A Micro-Level Examination Of Content Takedown's Consequences

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ABSTRACT

This research involved conducting interviews of varying length, with individuals, specifically video content-creators who had inconvenient and upsetting content takedown experiences across Internet platforms like YouTube, Facebook, Twitter, YouKu, and Douyin. The results were used to analyze the relationship between the users' experience and understanding based on the interviews, and the true extent of policy, ownership, and recourse available to them officially. We found that there is a notable knowledge gap between what the users understand and believe and what is actually true of the platforms' policy and recourse. A sense of intimidation and defeat among users was also found as a result of this gap. Such knowledge gaps and feelings also seemed to vary across platforms, potentially due to different policies.

Author Keywords

DMCA; YouTube; Facebook; Twitter; YouKu; Douyin; takedowns; content-creation; content-creators; chilling-effects; algorithms; automation; user-experience;

INTRODUCTION

In the past decade or two, social networks like YouTube, Facebook and Twitter have become a significant, if not completely dominant part of our lives. These mediums of communication have disrupted the broadcast model of media in their enablement of anyone being able to amass small-scale followings, the emergence of spontaneous virality, and the general ability to reach anyone connected to it has had significant implications in the creation of art, media, and culture. In addition to the creative implications of such connectivity, the scale at which such networks operate has also had significant impact on society and the networks themselves. Given the volume of content uploaded to YouTube, Facebook, Twitter, etc on a daily basis, challenges of content moderation, civility, reliability of information as truth, etc all arise and have significant implications.

Given the orders of magnitude at play, it seems like it is the cost-efficient approach to tackle such challenges with artificial intelligence (AI); delegating such labor to algorithms seems relatively inevitable. The human consequence of this, however, is that AI is still relatively new and therefore not completely reliable all of the time. A 0.1% rate of failure among a billion users means a million users experience such failure.. The challenge among platforms to uphold copyright law while simultaneously maximizing creativity and freedom on their platforms is very much an experiment currently in-progress, the negative outcomes of which have highly-individualized, often emotional consequences, given that content-creators are still individual humans a majority of the time. It therefore seems to be an ethical imperative – perhaps even revenue-protecting in the long-run – to tackle such human consequences by designing algorithms with a more human-aware approach. The objective of this research initiative was to examine those negative outcomes up close and push that awareness forward.

With this objective, we conducted six interviews with participants, recruited with the prerequisite of having experienced content takedown on any Internet platform. The interviews were conducted with a formalized interview protocol upon which to base the line of questioning. The interviews lasted approximately 20 minutes to an hour, and were transcribed verbatim afterwards to enable coding and and presentation of the data, the analysis of which this paper describes in further detail as well.

From the interviewing that we conducted, the primary observations made were that of the knowledge gap that seems to exist between what users perceive to the their rights, ownership, recourse, and responsibilities, and what those factors actually are based on the platform policy and law. Additionally, and perhaps related to the knowledge gap, we found that participants consistently espoused an intimidated and/or defeatist perspective towards being confronted with content takedown. When asked to evaluate content platforms aside from the one they experienced the takedown on, it was also discovered that user perception of takedowns across different platforms skews in the direction of each platform having different quirks and approaches, either to the benefit or detriment of them as an end-user.

The contributions of this work were primarily in the examination of user experience related to content takedowns – in a highly-individualized manner – with a unique emphasis on the emotions, reactions, and perception involved at the user-level. Additionally, this work serves to contextualize and ground the workings of content takedown algorithms in the human consequences of their decisions, with the objective of further humanizing the parameters and considerations behind them.

RELATED WORK

Among the vast variety of work and research done in the context of DMCA takedowns, the closest and perhaps most pertinent was "The state of the discordant union: An empirical analysis of DMCA takedown notices." by Daniel Seng in 2013. In this analysis, Seng analyzed half a million takedown notices and millions of takedown requests to empirically evaluate the data for patterns to further develop insight about the processes and their impacts and trends. In essence, this research took a systematic, macro-level approach to an issue that our research examines on an individualized, micro-level (Seng, 2013). It is particularly valuable as it enables relevant parties to contextualize our findings with regard to user experiences with the broader findings across millions of incidents.

