Internet regulation and crisis-related resilience: from Covid-19 to existential risks

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ABSTRACT
A broad literature on Internet regulation relies on imaginaries of the Internet as a socio-political technology. Deep mediatization of everyday life, however, increases the role of the Internet as a critical system for crisis response and mitigating global catastrophic risks. This article offers a theoretical contribution to exploring the role of regulation in crises through critical engagement with the concept of mediatization. The article addresses the question of what is “the meaning of Internet regulation in crisis situations and how it may diminish capacity to address future emergencies?” It stresses that understanding the consequences of mediatization in the context of future crises requires an exploration of Internet regulation from the mediational perspective and of the concept of generativity. Relying on an analysis of the role of digital platforms in Russia during the Covid-19 pandemic, the article illustrates how different forms of regulation limit resilience by restricting the generative potential of innovations that offer new forms of response to emerging threats. It highlights how the limitation of political freedoms in specific countries and the degree of global catastrophic risk are interrelated.

KEYWORDS
Internet regulation; global catastrophic risk; deep mediatization; generativity; crisis communication; Covid-19; resilience

Introduction: internet regulation and crisis situations

The topic of Internet regulation has been addressed by a broad interdisciplin-ary literature. The analysis often goes beyond a focus on blocking specific types of content, filtering and censorship. Continuous mapping of new generations of Internet control (Deibert & Rohozinski, 2010) has identified more complicated regulative measures that are constantly evolving. On a national level, we see more efforts to implement new forms of Internet sovereignization that seek to allow state actors a scale and type of control over cyberspace equal to the scale and type of their control over physical space (Mueller, 2017). These efforts include not only legal measures, but also practices that seek to construct a “power vertical” in digital space (Gunitsky, 2015). Scholars are paying an increasing attention to the impact of regulating digital infrastructure on free expression and to new forms of state-sponsored algorithmic control not only

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in authoritarian (Sivetc, 2021; Wijermars, 2021) but also in democratic countries (Freedom House, 2021, online).

An understanding of Internet regulation relies on understanding of different Internet imaginaries (Mansell, 2012). Debates around the tension between Internet regulation and Internet freedom rely on approaching the Internet as a liberation technology (Diamond & Plattner, 2010). Accordingly, regulation is approached as a limitation of political freedoms. Scholars who rely on approaches highlighting the roles of the Internet in economic production (Benkler, 2006) emphasize the socio-economic risks of Internet regulation. This study, however, stresses the need for an analysis of Internet regulation that relies on an understanding of the role of the Internet, beyond the socio-political and economic context. For this purpose, it explores the role of Internet regulation in crisis situations. Therefore, this article addresses the question: what are the potential consequences of Internet regulation in crisis situations for resilience, and how may it diminish the capacity to address “the next catastrophe” (Perrow, 2011)?

Exploring Internet regulation requires an analytical distinction between the concepts of risk and of crisis, as well as a highlighting of the link between these two concepts. The roles of digital platforms are accordingly distinguished between those of risk management and of crisis response. The first should help to prevent crisis by various digital means, e.g., the monitoring of potential trends that may lead to a crisis, and early warning, as well as the preparation of digital infrastructure that enables response that should mitigate the threat (Rogers & Pearce, 2016). The second is the role of platforms in various aspects of crisis response, including crisis mapping and resource mobilization to address the crisis (Alexander, 2014; Palen & Liu, 2007).

Different models offer frameworks that enable us to follow the transition from risk to crisis (Fink, 2002; Gonzalez-Herrero & Pratt, 1996), which can also be seen as a transition from everyday life in the shadow of potential crisis (Beck, 2006) to crisis-related social systems (Barton, 1969). On the one hand, the transformation of risk into crisis “can be seen as failures in risk management” (Sellnow & Sellnow, 2010, p. 116). On the other hand, a crisis starts a new cycle of post-crisis risk management. In this light, a crisis can be considered as an opportunity to examine the relationship between digital innovation and regulation in the context of a threat. However, this type of analysis also offers the potential value of considering the impact of regulation on addressing future crises presented through various forms of risk communication.

The state of risk and the state of crisis are linked by the notion of resilience. According to Tierney (2014), resilience involves “pre-existing, planned, and naturally emerging activities that make societies and communities better able to cope, adapt, and sustain themselves when disasters occur, and also to develop ways of recovering following such events” (2014, p. 5). In this light,
she defines risk as “the possibility of serious disturbance to the integrity of a system” (p. 5). Here we may distinguish between risk and resilience. The notion of risk concerns what may potentially go wrong, explores its likelihood and consequences. Resilience is a feature of the system potentially facing the risk. The importance of resilience highlights the need to identify the factors and policies that may contribute to either increasing or restricting resilience. The purpose of this article is therefore to offer a conceptualization of the role of digital platforms in the development of resilience, and accordingly of the policies that may limit resilience and increase social fragility following the transformation from risk into crisis.

The notion of resilience is particularly important in the context of the discussion regarding existential risks including the risks that associated with pandemics and climate change. Existential risks are a specific type of global catastrophic risks, where the damage is not only global but also terminal and permanent (Bostrom, 2002). The impact of Internet regulation on the development of resilience may be further seen as significant in the context of the literature on global catastrophic and existential risks (Bostrom & Ćirković, 2008). While a rich literature explores the political implications of Internet regulation, the link between Internet regulation and the capacity to mitigate global catastrophic and existential risks remains unexplored. Here the question concerns whether the contribution of digital platforms to resilience may diminish the catastrophic risks, and what are the condition that may allow the transformation of potential catastrophes into non-existential crises.

