

STAKEHOLDER SALIENCE, SOCIAL MEDIA, AND THE COGNITIVE COMMONS

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(Pre-publication version)

The New Encyclopedia of Stakeholder Research

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ABSTRACT

In this paper we explore the need for further development of stakeholder salience theory prompted by the business model of social media companies, where stakeholder salience is amplified by algorithms designed to shape user perceptions and behavior. Previously the field has concentrated on manager-centric salience. As social media has emerged, we have noticed a migration away from managerial centrality toward “algorithmic centrality,” where the user becomes the user, and stakeholder salience takes on a new and broader meaning. We are concerned that in the process of “using” salient stakeholders, social media companies have created interconnected thinking patterns that are being exploited as a common-pool resource—a kind of “cognitive commons”; and that this cognitive commons can be put at risk by its misuse, such that stakeholder salience theory needs to be extended to better account for such possibilities, thereby to help avoid a tragedy of the cognitive commons.

Keywords: stakeholder salience, social media, common-pool resources, tragedy of the commons, stakeholder theory, the social dilemma

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Nothing vast enters the life of mortals without a curse.
—Sophocles

The Social Dilemma (Orlowski, Coombe, & Curtis, 2020), is a docudrama that begins with the above quotation. The movie was produced to expose “the rise of social media and the damage it has caused to society, focusing on: [1] its exploitation of its users for financial gain through surveillance capitalism and data mining, [2] how its design is meant to nurture an addiction, [3] its use in politics, [4] its effect on mental health (including the mental health of adolescents, and rising teen suicide rates), and [5] its role in spreading conspiracy theories” (2020).¹ In particular, the film makes the point that exploitation of social media users to drive up advertising revenues is accomplished through algorithms that manipulate user attention. Hence users, as a stakeholder group that is key to revenue generation, might be viewed as salient stakeholders of social media companies; and this view then opens a new chapter in the study of what it means to be a “salient” stakeholder.

Stakeholder salience theory has developed to explain the principle of who or what really counts (Mitchell, Agle, & Wood, 1997). Previously stakeholder salience theory has concentrated somewhat more on manager-centric salience: that is, on which stakeholder claims managers—as people who direct the economic activities of other people (Drucker, 1954)—choose to prioritize (Bonnafeous-Boucher & Rendtorff, 2016; Mitchell et al., 1997). Yet, as social media has emerged as a major influence in society, we can observe a migration away from managerial centrality around stakeholder claims, toward what now might be termed *algorithmic centrality around user attention*. Here, based on social media company objectives, the actions of people are directed by

computer programs, the users becomes the used, and stakeholder salience takes on a new and hitherto unanticipated meaning as a research topic.

However, the study of stakeholder salience has not sufficiently taken into account the potential misuse of salient stakeholders that *The Social Dilemma* chronicles—especially explanations that address algorithmic centrality in manipulating the attention of social media users as a stakeholder group. For over a decade, scholars have worried about omissions in stakeholder theory explanations in general, where stakeholder experiences of dissatisfaction, grievances, and harms, are undertheorized (Banerjee, 2008; King & Soule, 2007; Oh, Shapiro, Ho, & Shin, 2020). Now it appears that there is a growing gap in stakeholder salience theory in particular. We are concerned that in the process of “using” salient stakeholders, social media companies have created interconnected thinking patterns that are being exploited as a common-pool resource (Ostrom, 1998)—a kind of “cognitive commons”; and we therefore are concerned that this cognitive commons can be put at risk by its misuse, such that stakeholder salience theory needs to be extended to better account for such possibilities. Thus, it now is becoming more important to consider what an extension of stakeholder salience theory can offer to help us to avoid the impending “tragedy of these cognitive commons” such movies as *The Social Dilemma* foretell.