From interview to interview, there were a lot of different perceptions as to how the different platforms work in terms of copyright policy. With juxtaposing views and opinions, it was important that we found a guide and definition to the copyright policy of one of the primary — and fairly representative — platforms mentioned, YouTube. With a long history of policy changes, finding research that could trace the path of those changes was key in determining whether or not the perceptions of our interviewees were accurate. In specific, the article "How Copyright Law Works for YouTube" by Jonathan Bailey tackles the platform's relationship with the DMCA guideline as well as their evolution in content ID. The author also establishes the major flaws of the copyright policies as well as their paralleled necessity to exist for the sake of protecting their company (Bailey, 2017).

Additionally, to contextualize the contributions our participants using Chinese platforms, it was important for us to understand the magnitude at which and the logistics by which content takedowns in China occurred. "Controlling the internet in China: The real story" by Fan Dong helped in this regard, establishing context about the control mechanisms by which the Chinese government leverages the various service layers to impose their takedown/content-restriction regulations (Dong, 2012).

METHODS

Recruitment

The recruitment text was constructed to attract anyone with a content takedown experience. It was initially scoped to YouTube specifically, but was modified to be scoped to the Internet as a whole to increase recruitment success, given that there are valuable comparative insights between the platforms to be found, and a larger set of users to talk to. Facebook and Twitter were used for this recruitment text, since culturally they tend to attract the broadest variety of people (anecdotally). Additionally, Reddit was used as a way to target content-creators as a niche group, given that subreddits (specifically the /r/PartneredYoutube and /r/NewTubers communities), by nature of their specificity, are comprised of individuals who are highly likely to be content creators.

To supplement the results of this broader outreach, we decided to take a more proactive approach and utilize Twitter's search engine to look up users tweeting with keywords/phrases like "taken down", "content deleted", "DMCA takedown", "YouTube strike", "content strike", among other similar variations. The theory behind this was the idea that users actively posting about their experiences were more likely to be willing to participate in a study like ours. From this point, we simply looked through the results to find tweets of users complaining about having their content taken down from Internet platforms, reaching out to them either via their mentions (replying publicly to their tweets) or their Direct Messages. This process yielded us P29, as well as an acquaintance of P42 who directed us to him; P42 was a valuable industry insider with insights about the business and legal implications of takedowns, and perhaps someone we may not have encountered via our outreach targeted at the end-users of such takedown experiences.

Participants

Our recruitment methodology, over the span of the month that we spent recruiting, yielded us six participants. The first participant – who we'll call P08 for anonymity – is a 19-year old male student residing in Philadelphia who (at the time of writing) has approximately 1700 subscribers for a YouTube channel he describes as targeted towards "random internet people, like people who have the same sense of humor as [him]." He reached out to the a member of our team based on a Reddit recruitment post in /r/PartneredYouTube, saying that "[he'd] had many content strikes." The second participant – P29 – was reached out to via Twitter based on a tweet of him complaining about a takedown. P29 is a 20-year old male student residing in Madison, Wisconsin, with approximately 600 accounts following him on Twitter. Our third interviewee – P42 – is a freelance writer and editor with an extensive in the music industry. Having seen and experienced legal arbitration processes for various artists, P42 had a strong understanding of the history and status quo of the music industry as well as the different legalities involved. Our fourth – P38 – was a 22-year old female student at University of Wisconsin, Madison, recruited via personal connections, who had been using Facebook to share content since high school. Our fifth and sixth – P41 and P45 – were two international students from China, to whom we reached out via personal networks. P41 uploaded to YouKu (the Chinese equivalent to Youtube), but had content taken down

by the government because of its politically-sensitive nature. P45 experienced their takedown, due to an algorithm flagging their content for sensitivity, on Douyin, the Chinese equivalent to Vine.

Procedures

With each participant, our aim was to conduct an interview (ideally around 45 minutes to an hour) in which we were to explore – through our questioning and their recollection of their takedown experiences – the logistics, emotions, and broader impact on their roles as "creators" as tied to their content being taken down.

This being our aim, we constructed a broad interview protocol with questions and statements that:

- made them familiar with their rights as a participant
- familiarized us with their demographic status
- gauged their history with the platform of takedown
- got them to recollect their content takedown experience(s)
- got them to describe their emotions and reactions towards said experiences
- explored their perception of the broader content landscape on the Internet and what they perceived to be different between platforms

Such a protocol enabled us to gain crucial context as well as to cover the fundamentals of their content takedown experience. In practice, our interviewing involved using a protocol of this nature as a starting point to further probe into the nuances and quirks of each individual experience/ perception, in order to gain notable insights that had not occurred to us as valuable when constructing such a protocol.

