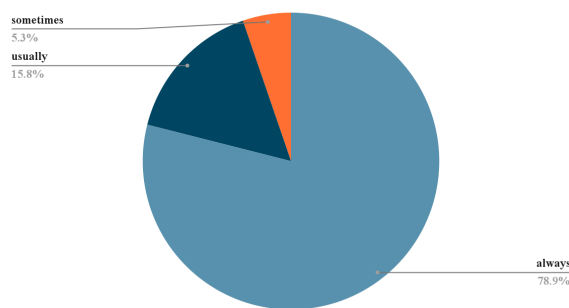
Arabic participant characteristics

- Arabic participants were experienced editors: Most survey respondents (53%) report more than 5 years of editing experience.
- Most survey respondents (76%) *always* log in while editing.
- Most survey respondents usually edit from desktop.
  - Most (14; 74%) usually edit from a desktop, while 4 (21%) edit from both mobile and desktop. A single respondent reports that they usually edit Arabic Wikipedia from a phone.
- Most respondents consider themselves patrollers (12; 63%).

How long have you been editing Arabic Wikipedia?

Less than 1 year
10.5%

More than 5 years
52.6%

More than 1 year, but
36.8%
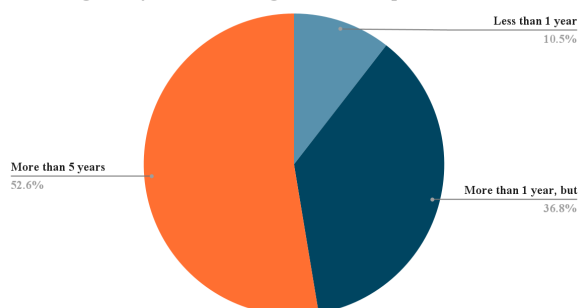
How often do you log in to your account when editing?

sometimes
5.3%

usually
15.8%

always
78.9%

Appendix B: Presentation of metrics

What can we say about the role of platform?

- IP edits always come more frequently from mobile.
- The rate of unreverted IP contributions to content pages does not appear to have a significant relationship to IP contributions to non-content pages.
  - **Bengali** is the only Wiki that sees the rate of IP contributions to non-content pages correlate significantly with the rate of IP contribution to content pages (r = .61*).
- In nearly all cases, *IP mobile web* edits see the highest rate of reversion. In the case of **Arabic**, the number of reverted *IP mobile web edits* is nearly three times higher than those that remain unreverted.
- In **Dutch**, **French**, and **Spanish**, on the other hand, *IP mobile web revert rate* is much lower. In these, IP edits make up half of all unreverted mobile edits.

| | **Proportion IP edits** | | | | | **Revert rates** | | | | | | |
	%IP (total)	*%IP (mobile)*	*%IP (desk.)*	*%IP (Talk)*	*NE mob. web*	*IP mob. web*	*NE mob.*	*IP mob.*	*NE desk.*	*IP desk.*	*NE total*	*IP total*
ja	26.3%	37.5%	22.7%	11.0%	24.9%	22.8%	24.2%	22.3%	14.4%	8.2%	17.6%	13.0%
es	20.0%	43.9%	14.7%	6.0%	65.5%	115.7%	64.8%	113.6%	34.6%	72.5%	43.0%	88.8%
ru	18.5%	49.5%	15.6%	10.9%	53.5%	77.2%	53.3%	75.1%	15.0%	24.6%	23.2%	35.9%
en	17.5%	41.7%	13.8%	3.5%	68.3%	66.8%	67.3%	64.7%	35.2%	33.4%	42.8%	43.3%
fa	13.0%	32.2%	3.9%	1.7%	48.4%	112.8%	48.4%	112.1%	24.3%	72.5%	36.8%	103.9%
fr	12.6%	51.6%	8.8%	1.8%	42.3%	51.3%	30.2%	49.5%	19.4%	21.3%	22.7%	31.5%
nl	12.0%	48.9%	9.4%	2.4%	42.4%	73.3%	49.0%	69.0%	19.4%	46.2%	22.9%	52.2%
pl	11.7%	37.2%	10.1%	9.7%	66.6%	89.1%	65.6%	86.6%	19.0%	38.6%	26.6%	47.8%
cs	10.5%	45.7%	2.9%	3.6%	48.4%	85.0%	47.0%	81.1%	10.9%	34.2%	14.6%	45.1%