As stakeholder and information management scholars who are interested in the prudent management of the cognitive commons, in this short essay we therefore explore the question: How can a further-developed view of the concept of stakeholder salience help us to avoid a tragedy of the cognitive commons, as social media organizations unleash the management of people by algorithm? To do so, we first define the cognitive commons in which all members of humanity who utilize social media are stakeholders. We then explain how the classic “tragedy of

the commons” applies to the present predicament we believe is developing as social media companies exploit social media users to drive up advertising revenues through algorithms that manipulate user attention. And finally, we offer several suggestions for future directions that might enable us—using a further-developed view of the concept of stakeholder salience—to avoid the growing tragedy of the cognitive commons arising from the management of people by algorithm. We begin by developing the idea of a cognitive commons.

THE COGNITIVE COMMONS

The generally accepted definition of a commons centers on the notion of property. This notion of property is expressed in the idea of property as a resource—specifically, a common-pool resource (Ostrom, 1998)—that is free for use by others. Interestingly, however, the idea that the unique properties of a human being, in particular our mental self-awareness (James, 1890), can become a common-pool resource through the engagement of a person with social media, and therefore a commons, is relatively novel.

While it also is generally accepted that human cognition is socially situated and distributed within society (e.g., Smith & Conrey, 2009), the notion of distributed social cognition as the foundation for a business model that uses algorithms to shape its distribution, also is relatively novel. Hence, it seems reasonable to argue that: (1) in this view the distributed cognitions in an information age constitute a cognitive commons, since their exploitation is a freely-accessible common-pool resource, (2) those whose cognitions are shaped by social media firms are stakeholders of these firms, and therefore [echoing Freeman 1984: 46], (3) stakeholders who are salient to such firms include groups and individuals who use, or are used by social media firms in the achievement of their objectives. This view of stakeholder salience thus

provides the mechanism whereby we can extend stakeholder salience theory to explain the risk of an expanding tragedy of the cognitive commons and offer potential remedies.

AN EXPANDING TRAGEDY

Hardin (1968) famously termed the divergence between individual and collective rationality in the management of resources held in common, to be a tragedy of the commons, where “freedom in the commons brings ruin to all” (1968: 1244). In his analysis, the resources held in common were environmental, such as air, the fishery, oceans in general, rivers, etc., and he argued that these common-pool resources were inevitably subject to degradation due to various tragedies of the commons. His solutions centered around the creation of a kind of property right where common-pool resources were either privatized, or held as public property where entry or use was to be regulated by charging a tax or a fee for its use. But without additional theorizing, these solutions may not be practicable where the common-pool resource is the set of human minds of users, who are the salient stakeholders of the information technology business-firm giants, which utilize algorithms to distribute cognitions.

Algorithmic distribution of cognitions is at the core of the growing concerns being voiced by the tech-giant-business critics, defectors, and ethicists interviewed in *The Social Dilemma* docudrama. As noted previously, this movie lists the potential sources of degradation of the cognitive commons, such as users: being exploited for financial gain through surveillance capitalism and data mining, being unprotected from social-media-driven addiction, being disabled from effective participation in the democratic processes that, as suggested by Glaser (1984), depends upon a well-informed populace (e.g., as voters polarized by attention-focusing algorithms), being endangered by social-media-induced mental health issues, and having little defense against propaganda (e.g., unbalanced information sources such as fake news). Examples

of tragedies of the cognitive commons are developed in the movie, where the contributors explain how social media algorithms result in what can be cast as degradation of the cognitive commons. Excerpts from this dialogue are presented in Table 1 (Column 2), and the underlying narrative is summarized (Column 3) .

{Insert Table 1 about here}

The excerpts from *The Social Dilemma* outlined in the narrative (Column 3) suggest essentially that the attention of users is being shaped by notifications that appear on users' social media devices, which notifications, in turn, are driven by the algorithms designed into these platforms to capture and hold attention. It includes the assertion that, for the past 10 years, big Silicon Valley companies have been "selling" their users (i.e., that under the business model of these companies, the attention of social media platform users are being "sold" to advertisers). More precisely, these big-tech insiders suggest that through the algorithmic centrality of these social media platforms, it actually is the shaping of users' behavior and perceptions that is being sold to advertisers. We therefore argue that a tragedy of the cognitive commons (in the classic sense suggested by Hardin, 1968) is underway: where, as noted previously, freedom in the commons can bring ruin to all (Hardin, 1968: 1244). Because it is a cognitive commons that is being damaged, it then follows that rectification of this growing tragedy of the cognitive commons will likely require a commons-management-based remedy following the recommendations made by Hardin (1968). We suggest that such theorizing can be set within a further-developed view of stakeholder salience.