We additionally collected other artifacts from users such as their channels/accounts, the content taken down, etc (only when users were comfortable volunteering such artifacts).

We conducted the interviews over Skype, WeChat Video, and in person. We recorded the audio and then subsequently transcribed the interviews for later analysis. In 3 of these 6 interviews, a dual-interviewer model was used, where one interviewer would take notes/transcribe key details for further probing later in the interview, and the other would lead the questioning/discussion. In the rest, both of these roles were fulfilled by single interviewers.

Analysis

Our analysis was concentrated in two major processes: affinity diagramming (two phases) to conduct emergent coding on a smaller, representative, sample of our data, and subsequent pre-set coding, which lay the foundation for our theory formation.

Affinity diagramming

The first phase of affinity diagramming was conducted in the context of the course as a part of which this research was conducted. Each group was tasked with the research problem of exploring individual user experiences with algorithms. In this phase, each member of each group came with 25 quotes from their interviews, and then the groups all converged to categorize all their quotes based on their natural (often intuitive) relationships, arriving at broader emergent codes.

The second phase of affinity diagramming was subsequently conducted using the categories obtained from the first phase as an informal mental framework, and the 25 quotes per-person we had used. With slight modifications, we arrived at similar "emergent codes", namely:

- technical consequences of takedowns
- behavioral consequences of takedowns
- disparity/parity across platforms
- dark patterns/intimidation from platforms
- implications of money
- emotional consequences.

Coding

Using these emergent codes as pre-set codes, we then set out to code the entirety of our transcripts/interview notes with them. After this, we conducted a discussion of the most emergent observations among all of our coding and analysis, in which each team member independently constructed three claims about the data, and then presented their claims to the group. In discussing areas of overlap and complementary ideas, the group arrived at the following three themes:

- There was a consistent gap between the user's expectations and understanding of the platform's policy, and the actual policy
- There was a sense of either intimidation of the user by the platform and/or a defeatist perspective from the user
- Users tended to perceive different platforms as having different standards of leniency/strictness, recourse, etc

Categorization

Given that these were the most prominent emergent themes from our various phases of analysis, we then decided to treat them as categories. With these categories as our guiding framework, we then set out to analyze our transcripts again, this time simply collecting every quote from every transcript that we found as substantiating the the category's thesis.

Once we had a significant volume of quotes organized by these themes, we had obtained the substance necessary to qualify the claims these themes make.

FINDINGS

The following sections detail our findings, categorized by the three themes mentioned earlier.

Knowledge Gap

With each American platform following the same guidelines of the DMCA, many of the copyright disputes are left in the hands of the content creator and their algorithmic methodologies of compliance. When asking about the DMCA, P42, our industry insider, mentioned, that "DMCA is something that all reputable sites, big or large, try to comply with to not have to go to court" (P42). Given the DMCA's status to platforms as a liability-avoidance mechanism, there seems to be no direct incentive to truly educate users about their recourse under DMCA, since that would increase the amount of involvement the platform would have to undertake in order to be an effective middleman.

There seems to be this general knowledge gap in terms of who understands the DMCA, and furthermore, what to do in the situation of being accused of copyright violation. From platform to platform, individual interviews began to reveal that the experience of going through a copyright claim heavily depends on the process in which a user is served the notification. As the user has already "agreed" to the terms and conditions, many believe that they sign away their rights as well. When P29 was asked about his perception of ownership of their content, he answered:

> "Um, I feel like it's, ethically it's definitely 100% mine, um, I'm gonna be honest, I don't know Twitter's Terms of Service when it comes to content produced on their platform, I know YouTube you own whatever you upload to YouTube, but you can't put ads in it without giving YouTube a portion of that money. On Twitter, I genuinely do not know who owns it, which is definitely a problem, now that I'm thinking about that, I'll probably read the Terms of Service. It certainly should be mine if it isn't, and it's Twitter's content, which I don't think it is, but if it, cuz there's um, ESPN puts stuff up on Twitter, videos on Twitter, so I feel like it would be mine, but I guess I don't know that for 100% sure." (P29)

What is most prominent in this answer is his lack of surety or clarity as to who owns what, while there is a simultaneous perception of an ethical reality that may not be the same as the true reality. Given that it's an implicit cultural experience that using a platform implies having agreed to the Terms of Service (ToS), his deference to the ToS while simultaneously not knowing what they actually say about ownership is a clear instance of a knowledge gap.