|											
pt	9.0%	21.1%	6.4%	1.7%	71.9%	68.0%	71.3%	67.3%	29.2%	38.2%	42.7%	50.2%
bn	9.4%	16.2%	5.4%	2.1%	20.0%	34.6%	20.1%	33.6%	8.2%	15.3%	14.0%	26.3%
tr	7.7%	19.6%	5.9%	2.2%	72.5%	135.0%	72.5%	119.7%	17.3%	45.2%	32.5%	69.6%
ar	5.0%	17.1%	2.2%	1.7%	126.0%	293.5%	126.6%	285.3%	22.2%	121.1%	58.8%	227.3%

How do IP edits compare to New Editor edits?[19]

- IP edits are generally reverted at a slightly higher rate than NE edits.
- **Japanese** stands out as the only target Wiki in which new editors are reverted at a higher rate than IP editors. Both revert rates are markedly lower than those seen in most other target Wikis.
- **Arabic** is notably less receptive to NE edits than the other Wikis in this pool, reverting NE edits at a rate of .59 over the last year. Most of this is driven by frequent reversion of *mobile* edits by NEs, while *desktop* NE edits are reverted at a rate comparable with other study Wikis.
    - The Arabic reversion of NE edits—even those coming from *mobile*—is still dwarfed by reversion of IP edits. These two types of edits are received differently in Arabic,
- In several Wikis, the IP revert rate has shown a negative correlation with the proportion of unreverted IP edits over the past three years. These include **Arabic** (r = -.81***), **Bengali** (r = -.69***), **Czech** (r = -.43*), **Polish** (r = -.69***), and **Turkish** (r = -.64***).
    - In these Wikis, IP edits are reverted at a lower rate as the proportion of total unreverted IP edits has grown, or vice versa.
    - In **Dutch**, on the other hand, the rate of IP reversion has increased in tandem with the proportion of unreverted IP edits (r = .56**).
- In **English**, the rate of NE reversion has changed in tandem with the proportion of unreverted IP edits (r = .51*) over the past three years, while in **Polish** these variables have a negative relationship (r = -.42*). In other words, in **English**, NE edits are reverted less frequently as the proportion of IP edits grows, while Polish shows the opposite relationship.
- The unique (among these Wikis) **Japanese** approach to reversion of IP vs NE edits over the past three years can be observed in the graph below. In Japanese, IP edits

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[19] New editors were defined as editors falling into account tenure buckets combining to 0-30 days.