A FURTHER-DEVELOPED VIEW OF STAKEHOLDER SALIENCE

Mitchell et al. (1997) coined a shorthand version of stakeholder salience by borrowing the tongue-in-cheek term used by Freeman and Reed (1983), in the then quest for better

stakeholder identification: who or what really counts? As we have noted previously, in the traditional commons-management literature, solutions to tragedies of the commons center on taking one of two paths: either privatize the common-pool resource (to implement the incentives of private property managed by the *invisible hand*), or declare the common-pool resource to be a public good with a fee for its use (again invoking incentives-based management). We agree that the solution to common-pool resource problems lies in the effective use of incentives. However, we view taking the first path—that of privatizing the common-pool resource (the sum total of social-media-shaped distributed cognitions at a given point in time)—to be impractical, given that the cognitive commons already is so extensively intertwined within ongoing social media interactions. Thus, we appeal to a further-developed view of stakeholder salience theory to apply the notion of “really counting” to the second incentive-based path—that of declaring the common-pool resource to be a public good with a fee for its use. But how might this work?

Fortunately, there exists a growing conversation in the strategic management literature that provides helpful concepts. Specifically, Barney (2018) argues that resource-based explanations for the generation of expected profits *must* include the distribution of such profits to the stakeholders who have contributed as co-creators. We see a parallel here. That is, we see Barney’s (2018) suggestion at the firm level (that stakeholder contributions to the generation of expected profits should be reflected in their distribution), as a way of acknowledging the use of the resources of salient stakeholders in a kind of common value-creation co-creative pool, that is, what might be termed a firm commons. Moving up a level (e.g., see Chan, 1998) we see a compositionally similar argument—one that is analogous at the societal level to the one made by Barney (2018) at the firm level. If we assume that the cognitive commons is a common-pool resource at the societal level; and if we further assume that the management of this resource is

co-creating value with those stakeholders who are salient to the creation of that value; it then seems reasonable to suggest that the “fee for use” of a public good, would also justify the distribution of value created to salient stakeholders as a way to protect the cognitive commons as a common-pool resource.

The forgoing parallel enables us next, to systematically examine the potential impacts resulting from: (1) treating the stakeholders of the cognitive commons as salient and their protection as a public good; and (2) finding ways to distribute co-created value from use of the cognitive commons. First, we address treating the stakeholders of the cognitive commons as salient and their protection as a public good. On the surface it appears that users of social media exchange data incident to their use of a given platform for benefits from use of that platform (i.e., for search results, to generate shares or likes, for networking, etc., which we acknowledge can be substantial and highly valuable to users). However, once these data are applied in ways that can degrade the cognitive commons (e.g., see Table 1 and its discussion for examples), then the principles that govern the effective management of the commons apply.

Second, we address finding ways to enable those who use the cognitive commons for firm value creation to distribute that value to the salient stakeholders in those commons. Specifically we refer to the second incentive-based pathway as suggested by Hardin (1968). In this case, then, salience—who or what really counts—would be granted to stakeholders of the cognitive commons: the public mind, if you will. Those firms whose practices degrade the cognitive commons (again, please see Table 1 and its discussion for examples), that is, those who *use* the salient stakeholders to create profits *without compensation for the degradation of the cognitive commons*, would become responsible to further compensate these salient stakeholders. What form might this take?