There is also a knowledge gap in the sense that platforms' individualized policies/features often seem synonymous with the legal policies associated with content creation and distribution. P29 recalls a copyright strike over a cover:

> "Um, yeah, you have to be careful. You have to be. I made a mashup the other day of Adele and Linkin Park and that was last year and I tried posting it and they just didn't let me because like the content was copyrighted. So, yeah, it has some obvious setbacks, like I'm just not gonna use copyrighted content in my videos. I'm not gonna use music that's copyrighted." (P29)

The gap in this perception stems from a lack of knowledge about the legal rights tied to "fair use", "a legal doctrine that promotes freedom of expression by permitting the unlicensed use of copyright-protected works in certain circumstances", those circumstances primarily involving the lack of profit motives, the content being explicitly a remix/mashup/etc, among others (US Copyright Office, 2018). While YouTube itself does not allow the upload of such content when its algorithm detects copyrighted material, the law actually does support the distribution of such content for "non-profit educational purposes" (US Copyright Office, 2018).

P08 recalls his experience with uploading to Facebook. In terms of his thoughts on the matter, he said:

> "Facebook, I mean Facebook I don't think gives a shit [laughing] like, they're not monetizing their content so they don't have advertisers so they probably don't give a shit. My content gets stolen all the time and gets uploaded to Facebook and like...so yeah. I don't think they care." (P08)

The knowledge gap here is in the fact that Facebook catches copyright up until the algorithm is unable to detect stolen content, whereas P08 seemed to have an implicit expectation that they would take it down regardless. It also demonstrates a correlation between the user perceiving the platform as "not caring" due to the platform neglecting a certain feature-set in their takedown algorithms: this potentially ignores the possibility of the platform actually "caring" but not having the technical or human infrastructure to enable the feature-set in question.

Another factor that influenced the content creators decision to arbitrate was the perception of who was behind the platform or takedown. As will be explored in more detailed depth in the upcoming section titled "Cross-Platform Disparities", P29 felt as though YouTube would involve a smoother experience simply because he felt as though he had access to actual people in the appeal process there, whereas on Twitter he felt like he was faced with a faceless entity. Given the demonstrable knowledge gap between the users and the actual policies at play, having that human interaction serves to offset the potential chilling effects of such a knowledge gap by opening up the hopes of arbitration actually working in the user's favor.

Sense of Intimidation/Defeat

It seems to follow from this knowledge gap, as well as certain behaviors and "dark patterns" on the platforms in question, that our participants seemed to uniformly feel intimidated by the processes, actions, and entities involved

in the takedown, and sometimes additionally feel as though they are powerless to fight a takedown or even hope for a better encounter with such platforms. The intimidation seemed to be a result of several patterns.

The size of the entity

There's a fear associated with taking on what they perceive to be a large, powerful entity.

In the case of P08, a YouTuber in America, this was his intimidated (and defeated) perspective:

> "These guys are like this giant corporation, it's just defeatist, you know, I just accept that if they wanted to they could shut me down whenever they want and that's like their right as YouTube." (P08)

The emphasis on it being "giant" and the explicit confession of feeling "defeatist" makes it clear that the size played a role in the perception. It demonstrates that the defeatism also stems from their ability as owners of the infrastructure and platform to remove P08's content, regardless of what was fair to do; such an ability, in addition to creating a perception of power, also seems to be an actual power that platforms have by virtue of their centralization.

P29 had a similar view of Twitter as a large private entity, particularly as he described their "sway in the world":

> "Twitter is not a utility, it's very much a private business, so they can really do what they want in that aspect, they can ban people off their site for anything that they want, they definitely have more sway in the world than I do." (P29)

As a non-revenue-generating content creator with a small following, P29 is therefore framing it as a battle between him as a non-wealthy sole proprietor versus a business with influence on outcomes.

