RESEARCH ARTICLE



From participation roles to socio-emotional information roles: Insights from the closure of an online community

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Abstract

This study examines what happens when an online community (OC) platform is shut down. In particular, it builds on recent interest from information science on everyday life information seeking, providing insights into the socioemotional roles enacted by users following community closure. A qualitative study is undertaken on 12 months of social media comments relating to the closure of an OC platform. We identify and discuss the socio-emotional information roles that manifest, and present a model of their relationship to different aspects of the closure. We make theoretical connections between the notion of socio-emotional information roles and both the information behavior and practice literature, as well as research on community and participant roles. Theoretical and practical implications are discussed.

1 | INTRODUCTION

Online communities (OCs) are online spaces that bring together individuals in support of an activity, interest, or identity, to share information and knowledge or just interact (Faraj et al., 2011; Faraj et al., 2016). OCs are experienced by individuals as dynamic and poly-motivational spaces. They allow individuals to contribute expertise and knowledge, learn, observe, and give information based on common interests. They can even offer reciprocity, empathy, social ties, and meet cognitive-emotional needs (Farai et al., 2011; Ruthven et al., 2018; Savolainen, 2011, 2015; Worrall et al., 2021). As such, OCs are unique spaces for information behavior/practice research. In OCs individuals may undertake multiple tasks: they can seek information (Wilson, 1999); create, give, and share information (Godbold, 2006); attain a particular mood or state (Elsweiler et al., 2011; Ruthven et al., 2018; Worrall et al., 2021); or build a shared identity without the need for face-to-face interaction. This suggests that OCs are more than just spaces for sharing and seeking information; they are collaborative information spaces where individuals can be part of a community of practice or network of practice (Lave & Wenger, 1991). In addition to being information-centric spaces therefore, they are also socioemotional spaces (Wasko & Faraj, 2005; Worrall et al., 2021; Worrall & Oh, 2013).

In recent years, there has been increased disruption to OCs from several large organizations closing their OCs. In 2017, Lego closed its message boards, citing the need to "retire old features" (Lego, 2017); Google+ closed its group features due to low usage (Google, 2019); and platforms such as Reddit will sometimes close specific OCs because of malicious content (Murphy, 2020). Other OCs, such as on the Goodreads website, have been disrupted by changes in ownership (Albrechtslund, 2017). These actions follow a string of other firms, including National Public Radio (NPR), Popular Science, The Atlantic, and Reuters, disabling the social and comments functions on their websites. Reasons given include the

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cost of moderation, low usage, divisive comments and conflicts, toxic content, and lack of community cohesion (Goldberg, 2018; Jensen, 2016; Statt, 2013). As NPR, for instance, stated, "we reached the point where we've realized that there are other, better ways to achieve the same kind of community discussion" (Jensen, 2016), while The Atlantic explained that its comments sections had come to include "unhelpful, even destructive, conversations" (Goldberg, 2018).

These closures and disruptions may trigger affective and emotional reactions from users. In the case of Goodreads, for example, members reacted with emotion and urgency to the perceived disruption to their felt ownership of the OC (Albrechtslund, 2017). From an information behavior/practice perspective, the closure of an "information space" is in line with other everyday life information seeking (ELIS) contexts such as those that involves coping with daily hassles and negative experiences (Barahmand et al., 2019), and the continuous mastery of life, whereby individuals attempt to keep things in meaningful order (Savolainen, 1995). Despite some earlier work on student departures from university learning OCs (Kazmer, 2005; Kazmer, 2012), there exist few studies on OC end-stages viewed from the socio-emotional perspective.

A social-emotional paradigm has been proposed by scholars, integrating a social paradigm with affective and emotional facets (Worrall et al., 2021). However, formulations so far are "preliminary and informal" (Worrall et al., 2021, p. 18) and mostly emphasize positive socio-emotional engagement (i.e., engagement and support). The context of disruption to OCs allows for further research on the interplay between information behavior/practices and socio-emotional dynamics informed by both positive and negative feelings. To do this, we build on the concept of community and participation roles in the context of OCs (Hara & Sanfilippo, 2017).

Empirically, we examine the closure of the Internet Movie Database (IMDb) message boards, which existed from 2001 to 2017. A qualitative grounded theory study is undertaken on 12 months of community messages regarding the closure of the IMDb message boards in 2017. We address the research question: "What socioemotional information roles manifest in response to closure of an OC platform?"

