



Circulatory interfaces: Perpetuating power through practices, content, and positionality[☆]

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Abstract

As circulation is a type of writing that functions as a habit of citizenship, it has important ethical implications for the power element of social justice. However, the act of circulation cannot be separated from the interfaces in which it is embedded, nor can it be separated from the interfaces which circulate, as those interfaces also perpetuate and produce power dynamics. In this article, I explore the intersection of interfaces and circulation through two computer interfaces and one printed interface. Ultimately, interfaces can create normative circulatory (1) practices, (2) content, and (3) positions. They produce norms about *who* circulates *what* information and *how* people circulate that information. In particular, I examine the Coronavirus Communication Toolkit and the Interactive Coronavirus Prevention Flyer Builder on the U.S. Chamber of Commerce's website as they created norms for circulating pre-existing content, obscured culpability, brought users into mutually transformative ideological assemblages, and maintained power relationships as secondary interfaces circulated and interpellated individuals. I end with heuristic questions for designers and suggestions for future research.

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1. Introduction

This article takes up Selfe and Selfe's (1994) argument that interfaces are political through the lens of circulation studies (Gries, 2015). I focus on interfaces and circulation as they relate to power, which is an important element of social justice (Jones et al., 2016). Jones et al. (2016) cited Foucault's understanding of power and argued that power refers to how groups struggle against domination, labor exploitation, and subjectivity (221). Subjectivity is being categorized by another group (221). Within digital rhetoric, scholars have long recognized the interface as a site of power (Selfe & Selfe, 1994) and, aligning with Jones et al.'s (2016) Foucaultian definition, communication and media studies scholars have argued that interfaces exercise Foucaultian productive power (Stanfill, 2015). Interfaces are the point of contact between two elements that interact. They may be computational, as in the Graphic User Interface (GUI), but they may also be printed texts or digital objects that initiate contact between people. GUIs in particular implicate circulation. Circulation is a world-making endeavor that "describes how texts, objects, bodies, data, affects, and so on flow through time and space" (Edwards, 2018, 63). Scholars argue that

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circulation is a type of writing and a habit of citizenship (Dieterle, et al., 2019), but, much like interfaces, it is also productive, as it *creates* publics (Warner, 2002, 66). Thus, circulation is also implicated in power as it relates to subjectivity and group affiliation. Broadly, extending Selfe and Selfe's (1994) argument, I argue that interfaces are political, in part, because they shape communities and subjects through normative circulation.

My central claim is that interfaces play an important role in circulation as a world-making process because they create normative circulatory (1) practices, (2) content, and (3) positions. They perpetuate power and they produce norms for *who* can circulate *what* information and *how* they circulate it. These norms can implicate people in systems of exploitation, create culpability and credit, connect users to adjacent ideological conversations, and mediate relationships between users and their audiences. These circulatory norms will not be the case with all interfaces, and they afford practitioners the chance to reimagine interfaces that suggest socially just circulatory practices.

1.1. Background

Given that interfaces are sites of power, and that circulation is a kind of writing that implicates citizenship and group belonging, I looked at three interfaces from the U.S. Chamber of Commerce that circulated information about re-opening businesses during the Covid-19 pandemic in May 2020. The Chamber is the world's largest business organization, lobbying the U.S. government and funding mostly conservative and Republican candidates, ranking as the top lobbying group of 2019 (OpenSecrets, 2020). Due to the Chamber's close ties to the state and the fact that they explicitly encouraged circulation on these sites, these interfaces were good examples of circulatory interfaces that perpetuate power.

Though the virus reached the United States much earlier, by mid-March 2020, the Trump administration implemented social distancing guidelines to quell the spread of Covid-19 in the United States. Despite public health experts' warnings about the dangers of re-opening businesses and the devastating projected fatality-rate, many officials were eager to reopen businesses over reelection concerns. The White House issued guidelines with criteria for a phased reopening on April 16 (White House, 2020). However, these guidelines had no force of law behind them, and many states reopened without meeting those criteria. Both case rates and fatalities subsequently spiked. By October 2021, the United States reported that more than 700,000 people had died due to Covid-19.

In a letter to the president and governors, the U.S. Chamber of Commerce claimed that legal regulations were unnecessary since businesses had already "improvised" (U.S. Chamber of Commerce, & Council of State Chambers 2020). This suggestion that businesses "improvise" meant that businesspeople were left with the responsibility to parse through the guidelines to determine appropriate safety measures, though many businesspeople expressed confusion about those precautions (Horsley, 1 May 2020). These voluntary guidelines left essential workers feeling unsafe and many businesses did not comply, either from inconvenience or lack of capital and structural support. Furthermore, businesspeople also needed to circulate their own risk communications for customers/employees.

2. Methodological assumptions

2.1. Social logics, power, and interfaces

My research rests on four methodological assumptions. First, Emerson (2014) argued that GUIs are imperfect representations of computer action (51), and I contend that the same is true of all interfaces. Interfaces often seem neutral and become invisible (Emerson, 2014; Grabill, 2003). However, as imperfect representations, they are imbued with power dynamics and point to unexamined social logics (Arola, 2017; Haas, 2018; Nakamura, 2008; Stanfill, 2015). For instance, Selfe and Selfe (1994) contended that interfaces reify a white middle-class culture of professionalism that commodifies information, capitalist values, and Standard Written English (491).

Stanfill (2015) argued that interfaces are not only imbued with power dynamics, but they actively produce that power. Interfaces can make power dynamics seem "common sense" or inevitable (1060); they actively perpetuate existing power dynamics by reciprocally reflecting and reinforcing social logics (1059). Though users can defy norms, interfaces create norms through the "path of least resistance" (1060). Thus, Stanfill argued that interfaces are sites of Foucaultian productive power because they encourage certain practices while hindering others. Furthermore, Stanfill (2015) understood interfaces as productive because they interpellate subjects. Broadly, understanding one's

self to be a part of a particular subject position by being “hailed” into that position is what Althusser (2001) called interpellation (118-119). Althusser gave the famous example of an officer interpellating someone as a particular subject through the invocation “Hey, you there!” (118).