In the context of China, where P41 experienced a takedown filed by the government itself, P41's perspective was:

> "I wanted to do something but I don't think there's anything that can be done. You can't sue the government and you can't sue the president either." (P41)

The magnitude of it having the "government" and "president" as opponents in the appeal process seemed to make P41 incredulous of even the idea of fighting back. Given that we only encountered government involvement in the case of a Chinese participant, the perceived power of "government" entities seems to clearly differ between the US and China, explained by the Chinese infrastructure mentioned in our Related Works as well as the general cultural idea that Chinese government in the 21st Century has tended towards more authoritarian approaches over the Internet.

Legal dark patterns

In addition to the scale of the platforms itself instilling intimidation, platforms – perhaps even just their non-malicious compliance with the law – seemed to have several patterns that were designed to create fear:

P29 described his takedown notice from Twitter as follows:

> "It was kinda like, worded to be intimidating, I think, because they just took down like, it included a list of all the tweets taken down in the original takedown notice from Universal and it was like, well over 100 tweets, and it was clear that it was this sweeping thing that nobody thought about, and it was like they paired that with this really officially worded notice saying that you have to agree to these things and you have to agree to a federal court and, they try to make it really scary so that people like me, who are just like, small part-time content creators -- it's not like I do it for a living or get paid for it -- people like me aren't going to fight it because there's no money in it, but, I was pretty heated, so I had to kinda counter it because I was rattled and fuck Universal Music."(P29)

What is most interesting/relevant about this quote is the fact that he felt "rattled" and the fact that the legal aspects of it – the "federal court", the "really officially" descriptor, and his perception that such factors suppress people like him's desire to fight back. Additionally, it is worth noting that he says that "people like [him]" might lose interest in fighting back, but it is precisely the anger over that phenomenon that is driving him to counter the notice (P29). This makes it clear that on a user-level, there sometimes is a injustice-oriented perception of content takedown experiences.

He also read out the legalese to put emphasis on the word "perjury", saying:

> "So they kinda, they put that "perjury" in there, because it's like "oh, well, I don't know, I don't wanna get like charged with perjury" (P29)

He was cognizant of the idea that perhaps the legalese was designed to discourage appeals against takedowns by emphasizing the seemingly high legal stakes.

In the contexts of user interface design, dark patterns are patterns that implicitly (and insidiously) encourage and/or coerce users into losing their rights, giving more to the platform than they would otherwise want to, suppressing their resistance against abuse, etc.

If we are to treat law, takedown policies, and algorithms as interfaces for users to interact with content platforms, then the legal phenomena outlined above are potentially dark patterns given their overall suppressive, compromising-of-rights impacts.

Empathy for the platform

In some of these cases, we also discovered that users often have a level of empathy for the platform, describing the situation as the justifiable fault of circumstance and scale, their defeat being an inevitable and understandable

consequence. Users also seemed to occasionally take a "personal responsibility" perspective, with the belief that the platforms themselves were not necessarily responsible for the issues as much as the users themselves were for understanding how to navigate the platforms.

P42, the industry insider we interviewed, described YouTube's policies and responsibilities as follows:

> "Youtube doesn't give a shit and they shouldn't. You can't use free speech and use their services that they're providing for you to platform yourself however you feel." (P42)

This is a clear defense of YouTube, framing the responsibility of the issue as being owned by the user, who in this line of reasoning is the benefactor of YouTube's platform and is therefore is not necessarily owed anything.

P45, the Douyin user we interviewed, felt that her takedown experience was understandable due to the size of the platform and the overall difficulties in moderating a platform that is open to users of varying educational backgrounds uploading potentially nefarious content.

Cross-Platform Disparities

In addition to the knowledge gap and intimidation/defeat involved, the interviews often involved discussion of the alternatives available to them.

A notable comparative opinion from P08 was the idea that perhaps different platforms were better suited for different content. He describes sharing his complaints about a takedown with his audience, it having gone as follows:

> "I was a...I remember I posted a fair while ago like "Hey guys my videos keep getting taken down" and they were like "Yeah YouTube does not like your videos. YouTube isn't really made for your type of content" or something." (P08)

P29's comparative opinion, from the lens of potentially changing platforms, was as follows:

> "Um, I've thought about making more stuff on YouTube, like, I have, I have an old channel that I have some stuff on but I don't even have the email for that anymore because it was like my high school email so I couldn't get to that content even if I wanted to. So I've thought about making a new one and putting stuff on that site, but I just feel like with the following I already have on Twitter -- it's not huge but it's enough to me to be like there's enough people to justify spending time making something. So I just feel like I would have to start from scratch on YouTube, and I don't know if I want to do that. But if my Twitter account were to be deleted, I probably wouldn't make a different one and try to go back. Like I would be gone, I would definitely just go to YouTube to make stuff then." (P29)

This is particularly interesting because it is concerned with portability issues in regards to his audience, as well as the compelling factor to move being total deletion of his account.