Based on our findings we delineate several socioemotional information roles and provide a model of their relationship to different aspects of the closure. We also develop a theoretical model that connects the socioemotional information roles with the community and participation roles identified in the literature (Faraj et al., 2011; Hara & Sanfilippo, 2017).

2 | RELEVANT WORK

2.1 | OCs and disruption

Information and OC scholars have studied the dynamics of OCs in detail, for the most part looking at how to nurture collaboration and interaction (Bapna et al., 2019; Faraj et al., 2011), motivations to contribute, or how information is shared and knowledge created (Aspray & Hayes, 2011). Less attention is given to what happens when OCs are shut down or disrupted. Yet, as noted, organizations are increasingly turning off, closing, or restricting their OCs—whether specific OCs or related features—forcing members to find alternatives.

The closure of OC platforms raises new questions for information research. We do not yet know how users respond to the closure and collectively satisfy their affective states (Ruthven et al., 2018; Worrall et al., 2021) to deal with the closure. We also do not know how users share and seek information, both to cope with the closure and potentially to migrate to other platforms. And we are yet to understand how the established OC and roles are challenged by disruptions.

Relevant insights can be garnered from studies on responses to change, such as upgrades to features for delivery of new value, or the ownership of OCs. For example, when a large health OC migrated from the platform Ning to Discourse, it led to disruption of social relationships within the community and a perceived loss of identity for many of its members. This in turn threatened the community's wellbeing, an important consideration for health OCs. The migration in that case was driven by the OC leadership, rather than by a firm, who wanted to introduce features for improving information access and organization of discussion. While successful outcomes of the migration were uncovered—such as helping the community to overcome information organization, searching, and retrieval problems—the new platform fell short in relation to user management of profiles and community socializing capabilities. The negative implications came as a surprise to the OC moderators who had not recognized the importance of these socializing capabilities for the community until they were no longer available (Nakikj & Mamykina, 2018). A similar response was found in changes to a large health OC on the WebMD site. WebMD announced that it would change the look and feel of the site to improve the community experience, including rearranging the structure of the discussions and navigation options, and offering greater moderation. Users however found it more difficult to create and maintain relationships; many left the site and fewer newcomers arrived (Introne et al., 2020). When the Goodreads discussion forums were acquired by Amazon,

members reacted urgently and with emotion to the threatened disruption of their "home." They used threats to stop contributing to the community as a way to demonstrate their value and indispensability to Goodreads (Albrechtslund, 2017). Likewise, when digg.com made technical and feature changes to their OC platform, community members expressed displeasure and resistance, organizing online protests against the firm and reducing their level of engagement with the firm (Germonprez & Hovorka, 2013). In addition to these studies of disruption, prior research on disengagement from an OC at the end of its usefulness shows that individuals feel a sense of loss when moving on, such as when students disconnect from a university OC (Kazmer, 2005, 2006, 2012).

The foregoing studies focused on changes to an OC or the end of its usefulness rather than its closure. They do however provide insights into the responses of an OC to disruption and change. For instance, how members emotionally respond (Albrechtslund, 2017; Introne et al., 2020; Kazmer, 2012) or how they may rebel against the change in an attempt to preserve the shared space, or even switch to other platforms (Germonprez & Hovorka, 2013).

2.2 | Socio-emotional information behavior/practices

Research on OCs has tended to focus on information behavior/practices related to tasks and the informational motivations of actors. With some exceptions (e.g., Costello et al., 2017; Kazmer et al., 2014; Rasmussen Pennington, 2016; Rubenstein, 2015; Worrall et al., 2021) studies have downplayed or not considered social-emotional elements. Bringing together technology (e.g., the OC platform) with social and affective information behavior/practices in OCs renders less applicable the traditional models in information science. These models often assume information behavior/practices to be task-oriented (Ellis et al., 1993; Kuhlthau, 1998; Wilson, 1999). Our approach though builds on the work of information scholars who suggest that the prevailing cognitive and task-oriented approaches do not capture the richness of information as constructed through the interaction of the individual and their sociocultural context (McKenzie, 2003; Ocepek, 2018a; Savolainen, 1995). For instance, McKenzie (2003, p. 19) argues that "many current models of information behavior and information seeking behavior are limited in their ability to describe ELIS." To address this, information scholars have add everyday contexts to their domain of interest (Ocepek, 2018a, 2018b), including OCs (Aspray & Hayes, 2011; Sin & Kim, 2013). The study of information-related coping hassles, such as daily hassles and negative experiences (Barahmand et al., 2019), is one approach that fits with OC closures. In