Problematically, the subject positions into which users are interpellated often reflect hegemonic cultural norms. Nakamura (2008) contended that interfaces organize racial and gendered bodies according to heteronormative tropes that perpetuate capitalist logics (17) and whiteness as a norm (Selfe & Selfe, 1994; Stanfill, 2015). However, as interfaces become invisible and naturalized, so too do the categories that they interpellate. By interpellating subjects, the interface speaks to power as it can be a space in which one group creates subjectivities for other groups (Jones et al., 2016, 221). While these authors discuss interpellation in GUIs, their arguments remain salient for other interfaces. The social logics underlying interfaces are not all-powerful though, and they do not entirely prescribe anything (Stanfill, 2015).

2.2. Circulation is world-making

Second, circulation is world-making. Interpellation is particularly important for circulation studies because scholars understand circulation to be “world-making” (Edwards & Lang, 2018, 123) often through the work of Michael Warner (2002). Though Warner did not use the term interpellation, Warner argued that publics, or groups of people who imagine themselves to be alike, come into existence through being invoked in discourse (128). People imagine themselves as a part of a group through being “hailed” by texts. However, the emergence of publics through texts is only possible through circulation (66). Moreover, Warner added that invoking an audience is an act of power because it naturalizes some audiences as *the* public (128). Thus, circulation, as a world-making act that interpellates and conjures a public into being, is an act of power.

Though the terms overlap, publics are related to “assemblages,” and I use both terms here. While publics help me think about people and power, to account for non-human elements, new materialist circulation scholars use the term “assemblages,” which are fluctuating and messy “ad hoc groupings of diverse elements” (Bennet, 2010, 23). Put simply, scholars argue that contact between circulating elements transforms each element; as people, texts, and objects circulate and come into contact, they change each other and create worlds. Circulation as world-making has civic implications; Dieterle et al. (2019) argued that circulation is world-making through its role in public participation and as a habit of citizenship.

There are two important points for my study here; first, interfaces, as sites of productive power, are a part of circulatory world-making because as they interpellate an audience; they can invoke a particular type person who circulates materials. Interfaces create normative ideas about *who* circulates information and *who* will receive that information. Relatedly, the types of content that interfaces make normative to circulate speak to the kinds of publics that will arise from the circulation of *those* texts.

2.3. Interface affordances (physical and perceptual)

Third, it is important to consider how interfaces, as sites of productive power, enable or hinder circulation. Stanfill (2015) turned to Human-Computer Interaction (HCI) scholarship on affordances to explore what interfaces do, and I follow suit. In HCI, affordances refer to the properties of a site that enable users to do something and which reflect possible relationships (Norman, 1999). In terms of productive power, affordances suggest appropriate usage, and they create norms and make certain practices and positions seem commonplace (Stanfill, 2015, 1060-2).

Both physical and perceived affordances are important. Physical affordances are what users *can* do. Perceived affordances are what users *understand* that they can do (Norman, 1999). Stanfill (2015) contended that interfaces offer three productive affordances.

- (1) *Sensory affordances* are visual, auditory, and emotive and they emphasize or deemphasize certain elements (1064).
- (2) *Functional affordances* refer to what an interface technologically allows users to do (download, stream, etc.) and they suggest what users *ought* to do, thereby reproducing power dynamics (1063). Schou and Farkas (2016) further point out that different users may have different interface options, and therefore functional affordances.

- (3) *Cognitive affordances* enable users to know what they can do on a site, through labelling buttons, site self-descriptions, and claims to legitimacy. They are particularly important because they interpellate particular types of users (1063). Since perceived affordances are embedded in cultural norms, and therefore social logics, they become cognitive affordances, and help users “think[] and/or know[] about something” (Harston, 2003, 319).

Though not mutually exclusive, these affordances informed my analysis because they helped me to ask questions about what types of circulatory actions and agents these interfaces normalized.

2.4. Rhetorical effects

Finally, while interfaces can be useful to explore how norms are produced, they say little about the intentions of designers (Stanfill, 2015, 1061–1062). Thus, my conclusions are limited to the effects of the Chamber’s interfaces, especially as they relate to power. This analysis also cannot account for how and why people share those interfaces in practice.

With the methodological assumptions noted above, I understand interfaces as producing power and circulatory norms in at least three ways:

- (1) Interfaces affect *how* people circulate information, especially through functional affordances. Since interfaces only represent some actions, users understand what they can do through a set of pre-determined options (Emerson, 2014, 83–84).
- (2) Interfaces affect what people know by shaping *what* information or *content* they see through circulated materials. Content is especially shaped by functional and sensory affordances.
- (3) Interfaces affect *who* circulates materials as they shape how people know themselves as circulatory actors through interpellation and relationality. Cognitive affordances are particularly important for understanding who circulates information.

Thus, I ask:

- What normative circulatory practices, content, and types of circulatory agents do three particular interfaces produce as they appeared from May 1 to May 11, 2020?
- If interfaces and circulation are productive, how do these particular interfaces either disrupt or perpetuate existing unequal power dynamics?

3. Methods

Since my methodological assumptions rested on Stanfill’s (2015) argument about interfaces as sites of productive power, I used Stanfill’s (2015) Discursive Interface Analysis (DIA) to analyze three interfaces. Broadly, DIA “examines norms produced by affordances of websites” (1062) by focusing on (1) functional, (2) cognitive, and (3) sensory affordances. HCI methods also use affordances to help site designers reach their goals, but DIA differs from HCI frameworks because it is focused on the effects of those affordances in terms of productive power (1062) and it does not assume that site users know what they want to do on a site. DIA’s underlying methodological assumption is that the affordances and features of a site reflect assumptions about normative use and users (1062). As such, Stanfill used these affordances to look at how new media interfaces produce norms and power by examining the embedded assumptions about appropriate use. DIA researchers ask: “What beliefs drive design and are built in? And, ultimately, what are the consequences of these design choices?” (1062). I used these functional, cognitive, and sensory affordances as a heuristic, but I focused my analysis on the circulatory world-making consequences of each affordance. I further explored some of the circulatory affordances by following Salter et al. (2020) to collect publicly available Tweets associated with a hashtag through TAGS (Hawksey, 2019), and then I used Orange (Demšar et al., 2013) to computationally parse that data. To contextualize the interfaces, I used the Internet Archive’s Wayback Machine and I archived the data with screenshots.