The classification of global catastrophic risks by Avin et al. (2018) suggests that an analysis of these risks should be considered through three vectors: “The critical system whose safety boundaries are breached by a potential threat”; “the mechanisms by which this threat might spread globally” and “the manner in which we might fail to prevent or to mitigate both” (Avin et al., 2018, p. 21). Based on this framework, one may argue that global information networks have a triple significance: they are critical to supporting our lives, they can be used to spread different threats (as in the case of the “infodemic”), and they can be an important mechanism for responding to crises. The last point allows us to contextualize resilience as linked to mitigation, whereas the Internet can be considered as a critical system for the prevention and mitigation of global catastrophic risks.

In order to address the research question, the next section offers a theoretical framework that enables us to explore the potential impact of Internet regulation on the development of resilience. Based on critical reflection regarding the role of Internet regulation through the lens of mediatization, this section suggests that the vital role of the Internet in addressing global catastrophic risks can be seen from a mediational perspective. This perspective enables us to go beyond a focus on the construction of the risk and of the crisis, and to explore the generativity of digital platforms as a major factor in shaping
new forms of user-crisis relationship. In such a case, regulation concerns not only the crisis as an object, but also users as subjects, as well as the role of digital tools that offer new forms of users-crisis mediated relationships.

Relying on this theoretical framework, the following section suggests a methodological framework that allows us to consider the impact of Internet regulation on resilience in the face of crisis. This framework allows us to focus on an analysis of the impact of regulation on three elements of the mediational triangle: crisis as object, the users of digital platforms as subjects, and the role of digital tools as mediators of subject-object relationships. This framework offers an empirical opportunity for exploring the generativity of digital platforms in the construction of user-crisis relationships through mapping the structure of crisis-related activity systems. It highlights the generativity of platforms in crisis situations as the core factor, when resilience cannot be sustained, if any elements of the triangle are constrained by regulative policies.

The role of generativity in the context of digitally-mediated relationship between users and crisis is addressed here through empirical analysis of Internet regulation in response to the Covid-19 pandemic. This analysis of the role of digital platforms in Covid-19 response in Russia allows us to identify the regulative efforts applied to each element of the triangle, and accordingly to the entire system of crisis-related activity. The discussion shows how regulation limits not only crisis response, but also post-crisis transformation that fails to offer a new level of resilience resulting from efforts of regulation.

**Internet regulation in crises: from mediatization to a mediational perspective**

Conceptualization of the role of Internet regulation in crisis response is essential in order to explore the link between regulation and the development of resilience. Many approaches to regulation may focus analytical attention mainly on the communicative processes and relations of power involved in the construction of risks and crises. For instance, according to Entman (1993), the framing of a crisis evokes several significant questions, including who is responsible for the crisis and how the crisis should be addressed. In this light, exogenous threats (as in the cases of either natural disaster or armed conflict) can also lead to a chain effect and to a destabilization of the internal socio-political situation in the context of the relationship between authorities and citizens (Pelling & Dill, 2006).

A variety of digital tools play an active role in the symbolic construction of a crisis, including its framing of the attribution of responsibility (Coombs & Holladay, 2004). Moreover, various types of framing may lead to various forms of social mobilization, and to channeling the attention of the public toward
either direct response or criticism of the authorities. In some cases, what starts as a crisis-related mobilization can rapidly shift into protests against the institutions responsible for crisis management. At the same time, some framings may mitigate the risk to the authorities from independent mobilization. In this light, Internet regulation can be considered as a policy seeking to take control over the symbolic construction of the crisis and diminish the political risks related to crisis situations.

A more nuanced understanding of the role of Internet regulation in crisis response can be identified, based on the application of the mediatization concept. Esser and Matthes define mediatization as the increasing “intrusion of media logic” into various fields (2013, p. 177). Mediatization changes the way disasters are experienced by a broad audience (Cottle, 2006). It also offers new forms of control over crisis. The notion of arrested war (Hoskins & O’Loughlin, 2015) suggests that the chaos of user-generated content has been harnessed by institutional actors who developed capacity to control the ways in which media logic shapes the construction of crises.

A new stage in the development of mediatization theory suggests, however, that we need to move beyond a focus on the role of media logic in the construction of crises. The notion of deep mediatization highlights how new media technologies transform the nature of crisis situations as a part of everyday life. According to Couldry and Hepp, “Deep mediatization is an advanced stage of the process in which all elements of our social world are intricately related to digital media and their underlying infrastructures” (2017, p. 7). In such a case, crisis situations cannot be separated from platforms and their algorithms. A discussion of regulation, therefore, should increase the scope of the factors to be considered beyond symbolic construction to include the role of platforms.

Hepp also highlights the fact that that deep mediatization involves physical activity and collaboration, while “the separation between communicative action and physical action becomes blurred” (Hepp, 2020, p. 11). Accordingly, relying on the concept of deep mediatization suggests that Internet regulation involves regulating a broad range of individual and collective actions. However, the key challenge of applying deep mediatization as a framework for regulation analysis is the broad nature of the concept, which does not allow us to identify the specific consequences of mediatization in a crisis context and to develop a consistent methodological framework.