our case, coping with the loss of an OC is an example of Savolainen's concept of mastery of life, whereby individuals attempt to keep things in meaningful order (Savolainen, 1995). Clearly, closures and disruptions trigger affective and emotional responses from individuals, such as mourning and rage, that may then lead to action such as migration or self-organization to find alternatives.

Our consideration of affective states and their relationship to information behavior/practice is in line with the affective turn (Hartel, 2019) in information science, and calls by scholars for the inclusion of socio-emotional considerations in information research (Lopatovska & Smiley, 2014; Nahl & Bilal, 2007; Savolainen, 2015; Worrall et al., 2021). With some exceptions (e.g., Worrall et al., 2021) few studies have hitherto done this in the context of OCs, and in particular disrupted OCs.

Where socio-emotional aspects have been considered, work has typically focused on positive aspects, such as feelings of goodness and joy when sharing knowledge, or on the emotional support offered by OCs (Costello et al., 2017; Faraj et al., 2011; Kazmer et al., 2014; Rubenstein, 2015; Wasko & Faraj, 2005). Previous research shows that anticipated emotions (forward-looking affective reactions where members imagine the emotional consequences of their actions) impact on member decisions on whether or not they contribute to their community (Bagozzi & Dholakia, 2002, 2006; Tsai & Bagozzi, 2014). Another interesting insight is that emotionally charged Twitter messages tend to be retweeted more often and more quickly compared to neutral ones (Stieglitz & Dang-Xuan, 2013). Overall though, social and emotional information behavior/practices remain unstudied in OC settings; this may be limiting our understanding of OC dynamics.

2.3 | Information roles in OCs

Our study also considers how socio-emotional responses manifest in community or participation or "information roles." To put it differently, how do the socio-emotional responses transfer into information-related actions or roles? Most commonly, users in OCs are categorized in a dichotomy of high versus low levels of contribution: posters versus lurkers, core versus periphery, newcomers versus old-timers (Kazmer et al., 2014; Safadi et al., 2020). Core members, posters, and old-timers are responsible for most of the informational content and generate large volumes of conversational traffic (Introne et al., 2016). Core members are important for keeping the community going against the backdrop of fluid membership, and will often drive the nature of the discussion (Introne et al., 2016). By contrast, periphery members, newcomers and lurkers play a less dominant role, and do not

typically have strong relationships with one another (Introne et al., 2016). Yet, periphery actor contributions might be more innovative and significant due to their epistemic marginality (Cattani et al., 2017), with most recent studies pointing to the importance of the interaction between core and periphery actors (Safadi et al., 2020). Lurkers are a particular idiosyncrasy of OCs as they may seek and consume information while not actually contributing to the discourse.

Information and OC research recently moved beyond simply understanding levels of contribution to examining the "participant roles" that facilitate knowledge collaboration contained within OCs (Hara & Sanfilippo, 2017). Such community roles are considered important to understand member participation in an OC and to explicate and organize the community's work (Stvilia et al., 2018). Research on the roles involved in online knowledge activities importantly reveals that different roles help or hinder the process of knowledge production (Hara & Sanfilippo, 2017) and thus may direct the collective response to the closure of an OC platform.