I analyzed the U.S. Chamber of Commerce’s “Covid-19 Communication Toolkit” (U.S. Chamber of Commerce, 2020) (see Appendix A) and the “Interactive Coronavirus Prevention Flyer Builder” (U.S. Chamber of

Below, you'll find a sharable graphics based on the CDC's latest guidance for businesses and employees as well as our small business guide. We encourage you to share these assets on social media, websites, and other channels, and send them to your colleagues and employees.



Fig. 1. Snapshot of the Coronavirus Communication Toolkit taken May 5, 2020.

Commerce. (n.d.-b) 1 May 2020) (see Appendix B). Since the Chamber is a powerful lobbying organization and these interfaces encouraged circulation, I selected these interfaces because they allowed me to explore state-sanctioned social logics about circulation, citizenship, and the norms that emerged. If social logics underlie power dynamics (Stanfill, 2015), then analyzing these sites from the U.S. Chamber of Commerce demonstrates how interfaces suggest certain types of circulatory people, practices, and content. These interfaces demonstrate how institutions create and perpetuate unequal power dynamics both on the Internet and in physical spaces. This is particularly important since circulation is “world-making”; it points to how state-sanctioned interfaces may perpetuate themselves and create worlds which maintain the status quo and undermine social justice.

I analyzed these interfaces on May 1-May 11, 2020. My analysis reflects this time frame, as both have been updated. The Toolkit first appeared around April 10 according to the WayBack Machine (Internet Archive, 2014). On May 1, the page opened with a statement about how the Chamber encouraged businesspeople to follow CDC and local government guidelines and then linked to a checklist and guide for emergency loans for small businesses. Next, it provided visitors with suggested hashtags, and “key messages and example posts,” which it encouraged site visitors to “share [...] on social media, websites, and other channels.” The next section, “Social Media Graphics,” featured downloadable PDFs. The bottom section of the page was titled “Additional Coronavirus Resources” and it linked to other pages (U.S. Chamber of Commerce, 2020).

One of the additional resources was the Interactive Coronavirus Prevention Flyer Builder. This page appeared on March 31 (Internet Archive, 2014). The Flyer Builder enabled businesspeople to create flyers to print and circulate to their customers/employees as they reopened. It featured a pre-designed flyer which users could customize in a toolbar by clicking checkboxes to add pre-written statements. Users could also add their own statements, contact information, and upload logos (U.S. Chamber of Commerce. (n.d.-b) 1 May 2020). The Flyer Builder was an interesting case study as the flyer itself became a secondary interface that doubly interpellated and produced norms for customers/employees. The flyer’s heading read: “Your Health is Our #1 Priority” followed by the heading “Here are the actions we are taking,” under which businesspeople could add statements from the GUI. Circulating flyers can have important impacts (Rice, 2020, 1). For clarity, when I refer to the Flyer Builder, I mean the primary GUI on the website. When I refer to the flyer, I mean the secondary interface of the printed flyer. Importantly, all normative content could become secondary interfaces that themselves circulate out in the world and mediate relationships between people and my analysis speaks to the effects of both the primary GUI interfaces and the secondary interfaces.

4. Discussion

4.1. Producing prosumers through pre-written pdfs and posts

Here, I argue that both interfaces produced a normative practice of circulating pre-existing content. However, they also functionally normalized and produced prosumers in a surveillance economy, thereby alienating people from their labor and perpetuating power.

The Toolkit produced norms of circulating pre-existing content through key functional and cognitive affordances. Cognitively, it “encourage[d]” users to “share” their graphics “on social media, websites, and other channels,” thereby explicitly directing users’ circulatory practices (Fig. 1).

The “Key Messages and Example Posts” section of the Toolkit featured suggested phrasing for social media posts and emails which also normalized circulating pre-existing content (Fig. 2.). Functionally, this section was

Key Messages and Example Posts

- Here's what you can do to help prevent the spread of COVID-19 at home, work, or school.
- We all have a part to play in preventing the spread of COVID-19. Make sure you are regularly practicing these healthy habits.
- If you think you are getting sick with COVID-19, follow this step-by-step guide to prevent spreading the virus to others.
- All employers should be prepared to address the impacts of the coronavirus, including planning for unexpected closures in your area and exploring telework options.
- Check out this [#smallbiz](#) guide with everything you need to know about how to apply for relief under the CARES Act, including eligibility, requirements and application guidelines.
[#CoronavirusRelief uschamber.com/sbloans](#)

Fig. 2. Snapshot of the Coronavirus Communication Toolkit taken May 5, 2020.

Fig. 3. Snapshot of the Flyer Builder GUI taken May 11, 2020.

Select a destination

Showing destinations for





Save as PDF



Save to Google Drive

Save your document as a PDF in Google Drive

Fig. 4. Snapshot of Saving Options for the Flyer Builder GUI taken May 11, 2020.

formatted as text, not as an image, so users could copy and paste text directly into circulation with the PDF documents. Furthermore, the ability to download the PDFs for further circulation was an important functional affordance because PDF documents are easily shared, as they are open file formats. The effect is to make sharing (and recomposition) easier (Sheridan et al., 2012, 80).

Likewise, the Flyer Builder GUI functionally offered users checkboxes to easily add pre-existing statements to their flyers (Fig. 3). In both cases, the interfaces created a norm of sharing pre-written messages, whereby the circulator became the co-author of those posts (Dieterle et al., 2019).

Like the Toolkit, the Flyer Builder cognitively told users to “print [the flyer] or save it as a PDF,” thereby pointing to normative circulatory practices, but it also offered users more diverse functional affordances. When users clicked the “print” button, they could save the document as a PDF file, physically print the flyer, or put it directly on a Google Drive. Thus, it also normalized the practice of storing the flyer in a Google Drive for later circulation (Fig. 4.), most easily through a sharable link.