While Internet regulation in terms of a traditional mediatization concerns taking control of the role of media logic in shaping the nature of an event, Internet regulation in a time of deep mediatization is related to regulating digital infrastructure in a way that increasingly expands control over everyday life. Hepp’s argument regarding the role of mediatization in physical action reminds us, however, of a different analytical tradition that can offer a framework for the analysis of Internet regulation in the context of crisis
and its impact on resilience. This involves the concept of mediated activity initially developed in the context of cultural-historical activity theory (CHAT).

The role of mediation was conceptualized by Vygotsky as a triangle with three key elements: subject, tools, and objects (Vygotsky, 1978). The subject in this case is the individual person, while the object of the subject’s activity is the environment. The tools link subject and object, and this linkage is conceptualized as a mediation of activity. According to Kaptelinin, “technology is considered as mediating means that affects, and even shapes, the structure, functioning and development of human mind and action” (Kaptelinin, 2014, p. 203). Kaptelinin and Nardi (2006, p. 32) consider activity “as the basic unit of analysis providing a way to understand both subjects and objects.” Engeström developed an analytical framework for the analysis of collective activity, defining activity systems as “systems of collaborative human practice” (Engeström, 1988, p. 30). Digital mediation is therefore seen in the context of activity systems that offer a system of relationships between subjects (users) and their environment (objects).

In this light, digital tools offered by the Internet play an essential role in the relationship between users and crises, as well as between users and other actors (including institutions) in the context of a crisis. This relationship relies on three elements: the definition of a crisis as a potential object of activity, the attribution of responsibility for a crisis in the context of a relationship with other actors, and the mediated relationships with the crisis. In this sense, mediation has a double role, whereby a symbolic mediation of meanings is associated with the mediation of activities in response to the crisis (and to the actors identified as responsible). The role of Internet regulation is therefore concerned mostly with how control over digital platforms may shape relationships between users and crisis.

In response to the Covid-19 pandemic, Ferholt et al. (2020) suggest the notion of “humanity’s leading activity” as “the activity whose development accounts for the most important changes in humanity’s response to current and forthcoming crises” including “a struggle for survival and against extinction of the species” (p. 96). A focus on “the increasingly digitalized nature of human activity encompassing humans, algorithms, augmented intelligence, and other digital technologies” (Karanasios, Nardi, Spinuzzi, & Malaurent, 2021, pp. 234–235) reminds us of the approach of deep mediatization scholars. Here, as a compromise between two approaches, we may talk about a deep mediatization of activity.

Karanasios et al. (2021) link this transformation of the nature of human activity to the generative capacity of digital platforms. The notion of generativity has been introduced by Zittrian as “a capacity to produce unanticipated change through unfiltered contributions from broad and varied audiences” (Zittrain, 2008, p. 70). The generative capacity of the Internet allows “technology to produce new activities and outputs and to structure behavior beyond
original creators’ intentions” (Karanasios et al., 2021, p. 245). Generativity as the capacity to introduce unanticipated forms of subject-object relationships relying on digital mediation in crisis situations can be considered an essential element for the development of resilience. A generative system not only creates new meanings, but also mediates new forms of relationship between subject and surrounding environment. In other words, generative systems formulate new goals on the level of meaning, and offer new mechanisms for accomplishing these on the level of activity. Accordingly, Internet regulation can be considered as a set of policies that may limit the generative capacity of digital platforms and diminish resilience in the face of future crises.

A framework that relies on a concept of generativity (Zittrain, 2008) allows us to offer an argument for how Internet regulation may diminish our capacity to address global catastrophic risks (Bostrom, 2002). The notion of preadaptation (Cuénot, 1914), although it was introduced before the era of the Internet, offers a fruitful contribution to this framework. It describes systems with resources that may seem to be redundant, but can play a key role in survival in the face of new risks. Such a framework argues that the Internet enhances processes that increase socio-cultural diversity, thereby raising both its pre-adaptive potential and its sensitivity to change. In this sense, the Internet can be considered as a system that encourages the development of variability and preadaptation, and a resource that allows a system to react to crises (Asmolov, 1998).

In that light, more attention needs to be dedicated to considering Internet regulation in terms of the potential of the Internet to offer crisis-related innovation and crisis-related entrepreneurship (Nambisan, 2017), and to addressing institutional voids (Khanna & Palepu, 2010), that may potentially emerge in the context of future crises. In this sense, Internet regulation may diminish the capacity of digital innovation to offer new forms of subject-object relationships in the face of future crises. An analysis of Internet regulation requires us to rely on a methodological framework that draws on a mediational perspective and focuses on activity systems as the primary units of analysis. This framework should help us to examine how Internet regulation may influence the development of new potential forms of user-crisis relationships and on the generative transformation of human activity in the face of crisis in a deeply mediatized environment.