Hara and Sanfilippo's (2017) comprehensive review summarizes the current theory on roles and adds to it with new participant roles or community roles denoting those actively contributing to the coproduction of knowledge in OCs. Their research focused on contentious online discussions where there is likely to be a range of positions and roles. Their list includes the categories of "identifying and sharing knowledge," "modifying knowledge," "facilitating knowledge collaboration," and "other," a label used to encompass a range of different roles (Table A1 provides a breakdown of the categories). These roles can be formally defined (e.g., by an OC creator) and assigned, together with related activities and privileges, or they can be adopted informally through self-selection (Hara & Sanfilippo, 2017; Stvilia et al., 2008). Depending on the community, there may be emergent leadership and administrator roles that provide information on the direction of the OC, or moderators who provide information and control governance and consensus mechanisms (Forte et al., 2009). As OCs are fluid spaces and individuals may exist in multiple overlapping OCs (Faraj et al., 2011; Faraj et al., 2016; Mindel et al., 2018), members may play different roles simultaneously or at different times (Stvilia et al., 2018). In the case of OCs centered around common causes (e.g., a social movement) or an incident (e.g., a flood), individuals in OCs may take on emergent and critical roles as advocates, supporters, and amplifiers (Vaast et al., 2017). For such OCs, multiple actors come together spontaneously and engage in the coproduction of content (Vaast et al., 2017). This suggests that in the case of OC closure, individuals may collectively coproduce emergent and

critical roles in an attempt to solve the challenge. It further suggests that roles emerge/dissolve dynamically to address community needs and the changing situation. Bringing together the research on socio-emotional information behavior/practices with research on information roles, we address the research question: "What socioemotional information roles manifest in response to closure of an OC platform?"

THE STUDY 3

3.1 | Setting

We undertake a revelatory case study (Yin, 2003) of the closure of an OC platform, a hitherto underexplored phenomenon. The IMDb website contains a database of information on film and television, including details of casts, production crew, fictional characters, biographies, plot summaries, trivia, and reviews. IMDb maintained message boards for all film titles and TV shows in addition to general discussion boards. We study the closure of the IMDb message boards, which were hosted on the IMDb website from 2001 to 2017. During the time of the study the IMDb website received 250 million visits a week, but according to the founder and CEO of IMDb only a fraction of users used the message boards (IMDb, 2016, 2019; Pulver, 2017). Nevertheless, this still amounts to "hundreds of thousands of people [who] had posted hundreds of thousands of thoughts" while the boards existed (Tait, 2019).

Like other large-scale OCs with a long history (e.g., Introne et al., 2020), the basic architecture of the message boards had not changed significantly since their inception (IMDb, 2019). Conversations could be broad—with discussion ranging from movie plots to actors' personal lives—and the message boards were open discussion spaces as is often the case with older platforms such as forums or message boards (Butler, 2001; Ridings et al., 2002). On February 3, 2017, IMDb announced the closure:

> We have decided to disable IMDb's message boards on February 20, 2017[...]we have concluded that IMDb's message boards are no longer providing a positive, useful experience for the vast majority of our more than 250 million monthly users worldwide. (IMDb, 2017)

Data collection 3.2

Our data collection started February 3, 2017, when the announcement was made, and continued to January 31, 2018. We favored an inductive and qualitative approach to data collection and analysis (Vaast et al., 2017). This reflects the view that using positivistic approaches comprising quantitative, data-mining, and algorithmic methods to process data (Sundararajan et al., 2013) may not reveal the full dynamics of the multi-level social processes, responses and actions (Hill & Shaw, 2017) that take place in disrupted OCs.

The nature of the closure involved the OC moving from its location on a single digital platform (the message boards) to being a dispersed community akin to a digital diaspora. We therefore use the term OC broadly and inclusively (Hill & Shaw, 2017) to refer to individuals who were posting comments online related to the IMDb message boards during the period of study. That is, while these individuals were once defined through their use of a common technical platform, they are more recently defined by their past experience with the OC. Thus, our data collection examined a wide range of social media digital traces (Karanasios et al., 2013). While most research on OCs that use digital data rely on one source such as Twitter, or a specific forum (Stieglitz & Dang-Xuan, 2013; Vaast et al., 2017), arguments have been made for drawing on multiple sources (Hill & Shaw, 2017; Vaast & Walsham, 2013). This may increase data validity and generalizability and allow researchers to answer questions that are unanswerable or narrowly answered with datasets that begin and end on a community's technical platform (Hill & Shaw, 2017; Vaast & Walsham, 2013).

In total, 16 data sources were drawn on (see Table 1). For each source, the digital data was downloaded and parsed on a month-by-month basis. The search for data and extraction followed a three-pronged approach. For Twitter, tweets were extracted that contained the terms "IMDb" and "message board" or "forum." This approach was chosen rather than hashtags because searching for the string captured those hashtags in addition to discussion that did not include them. For the official IMDb Facebook page, the same search words were used. For the other platforms and websites, the Google search function was used. This led to the platform Reddit, along with less prominent message

boards, and message boards developed to fill a void left by the closure of the IMDb message boards, and discussions in the comments sections on other webpages.