Though circulation through sharable links is convenient, these links are a part of a data-intensive web that is predicated on generating value by quantifying user interactions through invisible data mining and surveillance (Gerlitz & Helmond, 2013). The assumption that businesspeople would store the file in a Google drive for further circulation normalized circulators' positions as a part of a surveillance economy in which their practices make them into prosumers, or people who create goods and services without compensation. As Beck (2018) defined it, market-driven prosumerism is when people "give their data—their unpaid labor—away to social media companies under the appeal of sharing content with others online" (47). Though Beck wrote about social media, Google drive links participate in the same capitalist surveillance economy. These links are thus bound up in power because they exploit and alienate people from their labor.

4.2. *Creating culpability*

Furthermore, the functional affordances and cognitive constraints on the GUI of the Flyer Builder and the Toolkit produced normative content that interpellated circulators as solely responsible neoliberal agents, who were expected to implement safety measures and circulate information about their efforts, despite structural barriers and limited resources. Simultaneously, these interfaces downplayed circulation as an act of co-authorship that ethically implicates all parties to obfuscate structural culpability. These interfaces gestured to the assumed rights and responsibilities of the circulators that it produced/interpellated, thereby normalizing neoliberal power relationships between circulators and the state.

The title "Coronavirus Communication Toolkit," is a useful place to start in thinking about credit and culpability. It is a cognitive affordance because it tells users what to do with the pre-written texts in the title of the page. The phrase "toolkit" suggests that the pre-written text and other options on the page are neutral circulatory tools that users can pick up and use for their own ends. Thus, businesspeople are understood as sole, empowered, authors and circulators who could circulate neutral pre-written tools to meet their own needs and goals.

However, tools and writing are not neutral; the ideologies of their contexts of design are embedded in them (Sullivan & Porter, 1997). In particular, the suggestion that businesspeople are individually empowered to use neutral tools points to the neoliberal ideology that has been central to state-sanctioned policies in recent decades and is a central tenant of the Chamber. Proponents of neoliberalism argue that states should intervene in markets and people's everyday lives to stimulate competition so that the "best" ideas/goods/services will rise to the top. However, this model overemphasizes individual agency, imposes top-down subjectivity, and downplays systemic forces (Asen, 2017). Though anecdotal, the phrase "toolkit" points to this ideology as it suggests that the businessowners are personally responsible for circulating messages about re-opening and implementing those safety precautions.

The Flyer Builder re-iterated the idea that individual businesspeople were culpable for people's safety. It normalized content that highlighted businesspeople's personal responsibility through its functional affordances, such as clicking to add pre-written statements. Though users could include their own text, the pre-written statements offered the "path of least resistance" (Stanfill, 2015, 1061), and became normative. In general, the pre-written statements addressed some of the guidelines outlined by OSHA (Occupational Safety and Health Administration & U.S. Department of Labor, 2020), the CDC (Centers for Disease Control and Prevention 5 May 2020), and the White House (White House, 2020). For instance, the interface enabled users to include the phrase "We screen the health of our suppliers, employees, products, and customers," suggesting that businesspeople were responsible for this screening (Fig. 3.).

However, neoliberal ideologies also minimize the role of systems, as was also apparent in these interfaces; at the time, the OSHA and CDC Guidelines said little about screening people, but instead seemed to rely on self-reports. The White House's phased approach to re-opening referred to temperature checks, but it said little about other screening measures (White House, 2020). As such, though this option sounds like it would be beneficial to circulate on a flyer, there was little clarity from the state about what this screening looked like in practice. Furthermore, it is unclear how businesspeople were expected to fund this screening or obtain limited testing materials, both of which are systemic issues. Thus, the functional pre-written statements created normative content for businesspeople to circulate information about precautionary measures for which they were responsible, notwithstanding that implementation of these measures was not readily discernible in official guidelines of the time and disregarding the systemic issues that affected the availability of testing.

YOUR HEALTH IS OUR #1 PRIORITY

If you're worried about the Coronavirus (COVID-19), please be reassured that we are following the health and safety guidance as prescribed by the Centers for Disease Control and Prevention (CDC), as well as the local public health department.

Fig. 5. Snapshot of header on the Flyer Builder, taken May 11, 2020.

Functionally, users had some agency and could circulate content that differed from the pre-existing statements; they could add their own pledges to their posts and flyers, thereby resisting the suggestion that they were solely culpable for people's safety. However, not all of the functional affordances for editing the flyer were included in the editing toolbar. Users could click on some of the textboxes in the actual flyer and edit them, but those functionalities were not indicated on buttons in the toolbar. Omitting those buttons points to an important cognitive constraint of the GUI. Since the form told users to "use the following fields..." users may have never known that they could further alter the flyer, making those parts of the flyer more normative content and suggesting that normative users would not want to change certain elements.

For example, there were no cognitive affordances indicating that users could edit the phrase "Here are the actions we are taking" or the disclaimer at the top of the flyer reassuring customers/employees that businesspeople were following CDC and local public health department guidelines (Fig. 5.). In the first instance, businesspeople are explicitly made responsible for the "actions that [they were] taking." Additionally, by creating the disclaimer as normative content, the interface further assumed that users would understand those guidelines, despite the fact that many businesspeople reported the opposite. By omitting the cognitive affordance of labels, the interface again created normative content which framed businesspeople as responsible for understanding and implementing unclear guidelines.

The parts of the flyer that were *not* editable on the GUI are also important because they speak to the types of information that the interface made compulsory and more normative for businesspeople to circulate (unless they edited the flyer further in another program). Users could not change the images on the flyer, nor could they change certain text. For instance, users could not change the (English) text "Your health is our #1 priority," again emphasizing businesspeople's personal responsibility. Furthermore, the normative content of the header included language about caring for people's health, though some companies did not show concern for employee's health in practice, nor did the Chamber put rules in place to protect customers'/employees' health. Thus, without structural supports, the promise of "safety" meant little in practice.