**Methodology: internet regulation and the structure of crisis-related activity systems**

The purpose of this methodological framework is to offer a systematic way of assessing the impact of Internet regulation on the capacity of digital platforms to introduce new forms of activity in response to a crisis. This analysis concerns the impact of regulation on the generativity of platforms, and
accordingly on the capacity of digital innovation to mitigate future risks and to increase the scale of social resilience. The mediational perspective suggests a focus on activity as the major level of analysis. Accordingly, the role of digital mediation is addressed in the context of relationships between subjects and objects, for example in the case of relationships between users and crisis situations, as well as of subject-to-subject relationships such as those between individual and institutional actors in the context of a crisis. More specifically, the framework suggests the need to examine the impact of internet regulation on the structure of crisis-related activity systems:

(I) The focus on the object suggests an exploration of defining the object of activity that requires the mobilization of users’ resources and the development of new forms of activity. Different forms of regulation may potentially restrict the freedom to define a crisis, and limit the capacity of other actors to introduce their own definitions of the crisis as a potential object of activity.

(II) The focus on the subject proposes an exploration of how regulation constructs and restricts the role of digital users in the context of crisis situations, how the role of users is viewed by institutional actors, and specifically how they are approached either as partners for collaboration or as objects of control.

(III) The key object of regulation is the emergence of new forms of relationship between people and crisis, relying on the restriction of generativity. The focus on digital platforms as mediating tools suggests an exploration of how the regulation of platforms and innovation shapes the nature of user-crisis relationships and limits/enables new forms of activity in relation to a crisis. It also allows us to address the degree of generativity based on an analysis of the extent to which existing tools support rapid development of new forms of subject-object relationships in the context of a crisis.

Through its focus on the impact of regulation on the construction of crisis-related objects, the construction of subjects, and the role of digital tools in subject-object relationships, this methodological framework allows us to explore the role of digital platforms in identifying risk, in attributing responsibility for risk, and in forms of activity in relation to the risk. In this way, new forms of user-crisis relationships rely both on the symbolic construction of crisis and on the development of new forms of digital mediation in order to mobilize resources to address the crisis. The latter suggests digital sourcing in the context of a crisis as of particular interest for research that explores the role of regulation.

A generativity of activity means a constant emergence of new forms of resource mobilization to address crisis-related goals. On the collective level,
a generative system of activity offers new tools for the formation of dynamic activity networks around a broad spectrum of goals. One such practice is crowdsourcing, a set of technologies that allows the mobilization of individuals’ resources via a network in the name of goals arising within a generative system. That suggests exploring to what extent new forms of Internet regulation either restrict or enable new forms of mobilization of resources.

The Covid-19 pandemic offers an empirical opportunity to address the role of Internet regulation in the development of resilience. Due to the global nature of the crisis, Covid-19 can be seen as a type of emergency with some features that have been described in the literature on global catastrophic risks. Therefore, exploring the impact of Internet regulation of Covid-19 is fruitful for a discussion of the role of digital platforms in the mitigation of global catastrophic risks. In addition, Covid-19 offers opportunities for comparative analysis of the role of digital platforms and regulation, since the same crisis has been addressed in many countries.

This article explores the role of digital platforms and regulation in the response to Covid-19 in Russia. There are several reasons why Russia was selected as a case in order to discuss the advantages of the theoretical argument of this article regarding the impact of Internet regulation on generativity and resilience in the face of existential risk, and to illustrate the application of a methodological framework that derives from this argument. First, the Internet and digital innovation in Russia are to be seen under the increasing pressure of different forms of regulation. Over the last ten years, the Russian authorities have substantially increased their control over the Internet (Klyueva, 2016). The Russian parliament has approved numerous laws that seek to impose new forms of Internet regulation, including the so-called “Internet Sovereignty Bill” introduced in 2019. This regulation has been manifested also through a diversity of economic and political measures, including digital innovation by state actors that seeks to reduce independent forms of mobilization and to develop advanced surveillance capabilities (Ermoshina, Loveluck, & Musiani, 2021).

Second, over the last ten years, Russia has experienced numerous emergencies and disasters that led to a broad range of crisis-related digital innovations (Samoilenko, 2016). Rapid change in the regulatory environment in Russia allows us to conduct a comparative analysis of the role of platforms in different regulative contexts within the same country. Therefore, the Russian case offers an empirical opportunity to examine how the role of digital platforms in emergency response has changed in the context of increasing state-sponsored Internet regulation. The Russian wildfires of 2010 can be considered as the first major disaster to take place in the context of an active proliferation of social networks and social media. It also took place in the context of the global development of a crisis-mapping movement relying on
the availability of satellite imagery, open-source maps and new crowdsourcing tools (Meier, 2015).

The Russian state, lagging behind in the area of crisis mobilization, has embarked since the 2010 crisis on the development of new technologies. These were intended to return control of crisis-related mobilization resources to the state and to minimize the political risks associated with the independent crisis-related activity of users. New forms of “vertical crowdsourcing” (Asmolov, 2015) can be considered as forms of state-sponsored innovation, the essence of which is an attempt to integrate the horizontal mobilization of the volunteer community into Russia’s vertical power structures. Vertical crowdsourcing can also be seen as a new form of control through regulation of user-crisis relationships. In this light, given the particular concern of the Russian authorities regarding the role of digital platforms in crisis situations, the increasing scope of Internet regulation and the record of crisis-related innovation, a focus on the response to Covid-19 in Russia presents an opportunity to explore the impact of regulation on digitally mediated crisis response.

