The Role of Algorithms in Structuring Online Communities: The Case of Youtube

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Abstract

The aim of the study is to depict the power of algorithms over online communities on the example of YouTube. Author presents the structure of YouTube community, describing role of algorithms and channel owners in assigning roles. The status of the supporter gives members access to dedicated content. Thus, the elite of the community has greater ability to tighten ties and influence the development of the community. On the other hand, regular members may experience fear of missing out. In the article several concepts of power are presented in the context of the role that algorithms play in online communities. The example of YouTube shows that online communities are increasingly being appropriated by algorithms.

Keywords: Online Communities, Algorithms, Online Social Structure, FOMO

Introduction: online communities on YouTube

In the social sciences, the "community" itself causes many ambiguities. The definitions of the term "community" have changed with time, social trends, and the development of social sciences. Many researchers treat this concept operationally, depending on the context. The lack of a single meta-definition of "community", that would satisfy all researchers, results in disagreement over the understanding of "online community".

Some researchers are departing from the term "online community" because of its strong connection to traditional understanding of community, which does not always correspond to the realities of cyberspace. For this purpose, the term "social cyberspace" was coined (Farnham et al., 2001), which, however, is not popular in the scientific literature - hence the term "Internet community" was adopted in this work.

Dana Rotman and Jennifer Preece (2010, p. 319) analyzed the scientific literature in search of the features of online communities mentioned by various authors. Synthesizing the results collected by them, the authors presented the most frequently cited features: 1) commitment to a shared domain; 2) shared repertoire and resources, 3) companionship and bonding; 4) social activity and interaction. On the basis of their research, Rotman and Preece (2010, p. 320) propose the working definition of online communities: “an online community is a group (or various subgroups) of people, brought together by a shared interest, using a virtual platform, to interact and create user-generated content that is accessible to all community members, while cultivating communal culture and adhering to specific norms”.

The criteria listed in this definition may be met by YouTube users. The "specific norms" mentioned by the authors differ from one community to another: for example, some channel owners (further in text also referred to as YouTubers) will punish you for writing selected words in comments or in a chat. However, another issue is the platform's netiquette, which is still negotiated by users (Cyrek, 2021). YouTube also meets the criteria of social networking sites, by both maintaining already existing relationships (Popiołek, 2018) allowing to initiate new relationships through offering users new content and profiles of other users (Bucher, 2015). The study by Barbara Cyrek (2020) on defining social networking sites in science, has shown that although YouTube is rarely described as social networking sites, it has the vast majority of the constitutive features attributed to social networking sites in the scientific literature.

YouTube certainly has social potential, the use of which, however, requires logging-in to the website. Research by Rotman and Preece (2010) showed a strong sense of community among many YouTube users.

Cite this Article as: Barbara CYREK “ The Role of Algorithms in Structuring Online Communities: The Case of Youtube” Proceedings of the 38th International Business Information Management Association (IBIMA), 23-24 November 2021, Seville, Spain, ISBN: 978-0-9998551-7-1, ISSN: 2767-9640

The structure of YouTube community

The size of YouTube communities may vary, as may the type and strength of the ties between members. Platforms produce social structures in which contemporary humans live (van Dijck, Poell, de Waal, 2018). Thus, each social networking site, including YouTube, due to the functions it provides, imposes certain standards and schemes that apply to all users. Moreover, every community of fans of each YouTuber may apply their own rules.

Although the subscription to the channel itself does not condition membership in the community, it is the fastest and free act of an approval of YouTuber. Thus, it may – but does not have to – be considered as a symbolic fact of joining the community. According to Taina Bucher and Anne Helmond (2018, p. 234): "A feature is clearly not just a feature. The symbols and the connotations they carry matter. Pressing a button means something; it mediates and communicates, or as we will focus in this chapter, relates to different affordances".

Regardless of their formal management, structures and hierarchies appear in all communities (Jemielniak, 2013, p. 58). The roles in the YouTube community are given by: a) its formal leader (YouTuber) or b) platform's algorithms – thanks to the automated combination of payments with additional benefits and statuses (officially called "channel support").

Roles assigned by YouTuber

The channel owner decides on many functions, both in asynchronous communication and during live broadcasts. In the case of the latter, YouTuber can also appoint other logged-in users to be moderators. The role of the chat moderator is assigned from the account from which the broadcast is carried out. Once appointed, the moderator also performs this function during subsequent livestreams, until his/her status is canceled by YouTuber. The moderator's job is not only to contact viewers, but also to control the course of the discussion – (s)he can delete comments, as well as report, block and time-out other users.

Roles assigned by algorithms

There is no doubt that, despite the social rhetoric and relative gratuity (users pay with their data and time devoted to watching advertisements), social media is commercial in nature and deeply rooted in the logic of the market (Kreft, 2015).