Stakeholder salience theory (Mitchell et al., 1997) suggests that presently these stakeholders—as “used” users—are dependent stakeholders (they have the attributes of legitimacy and urgency, but insufficient power). Specifically, Mitchell et al. (1997) suggest that “two-attribute moderate-salience stakeholders are seen as ‘expecting something,’ because the combination of two attributes leads the stakeholder to an active versus a passive stance,” that is, they are “expectant stakeholders” (1997: 876). How might expectations for acquiring this missing attribute of power then be fulfilled? Here we apply the earlier-developed concepts suggested by Barney (2018).

Barney (2018) suggests that for stakeholders who co-create value with a firm but do not have a fixed claim on that value, compensation would be drawn from the “residual” (i.e., retained earnings) that accrues to that firm. In this analysis, we thus are enabled to draw a parallel from the firm commons (common-pool co-creative resources), to the societal commons (common-pool cognitive resources). To illustrate possibilities for the distribution process in the case of the societal commons, we can consider the fee-for-use solution suggested in the case of air pollution, which has given rise to the idea of a carbon tax. The underlying mechanisms whereby a carbon tax can be used to solve the tragedy of air pollution in the atmospheric commons, depends upon setting a price that emitters of carbon into the atmosphere must pay for each ton of greenhouse gas emissions they produce. Under an incentives-based logic, businesses and consumers (who must pay the tax because they are responsible for carbon emissions through either production or consumption), are therefore given incentives either to distribute their residual earnings to pay the tax, or to change their behaviors—such as using substitute fuels for energy or adopting new technologies that reduce their emissions—to minimize their tax (fee-for-use payments). Research that begins to sort among the many such possibilities for incentives-

based solutions for use of the cognitive commons is therefore needed. Such solutions would employ fee-for-use mechanisms that reduce degradation of the cognitive commons by social media companies as they—through participation in sharing their residual value—create more value for all concerned, most particularly for members of the cognitive commons: the salient stakeholders of social media.

CONCLUSION

In this essay we have attempted to address, at least briefly, the question: How can a further-developed view of the concept of stakeholder salience help us to avoid a tragedy of the cognitive commons, as social media organizations unleash the management of people by algorithm? By introducing the notion of a cognitive commons, and by suggesting an extension of the theory of stakeholder salience as an integral part of managing these commons effectively, we have suggested a beginning approach to help us to avoid an ever-expanding tragedy of the cognitive commons.

Of course, a detailed analysis of the social welfare implications of the kind of incentives-based solutions leading to better management of stakeholder salience in the cognitive commons is beyond the scope of this essay. However, we are inclined to point out that such a discussion—of the broader inclusion of salient stakeholders—is both extensive and underway in the literature (see e.g., Jones et al., 2016; Mitchell et al. 2016). Thus, we suggest that consideration of the pluralistic methods such as the “intracorporate marketplace” (Mitchel et al., 2016) as a mechanism for operationalizing the foregoing ideas might be a helpful next step.

It therefore is our contention that as a society we are facing threats to the cognitive commons of humanity from the presently underdeveloped management by social media entities of the salient stakeholders of the cognitive commons; but also by the underdeveloped

management of our own small share of the cognitive commons by each of us as such salient stakeholders. We therefore call for common-pool resource management strategies to arrest and reverse the ongoing march toward a tragedy of the cognitive commons. Rooted in a further-developed view of stakeholder salience theory, we see possibilities for an effective response.

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Table 1: Cognitions in the Cognitive Commons Influenced by the Algorithmic Centricity of Social Media – Excerpts from *The Social Dilemma* (in the order they appear in the film)