This analysis has relied on collection of data about Covid-related digital projects developed between January 2020 and September 2020. The analysis identified 14 digital initiatives, including state-sponsored and independent projects. That included crowdsourcing projects that offered various forms of mobilization concerning Covid-19, crisis mapping projects and Covid-related tracking apps. Some projects relied on several tools, including Telegram channels and chatbots. The data collection has addressed two aspects. First, the project’s structure and its modus of operations to analyze how these tools mediated user-crisis relationships. Second is the coverage of the projects in Russian media. An additional data set included statements by Russian officials regarding the role of digital platforms in crisis response. Lastly, a series of events with the founders of crisis-related projects was organized with a partner in Russia. The events allowed us to collect data concerning the obstacles for the operation of independent projects. The data collected was analyzed on the basis of a thematic framework (Boyatzis, 1998) developed by relying on the elements of a mediational triangle: regulation of subject, regulation of object, and regulation of mediating digital tools. NVivo was used to conduct thematic analysis of the data relying on the coding framework.

**Generativity and crisis response in Russia: the case of Covid-19**

This section explores the link between Internet regulation and crisis response in Russia. The analysis considers whether, and if so how, increasing Internet regulation limits the crisis-related resilience of a society. The section is divided into three parts based on the methodological framework: regulation of objects; regulation of subjects; regulation and mediating tools.
**Regulation of objects**

Crisis communication literature traditionally highlights how the construction of a crisis is a crucial factor in the attribution of blame (Coombs & Holladay, 2004). This is related not only to human-made crises, but also to natural disasters where the authorities are held accountable for the efficiency of their engagement. Governments in almost all countries have faced criticism and scrutiny regarding their policies and crisis management skills in response to Covid-19. A wave of protests and calls for resignations of political leaders due to their poor managements of the crisis have been seen in many countries.

In this light, it is important for a government to show that a crisis is under full control. This type of effort has been seen during all crises in Russia since the wildfires in 2010 (Bertrand, 2012). An issue of particular sensitivity is the number of casualties, since this offers a metric for the scale of the crisis and the efficiency of state efforts. Attempts to manipulate official statistics based on these numbers have also been seen in the recent history of Russian crisis response. The framework of this study highlights, however, that the construction of the object needs to be seen in the context of an activity system. On the one hand, if the construction of a crisis suggests the absence of a proper response from state authorities, this may suggest the need for activities in relation to institutional actors to hold them accountable and force them to act properly (e.g., protests). On the other hand, the construction of the object is associated with the nature of activities of citizens in relation to the crisis. A construction of the crisis as an object under the full control of institutional actors suggests that there is no need for independent activities in response to the crisis. However, if the crisis is constructed as an object that is out of control, then this offers more space for the emergence of independent crisis-related action.

In the case of Covid-19, we have seen how new legislation targeting so-called “fake news” is used to prohibit the proliferation of alternative interpretations of the crisis. In June 2020, Russia’s Prosecutor General’s office reported a spike in Covid-related “fakes” on the Internet, adding that actions were being taken “to restrict access to 180 Internet resources” (Agora International Human Rights Group, 2020, online). According to the Russian human rights group AGORA (2020, online), the criminalization of fake news “has become a convenient tool for reprisal against the authorities’ critics.” The concept of fake news became a crisis-management tool, allowing authorities to shift responsibility toward those spreading it. Russian authorities have blamed the EU and the US for distributing Covid-related fake news in order to destabilize the socio-political situation in Russia.

As a goal of social mobilization, this response to “fakes” essentially replaces the public response to a crisis or public scrutiny of the state’s efficiency. Websites like coronafake.ru were launched by state-sponsored actors to engage
the public in participatory identification of what is considered by state institutions to be fake. The concept of participatory propaganda (Asmolov, 2019) highlights how state actors engage users in order to produce and distribute content. This participation, however, is focused also on the identification of content that is considered “fake” because it contradicts the official position (for example, because it offers alternative data about the number of victims). The state-sponsored participation in identifying fakes can be considered as the creation of an alternative object of mobilization. It refocuses public attention away from the problem of the virus. The fake news argument can be also considered a social construction that helps to delegitimize independent sources of information.

In addition to the focus on fakes, state-sponsored media coverage of volunteering has been focused on the construction of narrow and restricted objects of mobilization, such as assistance to elderly people unable to purchase essentials due to Covid isolation, while excluding alternative objects of mobilization that may potentially expose the failure of institutional actors (e.g., related to support for medical staff). In this way, the state-sponsored channeling of participation could be viewed not only in relation to engagement with the crisis, but also as a construction of the crisis.

The major object of concern, however, is related to the discussion of subjects, the public and users as responsible for the crisis. Here the construction of object and subject are deeply interrelated, since the regulative efforts seem to transform people seen as a potential resource into people seen as a problem (e.g., due to refusal to be vaccinated or failure to obey isolation rules), which can be considered as an objectification of subjects and as a strategy for shifting the attribution of blame from institutional actors to the public.

**Regulation of subjects**

The major tension concerns whether the construction of a subject is associated with potential forms of activity or of passivity of the subject in the context of a crisis situation. This depends on whether the subject is potentially constructed as a resource/partner for mobilization that can be engaged by addressing the object, or is a part of the problem that needs to be solved in the context of the crisis, and accordingly an object in itself.