The supporter's role, provided by algorithms benefits community members in the form of custom emoticons and badges displayed next to their usernames in both chat and comments, as well as other bonuses set by YouTuber within the limits imposed by the platform. The rules adopted by the website limit the number of supporting levels to a maximum of five, each of them must have a different price, and each higher (more expensive) level, apart from unique bonuses, also gives you access to the benefits of the lower levels. Support badges change their appearance depending on how long (for how many months) the user has been a supporter. The hierarchy appears here spontaneously on behalf of the algorithm: people who support the channel are, of course, the least for the longest and they are the elite in the community. Usually their usernames are known to YouTubers and other community members, and they often are appointed to be moderators. Such awards and distinctions can be a significant motivator to engage in financing YouTuber, especially considering that we are talking about a community where all interactions take place online. The elitist nature of the supporters is also manifested in content visible only to them. Examples of such content are posts, videos, polls, live broadcasts or chat. These tools are used to communicate within the community and strengthen ties within it. They can also be used, by way of support, as a means of emphasizing one's own status. The greater the amount of support, the less the community member "misses".

Making access to content dependent on channel funding may lead community members to condition of fear of missing out (FOMO). The term coined by Dan Herman (2000) refers to state of social anxiety stemming from the belief of missing something due to absence, for example in social media (Abel, Buff and Burr, 2016; O'Connell, 2020). Social exclusion causes many negative outcomes (Twenge, Catanese and Baumeister, 2003). For content available exclusively to channel supporters the foreclosure is both real (technologically determined) and alleged (YouTuber will not necessarily publish content exclusively for supporters, so one can only guess if (s)he is missing something).

What may YouTube community member miss? Apart from fun materials, discounts to stores or participation in competitions – most of all two things: 1) tightening ties and 2) impact.

1. Tightening ties

Undoubtedly, participation in the community provides numerous benefits in both the social and psychological context. Participation in events organized by the community and for the community allows members to tighten ties and build up new relationships within the group. For obvious reasons, non-participation in such events distances individuals from the community. Livestreams on YouTube are a community meetings: users gather in the same time and in the same place in cyberspace. Participation in broadcasts organized exclusively for supporters allows paying users to feel special. There is an event made only for them, without ordinary members. Supporter has grounds to feel like elite member, being in closer surroundings of the streamer.

While all livestreams are occasions for community to gather and tighten ties, those organized only for supporters give special opportunities. The reason for this is that the supporters are the elite of the community – there are fewer of them because their status is not obtained for free, nor can it be acquired by hard work for the community. In case of YouTube, engaging in online community means paying.

Less participants results in a situation where the audience is not just a nameless mass. Supporters have a greater ability to communicate with each other on chat and get to know each other better. Moreover, there is much bigger chance to get streamers attention, for example by mentioning him/her on chat by typing his/her nick. The streamer's attention is a scarce resource, whereas the attention given to him/her is abundant (Recktenwald, 2016, p. 144). Without streamer's attention, only a one-way relation is possible: fans get to know much about streamer, but the streamer knows nothing or very little about them. This situation may change a lot during broadcasts organized only for supporters. Since the abundance of information results in an attention deficit (Simon, 1971), there is much more "space" to interact with the streamer, and in consequence more occasions to build a relation with him/her and tighten ties.

2. Impact

According to Marsha Lakes Matyas (2017, p. 145): "visible and useful contributions lead to a positive reputation in the community, and actively contributing helps users feel that they have a real impact on their communities". In terms of YouTube community contribution is measured in money – the more money you pay, the more visible you are (figuratively and literally, for example thanks to badges). Impact, however, is not only a matter of feeling.

Like oligarchy, supporters have the real power to decide the direction of community development. To be able to gain such power, one must literally buy a place among the elite. Among the content visible only for supporters, YouTubers may publish polls, in which supporters vote for solutions that suit them. This gives a real impact on the development of the channel and the direction of the development of the community.

Another type of impact is also supported by algorithmic solutions. Supporters may have early access to materials published on the channel. As they upload a video, YouTubers are often present online, to make sure everything is working. At the same time, they also reply to the first comments. In case of exclusive early access, first comments always come from supporters. When ordinary community members open such video, even if they do so in first few seconds since the movie got visible, they already see comments made by supporters. Their chance to get YouTuber's and other members attention decreases. Comments marked by YouTuber with heart "♥" are automatically better positioned by algorithm. No matter how valuable to YouTuber or the community your feedback is, more impact always goes hand in hand with money.