In total 10,314 comments were extracted, and after cleaning, 10,226 were entered into NVivo for analysis. Despite the high volume of data collected, our analysis remains bound by the selection and extraction based on our search by keywords, so may only be a fraction of available digital data. Nonetheless, we believe that sufficient data was extracted to address our research question and that it is either larger than (Kazmer et al., 2014) or comparative to data in other studies. As shown in Table 1, the amount of data decreased over time. This is common to events and the use of digital trace data (e.g., Heverin & Zach, 2012). However, in some sources there was renewed interest in discussing the closure. Table 1 shows the total for each source, with totals for each source and the average number of words per comment.

3.3 | Analysis procedure

All data was downloaded as spreadsheet files on a month-by-month basis to allow us to manage the volume of data (as a discussion if it was part of a thread). After cleaning, the data was imported into NVivo. The analysis followed the sequence of open, axial, and selective coding. This process was important because neither established categories from the literature nor existing theory could be automatically assumed to fit observations (Vaast & Walsham, 2013). Open coding was used to allow us to become entrenched in the data and in the experiences and responses of individuals. This open coding process was important for understanding the experience of the OC members and the diversity of comments made. Multiple rounds of coding were undertaken, followed by an iterative comparison process, as prescribed by the open coding technique (Charmaz & Mitchell, 2001). Frequent debriefings (Gioia et al., 2010) allowed us to challenge each other's ideas and underlying assumptions

TABLE 1 Summary of data collection

	Avg. # of words	Feb-Apr 2017	May-Jul 2017	Aug-Oct 2017	Nov 2017–Jan 2018	Total
Twitter	16	5,684	456	312	309	6,761
Reddit	33	703	39	49	71	862
Facebook	35	1,339	12	5	9	1,365
M/boards	60	398	91	94	70	653
Websites	43	585	0	0	0	585
Total		8,709	598	460	459	10,226

Note: Message boards included Slashdot, MetaFilter, Quora, IGN, IMDB2, DataLounge, DigitalPsy, GameFaq, Sherdog and Game Spot, ycombinator, Reddit included multiple threads. Websites included comments on articles on The Guardian and Polygon.

(Volkoff et al., 2007) before reaching agreement on a consolidated list of open codes as a starting point and adapting them on an ongoing basis.

During the next stage of axial coding we clustered open codes into meaningful interpretations to understand how categories were related and then tested them against the data (Vaast & Walsham, 2013). This process was important as it allowed us to manage the volume of data and constantly organize codes into a coherent structure (Charmaz & Mitchell, 2001).

Finally, for selective coding we explored how the axial codes fit into categories (Vaast & Walsham, 2013) to eliminate certain directions of enquiry. After completing this process, we settled on several theoretical concepts (see Figure 1) and focused the emerging socioemotional information roles and their relationships with the response to the closure. Here our analysis was driven by the lack of typical participation roles that characterize OCs and instead on the manifestation of socio-emotional information roles in OCs as a response to the event. Our analysis therefore focuses on a specific characteristics of the roles and how they fit as part of the overall collective response. For instance, "loss orientation" included the role of individuals who focused on making sense of the closure ("rationalizers"), and "enraged" captures individuals focused on expressing rage and disappointment. In contrast, the role of "problem solver" emerged from restoration orientation and was concerned with discourse around how to undo the closure (see Table 2).

4 | FINDINGS

4.1 | Manifestation of information roles

The findings show a diverse collection of individuals concerned with the fate of the OC. They are engaged in various roles and information behavior/practices informed by their socio-emotional responses. Our analysis reveals 10 prominent information roles shown in Figure 1: message bearer, mourner/reminiscer, rationalizer, enraged, retaliator, problem solver, shutdown supporter, juxtaposer, migrator, and builder.

As Figure 1 shows, the roles are clustered around different OC orientations (e.g., loss orientation, restoration orientation). The roles towards the top of the pyramid emphasize the closure and holding onto the OC as it was.