are treated with slightly more leniency than NE edits, and IP desktop edits are—uniquely among the study Wikis—the least-reverted of these four types of edit:
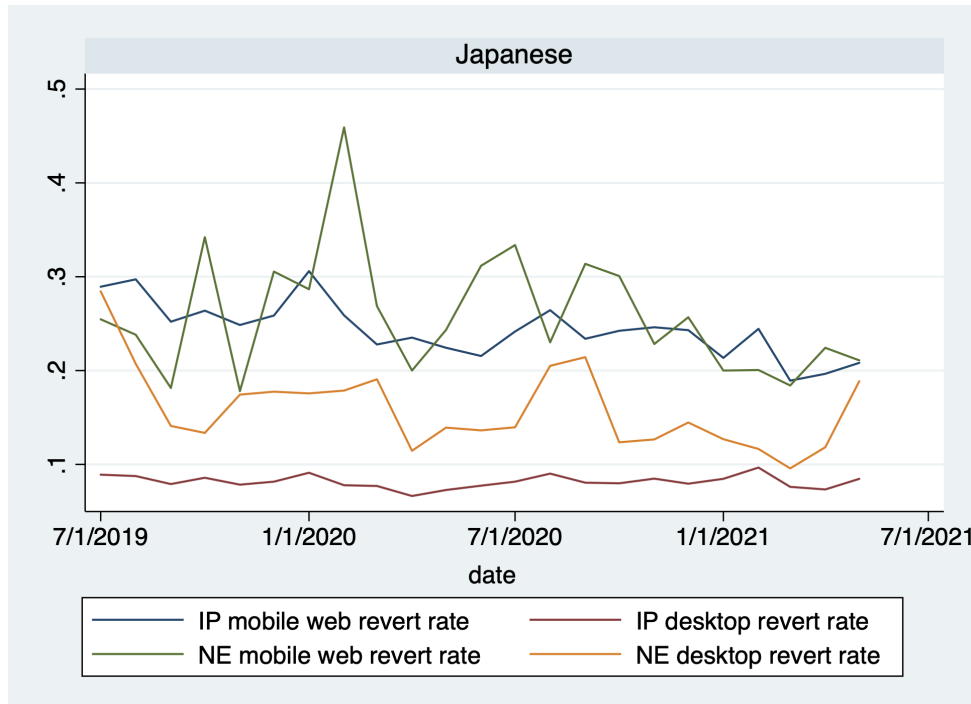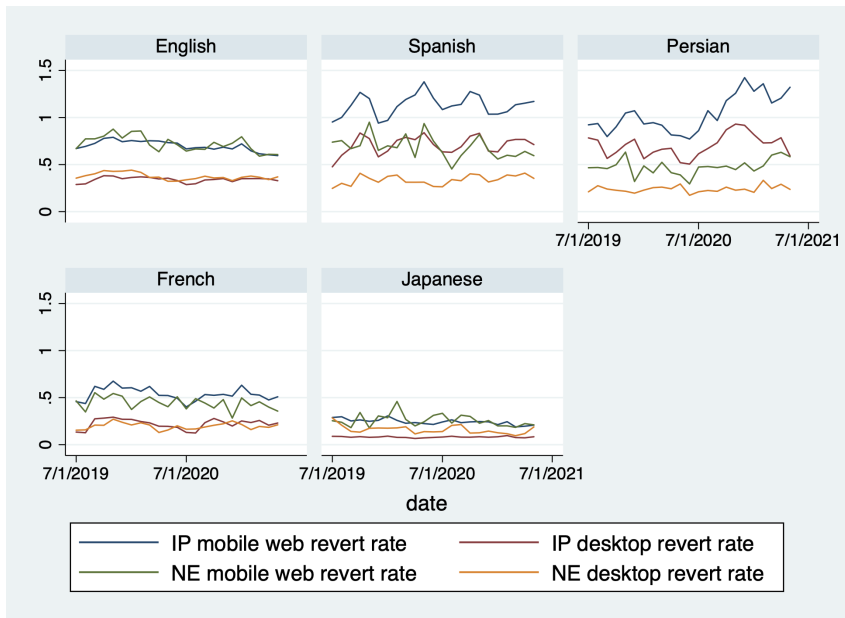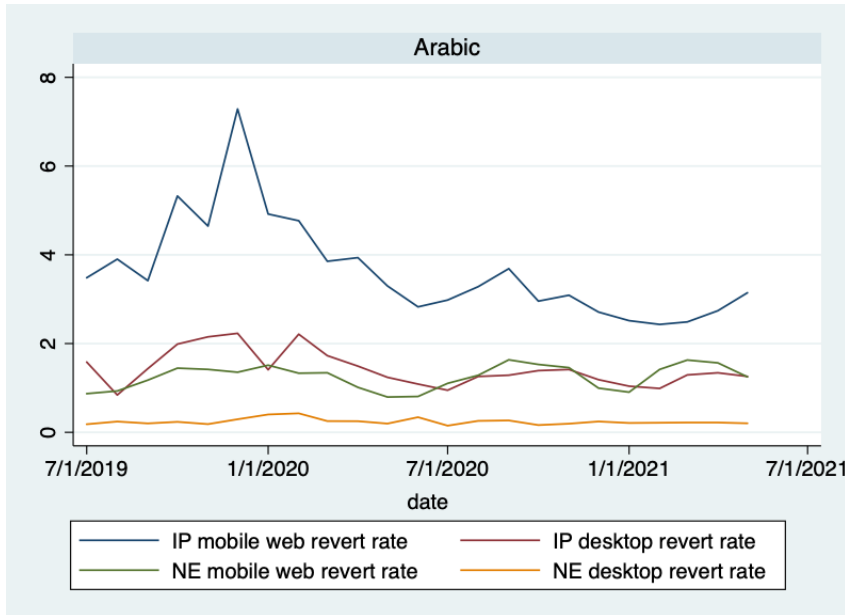
How dense or dispersed are IP edits?