P41, the YouKu user we talked with, framed the issue as a comparison between the media fundamentals of the US and China:

> "The media freedoms in China are bullshit. There's no freedom in news or video, it's better now than it was in the past; but, if you compare it to the United States or the Western world in general it's pretty drastic." (P41)

What was notable about this was that while the American creators we talked to primarily discussed non-fundamental, logistical issues, P41 was concerned with the legal "freedoms" themselves.

Perhaps the most actionable insight for the creators of platforms is P29's preference for YouTube (his takedown having occurred on Twitter), since to him it seems as though YouTube is most accessible as far as a human presence to appeal to goes:

> "Um, YouTube gets a lot of shit for how they handle like content on their site, but, I feel like YouTube at least has some sort of presence that you can contact, but Twitter, I really don't know how to even go about contacting someone from Twitter. I feel like, YouTube would definitely be the best of those sites, as far as like having some way of contacting them and being like "hey, I don't think this is", and if they flag something, you can appeal it and they will manually review that, whereas Twitter I have no idea -- Twitter is just kinda like, they just seem like such an entity that doesn't really have any like people behind it, YouTube I feel like is most personable of the giant social media platforms that run our lives." (P29)

How The Data Ties Together

Based on the data presented, it is clear that a micro-level examination of content takedown experiences revealed a knowledge gap between users and policy, a sense of intimidation and defeat among the users, and a perception of disparities across platforms.

Analyzed from an axial coding lens, these themes being the codes to relate to each other, the sense of intimidation and defeat seems to often stem from the user's underestimation (a knowledge gap) in their ability to fight back and appeal due to the scale of the platform creating the image of a daunting opponent, among other factors.

Additionally, the perception of disparities among platforms, – given that every instance of comparison was anecdotal and involved no tangible policy critiques (aside from perhaps P29's claim that YouTube had more of a human presence available) – is an inherent knowledge gap that impacts how intimidated the users felt.

CONCLUSIONS

With the presented data and our analyses of it, this research has enabled discussion in regards to several facets of the broader algorithmic landscape, especially in regards to consequences of existing systems as well as potential reform.

On The Design of Algorithms and Social Computing Systems

In terms of algorithms specifically, a debate growing in significance among technologists is that of the "black-box" issues that arise from the more advanced artificial intelligence we are now able to wield. The essence of this issue is that, by nature of the technology itself, the decisions that algorithms make are increasingly difficult/impossible to be understood and reverse-engineered, even by the algorithm's designers. Our research is particularly relevant to such issues, specifically in the theme of a knowledge gap existing between the users and the platform.

Knowledge gap increasing

The fact that the algorithms behind a lot of the platforms' content takedown/copyright enforcement regimes are active works in progress implies that the steps forward in the broader field of artificial intelligence will eventually be the standards for these takedown algorithms. As a consequence, it makes sense to anticipate that these algorithms and their workings will not only be obscure and non-understandable by users (as they currently seem to be for many), but additionally will be inaccessible to the creators themselves. This opens up the issue that, even if the creators of the algorithm intend to close the knowledge gap between users and policy, they may eventually lose the ability to do so in favor of accuracy and advancement. For one, this implies that the knowledge gap could potentially continue to increase asymptotically. It also creates an ethical imperative for the platforms to perhaps sacrifice such advanced accuracy in favor of creating human layers to their more imperfect takedown algorithms, so that they retain the ability to close the knowledge gap while simultaneously serving the needs of users who may wrongly have their content taken down.

Platforms as social systems with citizens

Additionally, moving on from the algorithmic perspective onto the view of these platforms as "social computing systems", the question of societal standing becomes significant. Given that a sense of intimidation and defeat seemed to be prevalent, most dominantly because of the perception of these "systems" as powerful entities and opponents, one's societal standing as a content creator impacts the democracy and citizenship of such systems. If content creators who are not large corporate entities — a subset that all of our participants fell under — are too spooked by the daunting image of their influential takedown opponents, there are clear chilling effects to be anticipated in terms of participation and contribution to the broader social systems that are content platforms.