Various forms of digital surveillance construct the user as an object of control and a potential source of risk. Tracking apps have been introduced in many countries during Covid-19, however these applications vary depending on the degree of intrusion into the personal sphere. Covid-related monitoring has also relied on the existing structure of surveillance of a society. This relies on the consolidation of “surveillance systems whose existence dates back several years” (Musiani et al., 2021p. 175). For instance, the surveillance
cameras with a face recognition function that were installed as a part of the “Safe City” program in Moscow were used to identify people who broke quarantine rules during lockdown. Another case of surveillance is presented by a Russian application known as “Social Monitoring’ that was created to make sure Russian citizens complied with self-confinement. It tracked users via GPS and sent them notifications at random times demanding that they share a selfie to prove they were at home. The app, however, created multiple controversies after many people received fines as a result of glitches, although they were following quarantine rules.

The tension around the construction of a subject in the context of a crisis can also be seen in the context of hyperlocal networks. Here one could identify two competing models of the subject in the relationship between neighbors. On the one hand, a subject can be interpreted within a context of mutual aid as a first responder and immediate resource that can be mobilized to help. On the other hand, a subject can be considered a risk to the community that may potentially violate the rules and therefore need to be surveilled. COVIDarity (https://covidarnost.ru/), a digital initiative attempting to support the development of horizontal neighborhood mutual-aid groups, was launched in March 2020 by activist Alexandra Krylenkova. “In a situation where the state does not make decisions to act against the crisis, civil society should act,” Krylenkova wrote on her Facebook page. The goal of this project was to organize information about local mutual-aid communities. A COVIDarity group chat was created on Telegram, as well as a chat bot on Telegram designed to give users information about a local mutual-aid chat in their building or to help them create such a chat in their area.

According to Krylenkova, the construction of the subject on a hyperlocal level was associated with a preexisting experience of collaboration on that level that allowed the development of some degree of trust: “It worked where communities have already existed in homes, and had a previous experience of solving specific hyperlocal problems (e.g., parking issues). Where there were no existing communities, new communities were not created, despite many efforts that we invested in this” (online workshop, 2021).

At the same time, a state-sponsored system has tried to develop an alternative model for the construction of neighbors. Various tracking systems and online maps launched by state-sponsored media have supported forms of horizontal surveillance among neighbors. For example, maps showing addresses where a virus carrier had been discovered were created by the Mash project (coronavirus.mash.ru). Local city forums were also used for the persecution of the sick and their relatives by neighbors. In the eyes of the vigilantes, neighbors were not a subject of mutual aid, but an object of observation and a potential threat. According to Mikhail Klimarev,
a Russian Internet freedom activist, digital surveillance tends to “infantilizes citizens and suppress civic responsibility” (Musiani et al., 2021, p. 176). According to Moscow Mayor Sergei Sobyanin, Muscovites were reacting to their neighbors who violated the regime of self-isolation even more toughly than the police were.²

Trust seems to be a crucial factor for the construction of a subject in a crisis situation, as shown by this case of relationships within hyperlocal networks. While there is widespread evidence of “lack of mutual trust between citizens and the state” (Musiani et al., 2021, p. 176), the state has tried to solve this problem by enhancing the lack of trust among people and diverting mistrust away from institutional and toward individual actors. Additionally, the emphasis on distrust leads to digital vigilantism, resulting in the Internet’s horizontal structures being used, in times of crisis, for mutual surveillance as opposed to mutual assistance. In this light, some of the regulation seems to limit opportunities for digitally mediated horizontal mobilization, while replacing objects of activity in a situation of crisis with subjects. The external threat (e.g., virus or fires) has been replaced for people as an object. This transformation of activity has been supported by digital vigilantism activities.

According to Johnston (1996), vigilantes can be considered as citizens who appoint themselves to enforce justice against other citizens without having the legal authority to do this. Some vigilantes are driven by the perception that the government is incapable of enforcing the law, while others emerge in the context of informal state-public partnerships. State-sponsored digital vigilantism has been seen as a form of participatory regulation and surveillance in an authoritarian environment (Loveluck, 2019). For instance, Russian authorities have launched multiple “cyber guard” projects that engage users in Internet regulation through the detection of so-called extremist content (Dauce et al., 2020). This engagement in hyperlocal surveillance continues the logic of participatory regulation. In such a situation, digital vigilantism replaces mutual aid as a dominant form of mobilization in a crisis context. Digital vigilantism can also be considered as a form of mobilization that weakens independent crisis-related activity systems, as well as citizen-driven activity systems that may challenge state actors.

An additional form of regulation of the subject can be seen in the facilitation of polarization within horizontal connections between individuals. The disconnection power of disinformation campaigns that aim to dissolve horizontal ties among people by increasing the impact of crisis-related social categorization has been noted previously in the context of the Russia-Ukraine war (Asmolov, 2018). This manifestation of disconnection power allows a state to construct users by setting particular aspects of the crisis as social markers in interpersonal communication. In the case of Covid-19, a shift of blame for the

²https://tass.ru/moskva/8,159,779.
crisis toward the irresponsibility of the public have sustained the phenomenon of online “unfriending.” Polarization and continuous disconnection based on attitudes to vaccination can be seen as an effort to construct subjects in a way that reduces mutual trust and sabotages independent networked collaboration in response to the crisis.

**Regulation of tools**

As in many other countries, the Covid-19 crisis in Russia was followed by a wave of crisis-related innovation. This included the development both of independent digital projects and of projects sponsored and promoted by official state institutions. Some hackathons, as an online Covidhack event, took place to facilitate collaboration within the IT community to address the challenge (Musiani et al., 2021). A major focus of independent initiatives was the facilitation of mutual aid. This included not only the COVIDarity project described above, but also hyperlocal groups that had arisen on the basis of instant messengers and relied on Telegram chatbots. For instance, Russian political activist Yegor Zhukov launched a Telegram bot @mutualhelp, which allowed users either to ask for help or to volunteer.