Users also could not delete the Chamber of Commerce logo, or the disclaimer that the Chamber was "not responsible for the final content or implementation of this document" (Fig. 6). Thus, the functional affordances actively obfuscated the Chamber's structural responsibility in the flyer's circulation. This GUI is interesting because, while the U.S. Chamber of commerce had to remain on the printed flyer, giving them credit for its creation, the flyer simultaneously *denied* their structural responsibility for the rest of the content. However, the interface cognitively told site users to "Insert Your Logo Here." The rhetorical effect of inserting a business's logo there would have been to transfer the culpability that the Chamber denied to the businesspeople. Likewise, on the Toolkit, the words "U.S. Chamber of Commerce" appeared on all of the PDFs available to be downloaded and circulated, again taking credit for the content, but deflecting responsibility for implementation.

Thus, both interfaces reflect the Chamber's neoliberal ideology. The effect of both interfaces is to create a relationship between circulators and the state that normalizes neoliberal subjects as empowered circulators, while minimizing systemic barriers and power. In both cases, the Chamber positioned themselves as serving businesspeople by providing neutral tools for them to circulate while re-opening. However, since tools are not neutral and circulation is an act of co-authorship in which all circulatory parties are ethically responsible (Dieterle et al., 2019), the fact that users did not have the functional affordance to delete the Chamber of Commerce's logo or

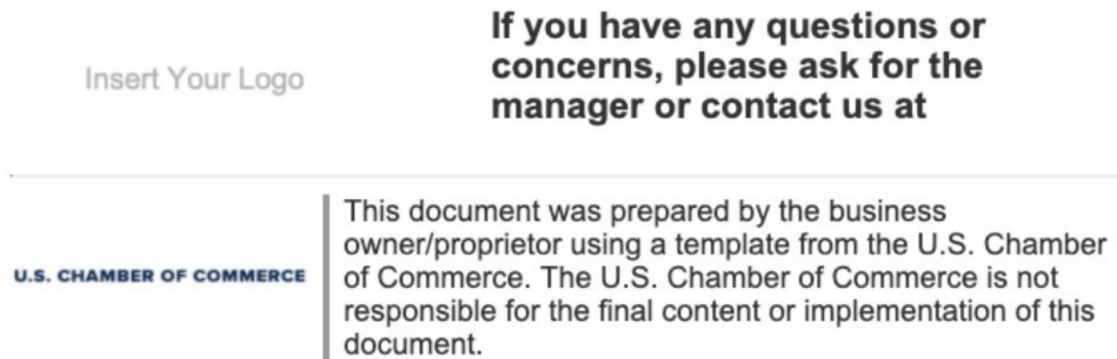


Fig. 6. Snapshot of disclaimer on the Flyer Builder, taken May 11, 2020.

text declining responsibility effectively denied the Chamber of Commerce's culpability as a circulatory co-author and downplayed systemic barriers. As such, these interfaces produced neoliberal norms about circulatory agency, responsibility, and credit.

Of course, businesspeople do share some responsibility for the health and safety of employees/customers. However, this normative content included compulsory language about "safety," without clear guidelines or rules for implementation, thereby placing all of the responsibility for safety on businesspeople. It suggested that businesspeople were solely responsible neoliberal agents who used the Chamber's neutral circulatory tools. Simultaneously, the U.S. Chamber of Commerce took credit for the flyer and the PDFs, but it denied responsibility in the footer of the flyer. However, this normative content overlooked how businesspeople reported feeling compelled to reopen, despite themselves feeling unsafe and unclear about guidelines. Ultimately, despite the fact that circulation is an inherently ethical act (Dieterle et al., 2019) involving multiple co-authors (Sheridan et al., 2012), this analysis demonstrates how these interfaces produced state-sanctioned neoliberal norms about circulatory agency, responsibility, and credit and thereby perpetuated power dynamics by creating certain subjects as responsible, while eliding the responsibility of systems.

4.3. Hashtag hailing

In this section, I argue that circulatory affordances like hashtags that outwardly index economically conservative arguments can be persuasive and interpellate circulators into politically and socially adjacent conversations and publics. The hashtags #SmallBiz and #CoronaVirusRelief were both functional and cognitive affordances on the Toolkit (Fig. 2). They were functional because clicking on them displayed a query of the most recent Tweets using those hashtags on Twitter's homepage. However, the hashtags were also cognitive; by redirecting users to Twitter, the interface suggested that users should circulate this content on Twitter with these hashtags. Stanfill (2015) argued that cognitive affordances are especially important for thinking about interpellation (1063), which involves understanding oneself to be a particular type of person, and for my arguments here, as in a particular (circulatory) position. Basically, these hashtags acted as cognitive affordances of the Toolkit GUI; they said "hey, you! Circulate this hashtag and/or view associated content."

However, as people circulated and viewed these hashtags on Twitter, they interpellated people into the worlds created by those hashtags. Edwards and Lang (2018) contended that hashtags are "inventive" world-making "agentic assemblages" that gain relevance through entanglements (122), and shape greater collectives (129) or publics. This aligns with Jackson et al.'s (2020) argument that hashtags are interpellating slogans that build collective identities (Jackson et al., 2020, 38). If hashtags are world-making devices that interpellate people into groups, and thus, affect their subjectivity, then inviting people to participate in consuming and sharing these hashtags would reciprocally transform the people who used them, thereby "shaping greater collectives." Thus, these hashtags can be useful for thinking about how the Toolkit GUI interpellated particular users by inviting them to participate in the assemblage and public created by the hashtags.

	Word	Word Count
1	potus	9299
2	biden	6199
3	#smallbusiness	5563
4	need	4984
5	business	4973

Fig. 7. Orange generated list of most commonly co-occurring words with #smallbiz (generated August 8).