An *IP density index* represents the number of unreverted IP edits divided by the number of pages edited by IP editors in a given month. The numbers reported in the table below

represent the average number of individual unreverted IP edits per page worked on by IP editors during the year 5/2020-5/2021.

- The **Japanese vs Arabic** comparison remains meaningful, as these Wikis continue to find themselves on the opposite side of collected metrics during the time frames under investigation.
- **Arabic** and **Turkish**, on the other hand, tend to resemble each other, at least according to the metrics presented here.

Project	*# unreverted IP edits per pages edited by IP*
Bengali	2.04
Japanese	1.98
English	1.86
French	1.65
Spanish	1.60
Russian	1.60
Portuguese	1.53
Dutch	1.38
Czech	1.29
Persian	1.26
Polish	1.17
Turkish	1.13
Arabic	.53

What main topics do IP editors tend to work on?

IP editors in the pool of target Wikis tend to work on main topics (as determined by ORES) at relatively similar rates, with most IP edits occurring in the *Culture* and *Geography* topics.[20]

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[20] Percentages presented here represent the total number of edits for a given category divided by the four-category-total for each target Wiki. Data was collected via Superset and represents the year period between 06/2020-06/2021.

No target Wikis see more than 10% of IP edits occur in *History and Society*, and only Czech sees more than 10% of IP edits occur in the *STEM* category. On the other hand, only Bengali sees *less than* 30% of IP edits occur in the *Culture* category.

IP edits by topic

	Culture	*Geography*	*History and Society*	*STEM*
ar	41.8%	42.6%	6.5%	9.1%
bn	28.4%	59.2%	5.3%	7.1%
cs	37.0%	40.4%	7.5%	15.1%
en	52.9%	32.1%	7.2%	7.7%
es	52.6%	31.3%	6.0%	10.1%
fa	40.7%	46.2%	4.6%	8.5%
fr	47.7%	38.0%	6.7%	7.6%
ja	43.9%	44.8%	6.1%	5.2%
nl	43.0%	40.6%	6.2%	10.2%
pl	41.2%	43.7%	6.5%	8.7%
pt	56.1%	31.9%	5.4%	6.6%
ru	31.2%	53.4%	7.3%	8.1%
tr	43.9%	42.0%	6.8%	7.4%

Appendix C: Additional quotes

Non-registered editors are inherently suspicious:

The step of creating an account and logging in is a dividing step. It divides between serious and unserious people. An unserious person has a desire to commit vandalism and only seeks to confuse, and won't waste any of their time creating an account. But the person who creates an account and establishes their identity to create an account spends at least 15 or 30 minutes to create an account, and that person who dedicates a half hour of their time to create an account of course isn't motivated by a desire for vandalism, but instead truly wants to make serious changes. – interview participant

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Arabic Wikipedia is becoming more hostile to IP editing:

The conditions for an article being accepted have become difficult. In the beginning . . . I made changes without creating an account, and I was making changes that weren't that good but that were being accepted. But recently . . . I was adding good articles, but most of them weren't accepted. I don't know why, but they weren't accepted. — interview participant

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Regional political developments are reflected in the editing community's stance toward IP editing:

I think it pertains to authoritarianism. Being anonymous applies to this type of mentality that you are not sure of what you're saying, that you're not willing to face the world with it, that perhaps you have intentions that are not what you're trying to claim. And I think it's just a perception that could be prevailing in the community at this time. — interview participant

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