On Algorithmically Curated Content

The discussion around algorithmically curated content tends to be centered around what the platform explicitly presents to the user as the best content to consume.

Our research slightly diverges from this tendency, instead allowing us to frame content takedowns as an inherent form of "curation", by removing said content from consideration to be presented to users.

With that being established, as well as our earlier mention of "chilling effects", it is clear that content takedown algorithms are inadvertently curatorial algorithms as well, except their chilling effects tend to be more significant than conventional curatorial algorithms. While this may seem self-evident, it is important to note that these are certainly not the curatorial algorithms used in a conventional sense (eg. News Feed, YouTube's "Featured/Trending Videos"), and platforms likely treat them as different from an engineering perspective, leading to potential disparities between them. Curation evokes the ideas of feeds, of "featured content", etc. It evokes algorithms that explicitly boost/rank content, rather than algorithms that remove content from consideration of boosting/ranking altogether.

The point, with all of this being said, is that platforms are doing themselves and their users a potential disservice by not treating content takedown algorithms as the same thing as their traditional curation (eg. Facebook's takedown policies being different than News Feed algorithm considerations). Given that their traditional curation policy is now under scrutiny due to the ideas of polarization and ideological silos, there exists an ethical imperative for platforms to think about such issues in the contexts of their non-conventional curatorial algorithms as well, as to not neglect them in their progress.

On The Generalizability Of Our Findings

Some of the fundamental themes at play – the knowledge gap and the sense of intimidation and defeat — are all fairly generalizable when isolated.

Knowledge gap

Our findings in regards to a knowledge gap between users and policy seem to have an arbitration-focused tilt (given that official 'policy' typically deals with liability and recourse). However, it also seems highly relevant in the contexts of user's understanding the mechanisms by which they are dealt a particular experience on any given platform. Given our analysis uncovering that such a knowledge gap is on its way to increasing even further, the implications range from that of curatorial concerns (eg. News Feed's decisions being less transparent) all the way to tangible societal ones (eg. a lack of understanding about why certain prosecutorial algorithms choose the people that they do). The ethical

imperatives we found also transfer to such scenarios: it may be better, whether it be for News Feed or algorithms determining who a suspect is, to sacrifice algorithmic advancement in exchange for supplementation via more human layers.

Intimidation/Defeat

Given that intimidation and defeat inherently imply some sort of arbitration and/or conflict, our findings in this area would best be generalized to other algorithmic systems involving conflict. Our aforementioned example of algorithms used in prosecution is perfect. If we are to delegate decisions of who to potentially prosecute, consider a witness, or how much probation to give someone, all to algorithms, we will merely be exacerbating an existing sense of intimidation and defeat, given that the person being prosecuted/tried/etc is most often a significantly smaller entity than the entity prosecuting them. Much like our research's demonstration that users often have "empathy" for the platforms, the defeatist mentality could potentially increase, an excuse for potentially unjust decisions being that "the algorithm" is justifiable due to the lack of insight as to why a decision might be explicitly wrong.

On The Contributions Of This Research

There are several ways in which this research and analysis further the level of insight available on the topics of content takedown, algorithmic design, platforms as social computing systems, and algorithmic curation. In particular, the following are the most prominent contributions that supplement the existing research as well as enable further research:

- This research exposed user-experience issues in relation to content takedown in a manner that mirrors a lot of the methodologies used in industry to improve user experience. It does so by providing individual experiences and all the emotional, perceptual, and reaction-based details involved in said experience. With such micro-level analyses, the end-user consequences in terms of user perception/satisfaction are available to platforms to use as guidance for improvement.

- This research explored how the legal frameworks and policies surrounding content takedown for copyright impacted individual end-users experientially (as particularly evident in the intimidation/defeat section), supplementing existing analyses focused on the macro-effects of policy and law.

- This research provided more visibility towards potential ethical imperatives in regards to a knowledge gap between users and platforms, demonstrating the chilling effects on a micro-level caused by knowledge gaps (demonstrated to be increasing) as well as evidence of intimidation.

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