To understand these particular assemblages and their “mutual entanglements,” following (Salter et al., 2020), I used TAGS (Hawkey, 2019) to collect publicly available Tweets using the hashtag #SmallBiz from April 29 to May 11. Using Orange (Demšar et al., 2013) to explore the data, I collected 37,989 Tweets. Since TAGS only collects publicly available Tweets through Twitter’s Application Programming Interface (API), these Tweets are not representative of all of the Tweets that used the hashtag nor of the conversations of non-Twitter users. Though the Tweets indexed many conversations and promoted different businesses, the two semantic words (i.e., non-grammatical words) that appeared the most frequently were “potus,” with 9,299 occurrences, and “biden” with 6,199 occurrences, pointing to how many of these Tweets indexed political conversations (Fig. 7). Since numbers say little about whether people used these terms positively or negatively, I used concordance analysis to view these terms in context. I found that all but nine of the uses of “potus” occurred in a popular retweet that used “@potus” multiple times. The Tweet appeared about 3,000 times and praised “potus” for generating “a booming economy,” “fighting for #SmallBiz relief” and preparing to cut taxes. On the other hand, all but one of the Tweets referencing “biden” came from the same retweet, denigrating Biden and Democrats for a slow economic recovery, obstruction of #SmallBiz relief, and raising taxes. The Tweet ended by claiming that “we need” @realdonaldtrump. Following Navar-Gill & Stanfill (2018), I am declining to cite this Tweet as Twitter-users expect privacy.

If hashtags are mutually transformative and world-making, this example points to how the Toolkit’s GUI suggested hashtags which then could mutually transform people and hail them into particular ideological positions. The political and ideological divide apparent in these Tweets aligns with research indicating an ideological divide and the overall politicization of the pandemic (Saldivia et al., 13 May 2020) in which conservatives tended to support reopening for economic reasons, while liberals tended to emphasize the economic costs of reopening too quickly (Rothgerber et al., 2020, 25). Even if circulators resisted using the pre-written text and chose to use their own language to make economic arguments, by using the provided hashtag “#SmallBiz,” they entered into a politicized conversation that associated them with a particular side of a political conversation and interpellated them into ideological positions within that conversation.

In this case, as the Chamber has historically espoused conservative economic and free-market values and candidates, businesspeople who used the hashtag reiterated those values. However, these economic arguments became entangled in political and social conversations, as @realdonaldtrump, whom “we need” according to the Tweet, had himself tweeted out support for conservative social policies as well. As users are drawn into the #SmallBiz public, others on Twitter may have reacted to their post and attached it to other social issues associated with @realdonaldtrump. Additionally, algorithms shape interface epistemologies (Shou & Farkas, 2016), but those algorithms are not neutral (Noble, 2018); as Twitter’s algorithms track trends among people, users may be shown content with similar ideological stances, thereby further hailing the circulator into an ideological subject position. Even without computer algorithms, #SmallBiz was algorithmically ideological; Rice (2020) argued that images become ideological algorithms in layered networks of meaning. Similarly, I am extending Rice’s argument to hashtags; #SmallBiz became layered with meanings and associations in multiple networks. As such, #SmallBiz points to how the GUI interface could bring people into reactionary and mutually transformative assemblages and publics that reinforce existing values and/or associate people with other values by encouraging them to use hashtags that index particular conversations outside of just economic arguments. By using #SmallBiz, circulators not only became a part of an economically conservative assemblage, but they also entered into a socially and politically conservative assemblage as well.

4.4. Relegating relationality

Lastly, in this section, I argue that these GUIs perpetuated unequal power relationships through the secondary interfaces that would have circulated in the world. The flyer produced English as a normative language for citizens while the Toolkit GUI reproduced unequal power relationships by cognitively omitting essential information about the potential harmful effects of the policies advocated by the content that it made normative to circulate. In so doing, it normalized social inequity and wealth disparity.

If interfaces interpellate people, it is important to consider the secondary interfaces that would have circulated in the world and the types of citizens that they “hailed.” Rather than reading interfaces through a lens of circulation, it is also important to think about what secondary interfaces do, and the power relations that they maintain as they circulate. Many scholars have argued that invisible interfaces exemplify white, capitalist values of design (Nakamura, 2008; Selfe & Selfe, 1994; Stanfill, 2015). The threat is, if interfaces that interpellate citizens exemplify white values, then as these interfaces circulate in the world, they will perpetuate white supremacy as a norm. White supremacy *is* a global and national norm. However, Arola (2017) contended that reducing interfaces to only visible components risks essentializing people; it suggests that *appearing* a particular way equates to *knowing* and *being* a particular type of person (214-215). Instead, Arola argued that interfaces are *relational* (216). This relationality is important for two reasons. First, if circulation is world-making through mutually transformative assemblages, then relationality is implied in circulation; texts move between people with relationships in networks. Second, unequal power and interpellation are also always relational. In Althusser’s (2001) oft-cited example of an officer interpellating a subject by hailing them through the invocation of “hey you, there” interpellation occurs through relational power (118).

Most obviously, the GUI of the Flyer Builder established normative relationality in Standard English. It limited businesspeople to circulating content that was, at least partially, in English; the un-editable text of the flyer is in English, and if businesspeople wanted to include other languages, they had to resist the defaults since not all of the options to edit the flyer were labelled. Thus, the default language was standard English, and people whose first languages were not Standard English may not have been able to understand the flyer as readily. Standard English became the normative language and mode of relationality for the flyer as it circulated in the world. Thus, the GUI and the secondary interface of the flyer assumed normative modes of relating and interpellated people who would read the flyer as English-speakers.

On the Toolkit interface, the downloadable social media graphics would have also become secondary interfaces that perpetuated unequal power dynamics as they circulated in the world. One of the graphics (Appendix C) espoused Trump’s proposal to cut payroll taxes. The graphic claimed that the measure would “keep businesses running, workers employed, and paychecks flowing.” As it circulated in the world, this flyer would have suggested that the proposed policy was advantageous. However, the primary interface omitted the Institute on Taxation and Economic Policy’s finding that forty-eight percent of benefits of cutting payroll taxes would have gone to the richest twenty percent of taxpayers, while people with lower incomes would have received fewer benefits, and unemployed adults would have received no benefits (Wamhoff, 10 March 2020).