At the top of the pyramid the role of *message bearer* references individuals who convey news of the closure. More significantly, the roles of *mourner/reminiscer* or *problem solver* (who sought to undo the closure) were oriented towards mourning/lamenting and restoration. This

could be because the message boards had not closed yet, the comments were in the period immediately after closure, or individuals continued to feel a sense of loss even several months after the closure. Information roles at the bottom of the pyramid emphasize moving on from the closure and were oriented towards migration, self-preservation and evaluating alternatives (i.e., *juxtaposer*, *migrator*, *builder* are part of actively moving on from the platform closure and the collective discussion around it). This could involve moving on to another platform or constructing a new one in order to reform the OC, and were indicative of a context where the OC may be more diffused.

Importantly, the roles can overlap: a single individual may take on the roles of migrator, problem solver, and mourner/reminiscer. Their roles may change over time, or they may overlap at the same point in time. The intertwining of roles is particularly important for an OC facing imposed closure as it provides the means for individuals to express emotion, vent, and make collective decisions about diverse future paths for OC development. At the same time, socio-emotional responses to the closure can be supported or contested by others. In other words, the responses of others may reinforce or diminish the level of mourning or anger experienced by individuals. Finally, the role of supporters indicates a role that focused on praising the closure of the message boards in opposition to the other roles. Although this sits outside the pyramid, it is still an active role that was taken up by some of the OC and demonstrates another type of socioemotional response.

Building on Figure 1, Table 2 summarizes the roles with a description of their dominant focus and their socio-emotional aspects and information behavior/practices. This emphasizes how information seeking and/or sharing information are shaped by various socio-emotional aspects.

4.1.1 | Message bearer

The message bearer informs the community of the closure. Their role is mainly a social one as conveyer of the announcement of the closure. They (re)post news articles of the announcement or post comments to alert the community. As an information broker, the message bearer is an individual who serves as the group's eyes and ears in terms of latest news and gossip. They trigger discussion and keep the community informed, but only play a role around the time of the closure announcement. In other words, message bearers typically just relay information unless providing other information in the capacity of the roles below.

Role	Main orientation	Description	Socio-emotional aspects	Main information behavior/practice aspects
Mourner/ reminiscer	Mourning and lamenting	Sharing information on feelings related to the closure, disbelief, nostalgia, and experiences	Expressing feelings of loss, disbelief and sharing experience with the community	Seek information, share information
Problem solver	Restoration orientation	Sharing information on how to reverse the closure or resolve the problem	Coping strategy. Trying to hold on to the OC	Share information
Rationalizer	Loss orientation	Sharing information on the "real" reason for the closure, discussing impact, and theorizing issues around the closure	Coping strategy. Helping the community to make sense of the closure; dealing with uncertainty	Seek information, share information
Enraged	Loss orientation	Sharing information on their anger and action to be taken against the firm	Anger. Showing displeasure and signaling the gravity of the loss	Share information
Retaliator	Loss orientation/ restoration orientation	Pronouncing or taking action to avoid interaction with the firm	Showing symbolic resistance and retaliation	Share information
Juxtaposer	Evaluating alternatives	Juxtaposing the closed platform/OC experience with alternatives such as Twitter, Reddit and other platforms	Comparing with other platforms and seeking similar experiences	Seek information, share information
Builder	Migrating and self- preservation	Sharing information on creating alternatives, organizing the community to migrate to another OC or their own alternative	Reforming the OC. Building and promoting alternative OCs	Share information
Migrator	Migrating and self- preservation	Sharing/seeking information on alternatives, discussing alternatives, comparing alternatives	Finding alternative OCs to join. Sharing insights on alternative OCs. Discussing alternative OCs	Seek information, share information
Shutdown supporter	Supporting and agreeing with closure	Sharing information on the pleasure and satisfaction from learning of the closure of the message boards	Showing support for the closure and reaffirming the firm's decision to close the message boards. Vindication	Share information
Message bearer	Relaying information	Sharing the news of the closure with the community	Mainly social. An information broker conveying the announcement on the closure	Share information

4.1.2 | Mourner/reminiscer

The mourner/reminiscer shares feelings related to the closure, which legitimize others' negative feelings and guide collective appraisal of the unique value of the OC. This involves both sharing information and seeking legitimacy, engagement, and confirmation of their feelings from the community. Reflective of the importance of the OC, individuals expressed a range of emotional responses associated with the closure and referenced "missing" the message boards, feeling "sadness" or "grief," or "disheartened" as well as disbelief. While these comments were