The Russian liberal newspaper Novaya Gazeta created the Corona-Info Telegram bot (@corona_tgbot), acting as an aggregator for volunteer initiatives to support the ecosystem that emerged from various mobilization tools. An independent project, Memedic (Memedic.ru), offered a transparent system for medical volunteering that allowed people to sign up for shifts in hospitals. The founder of the project explained the need for the system in terms of the inefficiency of official state-sponsored “Medical Volunteers” (online workshop, 2021). Some platforms were created in the Russian regions to support collaboration between local NGOs. For instance, in Perm a coalition of NGOs launched a neighborhood mutual-aid action, the Sosediperm.ru website, which facilitated dialogue between individual users and organizations in order to identify opportunities to provide help. An additional example of independent mobilization can be seen in the case of a community of “makers” that used 3-D printers to create personal protective equipment. The mobilization of such “makers” has become a global phenomenon. Dozens of regional groups of makers appeared on Telegram under a title Makers vs. COVID, where activists discuss the production process and coordinate the transfer of the items they have created to medical institutions.

The major feature of most of these independent projects was a high degree of generativity. The users could either create new tasks or/and identify a task for their mobilization. There was no need for a complicated process of registration, approval or confirmation in order to enable participation (though each project had some specific rules). Due to a transparent structure, people had more agency over their participation in crisis response. The projects were
evolving fast in order to address new challenges, and engaged the community to support the technological development driven by new emerging challenges. Hyperlocal projects had the highest degree of generativity, since they were created to support horizontal mobilization of the resources of local communities around any type of goal based on the decentralized architecture of a platform. However, many of these projects faced substantial challenges in light of state regulation.

No matter how effective the mobilization tools, these cannot work unless a wide audience learns about them. Therefore, the role of media in proliferating information about these projects is crucial to their success. However, the media can also be a tool for demobilization. Russian state-sponsored media contributed to limiting the role of independent projects. A number of informal mutual-aid projects became the subjects of information attacks designed to challenge the legitimacy of independent mobilization tools. For example, an article in *Nezavisimaya Gazeta*, published under the heading “COVIDarity turned out to be an opposition project,” emphasized that mutual-aid projects could help the Kremlin’s political rivals gain political capital. A number of pro-government media platforms, argued that some of the independent projects operate for the sake of panic in society, while financial fraud might be hidden behind a screen of mutual aid.

At the same time, Russian media were managing an intensive PR campaign in order to promote state-sponsored volunteering portals that were used to mobilize the public to address Covid-19. The *Dobro.ru* portal (Portal of Goodness) became a central hub for the “We are Together” campaign launched by Russian authorities to mobilize volunteers in response to Coronavirus. The portal was a part of the Volunteers of Russia unified information system, supported by state agencies. The architecture of the *Dobro.ru* corresponds to the centralized principles of “vertical crowdsourcing” (Asmolov, 2015). A person who wants to become a volunteer is registered, fills out a questionnaire, and waits to be called upon to fight the crisis. Another volunteering project was launched by the Russia Today (RT) TV channel. RT’s Mutual Aid Map (https://ddbm.rt.com/) allowed anyone to register themselves as a volunteer by indicating their place of residence, or to post a request for help. This map had a transparent structure, although it relied on a list of strict service rules and legal limitations. Data from April 2020 also showed a significant imbalance between a high number of volunteers (more than 2,000) and low number of applications for assistance (about 20).

To sum up, the Russian ecosystem of volunteering that has arisen around COVID-19 is characterized by a predominance of digital platforms with some relation to the state, and by the crowding out of independent projects. The active promotion of pro-state platforms can be also seen as regulation limiting decentralized, hyperlocal and generative tools, while giving preference to tools of vertical crowdsourcing that offer an
opportunity to keep crisis-related mobilization of the public under strict control, and to limit the scope of public participation in crisis response. In this light, we may argue that state-sponsored digital platforms have played a dominant role in defining the relationship between the Russian public and Covid-19, and in regulating the mobilization of people’s resources in relation to the crisis.

Discussion

The purpose of this article has been to explore the potential consequences of regulation for crisis response and the development of resilience in the face of future risks in a deeply mediatized environment. The integration of a mediation perspective and the notion of generativity offered an opportunity to present an argument regarding the impact of regulation. It suggested that we explore the impact of Internet regulation on the structure of crisis-related activity systems. This focus allows us to argue that the major contribution of generativity to the development of resilience can be seen in the role of platforms in the relationships between users and crisis situations, when different forms of state-sponsored regulation limit the potential of platforms to offer new forms of response to a crisis.

An analysis of the role of digital platforms in response to the Covid-19 pandemic in Russia has allowed us to illustrate this argument. On the one hand, we see various efforts by the regulator to keep the construction of the crisis under control. The regulation of an object can be associated with different forms of mobilization to address this object, and accordingly may limit the role of digital platforms in crisis-related mobilization. Moreover, we see the efforts of the state to replace the object by shifting attention from the crisis to other actors. The regulation of the subject has relied on variety of policies, starting with new legal restrictions, tracking apps and state-sponsored media narratives that aim to shift the balance of trust from mistrust of authorities to mistrust of the public, and online initiatives that support digital vigilantism. Finally, we see the tension between, on the one hand, independent, decentralized tools that offer a flexible structure for user-crisis relationships and enable a high degree of generativity, and, on the other hand, state-sponsored platforms that limit the scope of participation and follow the logic of vertical crowdsourcing.