Omissions like these are important; Jones and Williams (2017) argued that omission is a method of exclusion in plain language communications because it “prevents readers from making a fully informed decision, constraining their capacity to act within a system that can already be considered oppressive” (426). Though the Chamber may have assumed that visitors would know about the implications of the plan, that assumption is at odds with their self-established ethos as a helpful authority on the primary Toolkit interface, where they provided site visitors with checklists to reopen, and directed users to circulate information with directives like “we encourage you to share[...]” Thus, the omission that this policy would mostly benefit wealthy people became a circulatory cognitive constraint of the interface because it prevented people who might circulate the PDF from “making a fully informed decision” about the content that the interface made normative. While users could have looked the policy up themselves, they would only do so if they questioned the ethos that the Chamber cultivated. Since this policy would have perpetuated existing social inequality and wealth disparity, the cognitive omission made those existing power relationships normative.

5. Conclusion

This analysis shows only a snapshot of how interfaces function in circulation and how they produce power. Broadly, I found that these interfaces created normative content and practices by providing pre-existing writing for further circulation and through omitting cognitive affordances about what users could edit, or by functionally limiting the editing capacities of the GUIs. They also created normative positions of culpability and credit, despite the fact that circulation is an act of co-authorship. Hashtags also served as both functional and cognitive circulatory affordances, but hashtags can bring users into mutually transformative assemblages that connect fiscal and social positions. Finally, these interfaces reproduced normative power relationships and access to information.

Though my analysis was limited to effects, teachers, students, and designers could use this analysis to design interfaces with more equitable circulatory norms. Most obviously, designers could ask questions about how their interfaces create normative circulatory (1) practices, (2) content, and (3) positions.

However, designers could also think more explicitly about power through the heuristic that I developed above: How do circulatory interfaces (1) produce prosumers (2) create culpability and credit (3) draw users into adjacent ideological conversations through things like hashtags, and (4) what kinds of relationships will secondary interfaces mediate as they circulate?

Below is a list of invention questions to explore how power is embedded in circulatory interfaces. I have also included questions that gesture toward how to create more equitable circulatory interfaces as well:

I Producing Prosumers

- a What pre-written content does the interface make normative?
- b Even if convenient, do normative circulatory actions reinstantiate data surveillance and prosumerism?
- c If so, what alternative options can designers offer to circulators?

II Creating Culpability

- a Are all of the affordances to change design elements on the normative content clearly labelled to give circulators as much agency within interface structures as possible?
- b Do the normative materials create culpability for one co-author while giving credit to another in the chain of circulation? If so, how do they accomplish that and is there a way to more equitably acknowledge labor and responsibility?
- c What types of relationships do interfaces make normative between website creators and potential circulators, and how do those relationships maintain or disrupt the status quo?

III Hashtag Hailing (Drawing users into adjacent conversations)

- a If hashtags are “interpellating slogans” that build collectives, what hashtags can designers include on their interfaces that may participate in building equitable collectives?
- b If a digital interface uses a hashtag, what are the other ideological discourses attached to that hashtag?
- c Are those adjacent conversations equitable?
- d What other elements of circulatory interfaces draw users into adjacent social and ideological positions?

IV Relegating Relationality (as secondary interfaces circulate)

- a What kinds of relationships and power dynamics will secondary interfaces create as they circulate in the world?
- b What types of subjects will secondary interfaces interpellate as they circulate?
- c How can designers include important background information about normative content?

This analysis also points to future research directions; though I have largely read interfaces through their circulatory affordances, future analysts could think about those interfaces and the relationships that they mediate as they circulate in the world. If both interfaces and power are always relational, the contexts in which people would see these flyers matters for how those interfaces would have interpellated people. For instance, if customers saw the printed flyer in the door of a store. The phrase “Your health is our #1 priority” would function in a relationship between the businesspeople and customers. The relationship established would be persuasive, as businesspeople may have wanted to entice people who had a degree of agency to come into their stores. However, if the same flyer appeared in a breakroom for employees, the context and the relationship established by the circulating interface would change. The phrase may have become a platitude between businesses and essential workers, many of whom

were non-white and were disproportionately affected by the pandemic. Thus, the relationship established by the interface as it circulated would have been very different. The same would be true as the interface circulated as a PDF via an official work email versus how it circulated on social media between “friends” and followers. Therefore, though these interfaces interpellated people and produced normative subjectivities in their circulation, the relational context in which those interfaces circulated also mattered and points to the mutually transformative element of in circulation. Future scholars could trace these transformations and the different relationships that they mediate both online and offline.

Declarations of interest

None

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Appendix A

Snapshots of the Coronavirus Communication Toolkit interface taken May 11, 2020

Coronavirus Communication Toolkit

#COVID_19

The U.S. Chamber has compiled CDC's coronavirus recommendations for businesses and workers across the country. We continue to encourage American businesses to follow data-based guidance from the CDC and state and local officials. Additionally, we have compiled a [Coronavirus Emergency Loans Small Business Guide and Checklist](#) to help small business owners receive aid and help keep workers employed throughout the coronavirus pandemic.

Below, you'll find a sharable graphics based on the CDC's latest guidance for businesses and employees as well as our small business guide. We encourage you to share these assets on social media, websites, and other channels, and send them to your colleagues and employees.

#COVID_19, #COVID19

<https://www.cdc.gov/coronavirus/2019-ncov/index.html>

Key Messages and Example Posts

- Here's what you can do to help prevent the spread of COVID-19 at home, work, or school.
- We all have a part to play in preventing the spread of COVID-19. Make sure you are regularly practicing these healthy habits.
- If you think you are getting sick with COVID-19, follow this step-by-step guide to prevent spreading the virus to others.
- All employers should be prepared to address the impacts of the coronavirus, including planning for unexpected closures in your area and exploring telework options.
- Check out this [#smallbiz](#) guide with everything you need to know about how to apply for relief under the CARES Act, including eligibility, requirements and application guidelines. [#CoronavirusRelief uschamber.com/sbloans](#)

Social Media Graphics

Click any image to preview, download, or share the graphic.