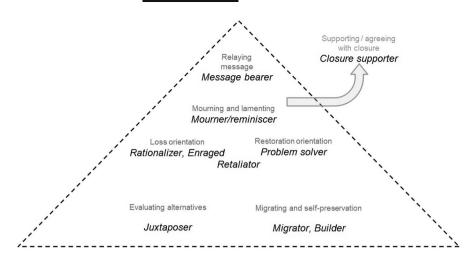


FIGURE 1 Manifestation of socioemotional information roles

more prominent immediately following closure—"already can't cope without the IMDb message boards. It's been like 30 mins"—they continued in the months after.

@IMDb not a day goes by that I don't miss the IMDb message boards not sure why they really went but I miss them.

Comments from mourner/reminiscers also involved saying "farewell" to the OC-most notably through the acronym RIP (rest in peace): "RiP IMDb message board. Thanks for all the interesting and funny reviews." They also shared their loss and referenced positive experiences they had shared with the knowledgeable community: individuals who would contribute to a discussion, answer obscure questions, offer "great opinions" or "treasure trove" (hard-to-codify knowledge), or engage in intellectual discussion. They also shared the loss of the bonds that were created in the OC (e.g., "I miss a lot of the posters there I used to know"). They explicitly referenced the loss of a "home" and the impact on their identity and routine ("every time I finish watching a movie, I go directly to the message boards" [Feb]). Some individuals went so far as to suggest that the film/TV experience would be less enjoyable without the message boards:

I can't enjoy watching movies anymore. #IMDb no longer has a message board to answer my questions.

The role of mourners/reminiscers therefore, was important for collectively acknowledging the value of the community in a shared space (Vaast et al., 2017). It was a form of catharsis for individuals and a way to form an ongoing relationship with the diffused OC.

4.1.3 | Rationalizer

The rationalizer focuses on making sense (Dervin, 1983) of the closure by contributing reasons for it and analyzing information around it. Their orientation remains towards the loss and coping with it. Rationalizers continuously tried to find meaning in the loss, as well as theorizing the reasons for the closure and its long-term impact on the firm. Like the information behavior of mourners/reminiscers, rationalizing is a way of coping with and adapting to the fact of closure. However, rationalizers also contributed to collective sense-making and information exchange on the pressures that led to closure.

Their comments were framed as questions to the community or rhetorically directed at the firm, often asking why the message boards were shut down: "@IMDb why did you guys remove the forum section of your site?." They were interspersed with ongoing discussion of the impact of the closure on the firm, specifically in terms of traffic: "I wonder if IMDb's site traffic has gone up or down since they got rid of their message boards." Their contributions involved an internal (community) rationalizing and theorizing of the "real" reason behind the closure decision and its predictability: "maybe we deserved to lose the IMDb message boards."

Rationalizers engaged in discourse and debate on topics including: the role of trolls, public complaints, reputational harm, pressure by film studios, costs of hosting the message boards, other economic motivations, and the difficulty of governing the message boards:

I have heard a rumour that another reason the IMDB forums were closed was because the big film studios didn't like people going on them and pointing out their latest films are crap. Wouldn't surprise me if it was true.

This role is therefore not only about sharing information but also seeking affirmation or disconfirmation from others.

4.1.4 | Enraged

The enraged express rage and display displeasure about the decision to close the message boards. Their orientation is also towards loss. Their comments mostly followed the closure announcement, but also continued as a theme in the 10 months following. They expressed displeasure and directed aggressive statements and criticism towards the firm: "[expletive] IMDb for their decision"; "the stupidity is unheard of." They also viewed the move by the firm as tantamount to a "betrayal," and as a "callous disregard" for the community:

> The fact you [IMDb] blame your users for the deletion is abhorrent and insulting to all the other loyal members who have and continue to provide insightful and interactive discussions.

Similar to mourner/reminiscers, the enraged emphasized the value of the knowledge captured in the message boards and signaled it with terms such as "priceless reservoir," "cultural institution," and "time capsules." The message boards were seen as a repository of reference information (e.g., "they're trying to erase history"). The act of closing the boards was referred to as a form of online "vandalism" and "destruction of culture." These comments demonstrate the anger and level of criticism directed against the firm and its positioning as an antagonist of the collective OC. It reiterates too the strong bonds the community had with the message boards.