(1) Source	(2) Quote	(3) Relevance to the Argument
Tristan Harris: former design ethicist for Google	... never before in history, have 50 designers—20- to 35-year-old white guys in California—made decisions that would have an impact on two billion people. Two billion people will have thoughts that they didn't intend to have because a designer at Google said, "This is how notifications work on that screen that you wake up to in the morning."	Attention of users is shaped by notifications, which are driven by the algorithms designed into the platform
Roger McNamee: investor in technology for 35 years	So, I've been an investor in technology for 35 years. The first 50 years of Silicon Valley, the industry made products—hardware, software—sold 'em to customers. Nice, simple business. For the last ten years, the biggest companies in Silicon Valley have been in the business of selling their users.	For the past 10 years big Silicon Valley companies have been "selling" their users
Justin Rosenstein: Facebook engineer (2007-08).	We're the product. Our attention is the product being sold to advertisers.	The business model: User attention is being "sold" to advertisers
Jaron Lanier: musician, computer scientist, technology philosopher, author	That's a little too simplistic. It's the gradual, slight, imperceptible change in your own behavior and perception that is the product.	More precisely, it is the shaping of users' behavior and perceptions that is being sold to advertisers
Tristan Harris: former design ethicist for Google	At a lot of technology companies, there's three main goals. There's the engagement goal: to drive up your usage, to keep you scrolling. There's the growth goal: to keep you coming back and inviting as many friends and getting them to invite more friends. And then there's the advertising goal: to make sure that, as all that's happening, we're making as much money as possible from advertising. Each of these goals are powered by algorithms whose job is to figure out what to show you to keep those numbers going up.	Thus, using algorithms, the usage and growth driven by users supports the money made from advertising, which suggests that users thoughts and perceptions are a common-pool resource
Joe Toscano: former experience designer embedded at Google	You pull down and you refresh, it's gonna be a new thing at the top. Pull down and refresh again, it's new. Every single time. Which, in psychology, we call a positive intermittent reinforcement.	As Hardin (1968) suggests, we see how positive intermittent reinforcement, plus freedom in the commons can affect all

(1) Source	(2) Quote	(3) Relevance to the Argument
<p>Cathy O’Neil, PhD: data scientist, author</p>	<p>I like to say that algorithms are opinions embedded in code... and that algorithms are not objective. Algorithms are optimized to some definition of success. So, if you can imagine, if a... if a commercial enterprise builds an algorithm to their definition of success, it’s a commercial interest. It’s usually profit.</p>	<p>The opinions embedded in algorithms define the meaning of centrality, i.e., algorithmic centrality of stakeholder salience</p>
<p>Bailey Richardson: former member of Instagram’s founding team,</p>	<p>The algorithm has a mind of its own, so even though a person writes it, it’s written in a way that you kind of build the machine, and then the machine changes itself.</p>	<p>The move away from person-centrality (e.g., managers) toward machine-based centrality (e.g., algorithms) suggests a broadening of salience scope beyond human-based determinations of salience</p>
<p>Guillaume Chaslot: ex-Google/YouTube engineer</p>	<p>At YouTube, I was working on YouTube recommendations. It worries me that an algorithm that I worked on is actually increasing polarization in society. But from the point of view of watch time, this polarization is extremely efficient at keeping people online.</p>	<p>Through degradation from polarization, a tragedy of the cognitive commons is invoked: “freedom in the commons brings ruin to all”</p>
<p>Tristan Harris: former design ethicist for Google</p>	<p>There’s a study, an MIT study, that fake news on Twitter spreads six times faster than true news. What is that world gonna look like when one has a six-times advantage to the other one?</p>	<p>The multiplying mechanism for distributed cognition explains why a tragedy of the cognitive commons may continually be developing</p>
<p>Sandy Parakilas: Facebook (2011-12)</p>	<p>We’ve created a system that biases towards false information. Not because we want to, but because false information makes the companies more money than the truth. The truth is boring.</p>	<p>Incentives drive algorithm-centric degradation of the cognitive commons</p>
<p>Justin Rosenstein: Facebook engineer (2007-08).</p>	<p>Algorithms and manipulative politicians are becoming so expert at learning how to trigger us, getting so good at creating fake news that we absorb as if it were reality, and confusing us into believing those lies. It’s as though we have less and less control over who we are and what we believe.</p>	<p>Rectification of this growing tragedy of the cognitive commons will likely be more difficult because the commons is increasingly polluted</p>

ENDNOTES

¹ <https://scrapsfromtheloft.com/2020/10/03/the-social-dilemma-movie-transcript/> downloaded June 18, 2021