Overall, this empirical discussion demonstrates how an integration of different forms of regulation restricts the generativity capacity of digital platforms to produce new forms of relationship to a crisis, including new forms of resources mobilization. It also weakens horizontal and hyperlocal networks that may potentially create alternative, decentralized systems of crisis-related mobilization beyond state control. The main victim of these regulative efforts is the resilience of society in the face of future crises, its capacity to offer rapid
innovation and new forms of user-crisis relationships depending on the nature of the threat by relying on existing and new digital tools.

By drawing on the concept of generativity, this empirical analysis demonstrates the role of the Internet in an increasing variety of activities mediated by digital tools, specifically crowdsourcing and commons-based production practices, in response to Covid-19. The empirical case also highlights the value of new forms of digital mediation between users and their environments, as well as of the generative capacity of the Internet to produce new forms of activity, in the context of the emergence of global catastrophic risks. This includes the role of digital tools both, on the one hand, in detecting a crisis and constructing it as a potential object of activity and, on the other hand, in mobilizing resources to address the threat. The notion of preadaptation highlights how, as a generative environment, the Internet should be considered as a source of latent resources that may seem not to be necessary, but can potentially play a crucial role in the response to crises. Preexisting hyperlocal networks seem to be a particularly important resource of preadaptation, while these empirical insights suggest that it has been challenging to form new hyperlocal networks during this crisis.

The change in the role of digital platforms for crisis response in Russia offers an empirical illustration of the potential impact of Internet regulation on future crisis response. A range of regulatory measures, including traditional censorship, regulation of disinformation as defined by the state, indirect support for digital vigilantism, facilitation of disconnection within horizontal structures, and participatory forms of regulation through an orchestration of mobilization, can be seen as an effort to control subject-object relationships in the context of a crisis. Such control relies on a combination of using digital platforms to define the risk, attributing responsibility (either to external forces or to public), and offering a structure of activity systems that are fully integrated into the state framework for crisis response. The latter also includes a redirection of citizen mobilization away from independent channels toward either state-sponsored channels or/and “thin” forms participation (Zuckerman, 2014).

Although this discussion relies on the empirical case from Russia, the value of this framework can be seen in different political environments. For instance, Kavada (2020) discusses the role of a “hyperlocal infrastructure of care” in the emergence of mutual aid groups in response to Covid-19 in the UK. The discussion highlights how different tools (e.g., WhatsApp, Slack or Zoom) have different digital affordances that either enable or limit generativity. Kavada’s analysis offers a comparison of the “decentralised organising model employed by mutual aid groups” and of the “more centralised NHS Volunteer Responders scheme.” For instance, these models suggest different constructions of subjects. While hyperlocal mutual-aid projects rely on “equal and horizontal relationships of solidarity,” the NHS volunteer scheme “makes
a clearer distinction between those who are vulnerable – and registered formally as such by the state – and the volunteers who help them” (Kavada, 2020, online). In this light, this study can be considered as a starting point for a future comparative analysis of the link between Internet regulation and crisis-related resilience.

**Conclusion**

One may suggest that the link made here between empirical analysis of the role of digital platforms in response to Covid-19 in Russia and discussion of the role of Internet regulation in the context of global catastrophic risk is speculative. Indeed, this study does not attempt to suggest that we may reach some clear conclusion about the impact of regulation in the face of “the next catastrophe.” That said, a juxtaposition of the mediational perspective and the notion of generativity enables us to expand our interpretative flexibility regarding the role of the Internet in the prevention and mitigation of global catastrophic risks (Avin et al., 2018). It highlights the meaning of the Internet as a resource for variability and preadaptation that should support new forms of humanity’s leading activity (Ferholt et al., 2020) at a time of ever-growing uncertainty and existential risk. This framework highlights the ways in which Internet regulation, including sovereignization, may potentially restrict three critical aspects of addressing existential risk: how the risk is constructed as an object of activity, the scope of resources for addressing the risk, and how these resources can be mobilized.

This analysis of the Russian case demonstrates how Internet regulation changes the nature of the role of digital platforms in response to a crisis. Initially, digital platforms offer an opportunity for a broad range of crisis-related innovations and new forms of independent action. However, increasing control by the state in the digital domain achieves several goals. It limits the scope of digital innovation in a situation of crisis, restricts independent forms of crisis-related activities, and channels the mobilization of the digital crowd into state-sponsored channels. Although this type of regulation mitigates crisis-related political risks for the authorities, it also limits the social resilience of a society in the face of crisis.

To sum up, Internet regulation not only undermines the pace and potential of society’s sociopolitical and cultural development, but also renders it more vulnerable to a variety of risks. The present analysis indicates that both users and state institutions stand to benefit from supporting the generativity of the Internet. The preservation of generativity is a key factor in securing the resilience of social and political systems in the face of crises yet to come. Conversely, the restriction of generativity would lead to a failure of the Internet as a system for the mitigation of catastrophic global risks, and to an increasing probability of failure to address existential threats.
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