Combating the Coronavirus

Coronavirus Live Blog

Coronavirus Communication Toolkit

Coronavirus Policy Advocacy and Government Response

Guide to Small Business COVID-19 Emergency Loans

Guide to SBA's Economic Injury Disaster Loans

Guide to Independent Contractors' CARES Act Relief

Guide to the Employee Retention Tax Credit

Guide to Coronavirus Paid Leave Programs Save Small Business Initiative

Guide to the Main Street Lending Program

Appendix B

Snapshot of the Interactive Coronavirus Prevention Flyer Builder interface taken May 11, 2020

YOUR HEALTH IS OUR #1 PRIORITY

If you're worried about the Coronavirus (COVID-19), please be reassured that we are following the health and safety guidance as prescribed by the Centers for Disease Control and Prevention (CDC), as well as the local public health department.

Here are the actions we are taking

Keeping People Safe

☒

Securing a Healthy Environment

☒

Creating a Flexible Workplace

☒

Insert Your Logo

If you have any questions or concerns, please ask for the manager or contact us at

U.S. CHAMBER OF COMMERCE

This document was prepared by the business owner/creator using a template from the U.S. Chamber of Commerce. The U.S. Chamber of Commerce is not responsible for the final content or implementation of this document.

COVID-19 Customizable Flyer

Use the following fields to help you customize the flyer, then print it or save it as a PDF.

Keeping People Safe

☐ We train our employees on health and safety standards.

☐ We screen the health of our suppliers, employees, products, and customers.

☐ We actively encourage sick employees to stay home.

Or write your own... [Add](#)

Securing a Healthy Environment

☐ We are deep cleaning and disinfecting our business including high-touch surfaces.

☐ We are opening windows or adjusting our heating/cooling to maximize ventilation.

☐ We are taking measures to avoid crowding and encouraging people to use online services.

Or write your own... [Add](#)

Creating a Flexible Workplace

☐ We are assessing the risks of business travel.

☐ We are using videoconferencing for meetings and events where possible.

☐ We are accommodating employees who become sick or have a sick family member.

Or write your own... [Add](#)

Main Contact

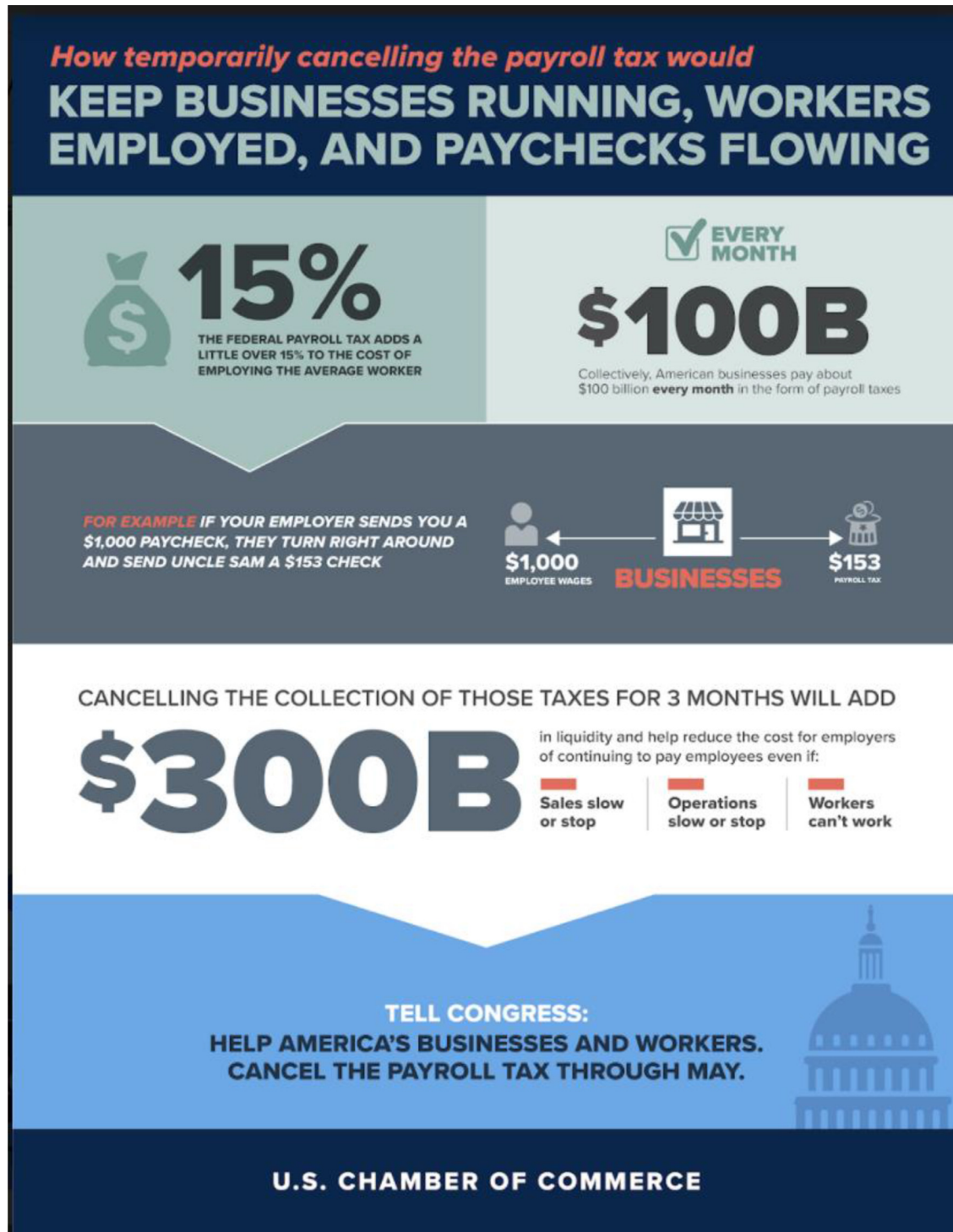
Logo

[Upload Your Logo](#)

[Print](#)

Appendix C

Snapshot of a PDF Graphic from the Toolkit interface advocating for cutting payroll taxes, downloaded May 11, 2020



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