Hierarchy of YouTube community

While YouTube communities may vary in size, regardless of the number of members and the number of formal leaders, they are bound by the same rules imposed by the platform. Algorithms do not take into account the work put into the development of the community. Sharing knowledge in comments and chat does not affect the formal status in the group. The only exception is the moderator status granted by channel owner. Fig. 1. Presents the hierarchy of YouTube community.

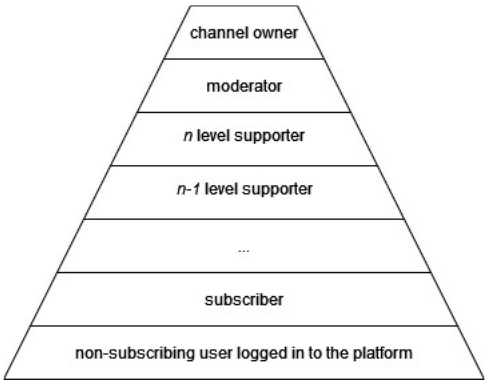

Fig 1. The hierarchy of YouTube community. Source: own study.

The power of algorithms in YouTube communities

There are many ways of understanding "power" in the social, psychological, political and economic sciences. Depending on the adopted method of defining "power", we will characterize the power of algorithms differently. The book "The power of algorithms: at the source of the power of Google and Facebook" by Jan Kreft (2018) is devoted to this issue. In the context of the role that algorithms play in online communities, it is worth paying attention to several concepts of defining power – in order to realize the power of algorithms in YouTube communities.

Robert A. Dahl defines power as relation between two entities. As author states (1957, p. 202-203): "A has power over B to the extent that he can get B to do something that B would not otherwise do." Would YouTube community members pay, if there wasn't divide in access to content, impact and YouTubers' attention? It is possible that some of the supporters pay a fee only to support their favorite creators, not because of the provided benefits. In terms of William Harbaugh's (1998) typology, such reason would be called the "warm glow" – purely internal satisfaction that comes from the act of giving. Harbaugh distinguished also "prestige" motive, defining is as "the utility that comes from having the amount of a donation publicly known". While the "warm glow" has nothing to do with Dahl's power, the "prestige" is strictly related to the badges visible on YouTube next to the supporter's name. In this sense, algorithms has power over users, driven by their striving for prestige and elitism, as well as their fear of missing out.

According to Steven Lukes (1974), power is formulation of values, defining what is significant. In this sense victims of power may not even see the threat – they are not aware that the power is influencing their desires (Rasiński, 2006). In this sense, algorithms have power over the users of the platform, by creating needs that would not arise without the participation of the algorithms themselves. Users are convinced that spending money is in their interest, while in this system the platform itself gains the most, earning both on the creativity of YouTubers and the needs of their fans. Algorithms create symbolic value that they offer to members of the community in exchange for economic value.

The great contribution to contemporary understanding of power of algorithms is an Actor-Network Theory (ANT), which assumes that all entities in a network can and should be described in the same terms (Latour, 2007). Power is not only a matter of humans, but may be exercised by non-human actors. According to Bruno Latour (1990, p.7) "An *actor* in AT is a semiotic definition -an actant-, that is, something that acts or to which activity is granted by others. It implies no special motivation of human individual actors, nor of humans in general. An actant can literally be anything provided it is granted to be the source of an action".

Algorithms have power over community members, as long as they activity matters and is respected by platform users – which is, in a fact, a part of YouTube's terms of use.

Conclusion

Social media have become a great space for gathering, maintenance and development of online communities. YouTube as the vast majority of the constitutive features attributed to social networking sites in the scientific literature (Cyrek, 2020). With its great social potential, platform gathers online communities around YouTubers – their formal leaders.

Functioning only in cyberspace, online communities are subject to a series of laws and restrictions. Protection of privacy, protection of personal rights or protection of intellectual property are issues that should be analyzed in the future in terms of the functioning of online communities. Communities operating on YouTube must adhere to the platform's terms of use, as well as internally adopted netiquette. It is primarily algorithms that deal with the enforcement of the applicable rules. In the case of chat, moderators appointed by channel owners also play an important role.

The structure of the YouTube community is heavily regulated by algorithms. Climbing the ranks is always associated with a financial contribution. Because of algorithms' power over community members, the community capacity building (CCB), which "focuses on enabling all members of the community, including the poorest and the most disadvantaged" (Noya and Clarence, 2009, p. 3) is impossible to implement.

Despite the social rhetoric and relative gratuity (Kreft, 2015), social media as commercial tools are geared towards earning money. It is no different with YouTube communities. Human social and psychological needs become a field for monetization. The example of YouTube shows that online communities are increasingly being appropriated by algorithms.

Acknowledgment

Work financed by the subsidy of the Faculty of Management and Social Communication of the Jagiellonian University.

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