4.1.5 Retaliator

In transferring their rage into action, retaliators seek to initiate collective action against the closure by signaling to the firm that they would undertake a boycott of it and mobilize the community to do the same: "Boycott their website." In Figure 1, this role sits between loss orientation and restoration orientation because it is a way for individuals to collectively show their disagreement and rage with the closure as well as to mount pressure on the firm to reverse the closure.

Retaliators emphasized boycotting as well as reducing interaction with IMDb as consequences of the closure and as forms of symbolic resistance tantamount to retaliation: "I deleted my 15-year-old account out of principle,

and my bookmark so I wouldn't accidentally visit the site." This form of symbolic resistance was also part of attempts to compel the firm to undo the closure:

> Everyone who uses the message boards needs to unfollow IMDb on Twitter and Facebook. I have and will not be giving them any page views in the future unless they bring back the message boards.

4.1.6 Problem solver

Problem solvers focus on sharing information as a way to reverse the closure. In contrast to retaliators, problem solvers took a distinct pathway characterized by mutual engagement and optimism that the firm would see their engagement and respond. They made hopeful, but futile, attempts to negotiate with the firm and suggest solutions to reform the message boards. Some lobbied the firm via online petitions asking it to bring back the message boards and encouraged individuals to sign and share various petitions. Others simply pleaded with the firm to reinstate the message boards. Table 3 summarizes these approaches in more detail, showing the socio-emotional elements of the information behavior/practice and examples of each. It merits mentioning that the firm's response was muted, despite many problem solvers signaling to the firm their strong desire to hold on to the OC.

4.1.7 Juxtaposer

As part of the coping and moving on, juxtaposers reflect on their positive experience with the message boards and compare it with alternatives (drawing on what they mourned/reminisced). Their approach was an important step in the migration process (discussed later). Juxatposers sought and shared information on comparisons, typically considering four areas. First was comparing the community in terms of size of the community but also the engagement and involvement of knowledgeable contributors ("moviechat.org seems to be the best replacement right now. IMDbforums only has 250 members"). Second was comparing content with regards to expectations concerning volume, timeliness, and breadth and depth of the content ("I don't see real discussion at all about unclear plot points, or opinions on story lines, casting, etc."). Also considered was complementary value from the IMDb firm website such as film/TV program reference content. Third was comparing how content is structured and displayed, how interaction is enabled, and how connections take place on the platforms (e.g., users

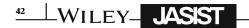


TABLE 3 Problem solving approaches

Problem solving approaches	Description	Example comments
Negotiating with the firm	Suggesting that the firm should install stricter levels of moderation and governance, keeping only the less popular boards, or maintaining the boards in an inactive state to preserve the knowledge and content	"IMDb should commit to preserving in one form or another for future generations" "I think it could be resolved with some creative problem solving, maybe more oversight and letting people downvote or report and remove unproductive comments"
Petitioning the firm	Requesting the firm re-instate the message boards	"Act NOW, sign the petitions, write to the IMDB executives"
Pleading to the firm	Pleading with the firm to reinstate the message boards Comments posted on firm-sponsored platforms, such as the IMDb official Facebook page and tweets (e.g., #bringbackthemessageboards), were directed at the firm	"I'm still hoping you'll bring back the forums"; "bring back your message board please"

being able to start discussions rather than responding to a firm-initiated discussion, or how discussion threads are moved up/down). For example, "Reddit's search usually brings up month old news posts about the movies well after it's been released. I like reading people's opinions and thoughts, I don't much care about literally ALL posts that contain the title." Finally, and occurring to a much lesser extent, was comparing how the OC was governed as well as discussion around levels of moderation and the existence trolls.

4.1.8 | Builder

Builders focus on sharing information to reconstruct the OC and to help the community to self-organize, reform and coalesce around a specific alternative and addressing the needs of the community. In this way, builders shifted from being contributors to the original OC to designers of alternative OCs. As change agents, leaders, champions, (re)creators or (new) facilitators, builders are less numerous, but are important for attempting to resurrect a community. This role focused on building a collective shared space, evident in their use of language such as "we," "our," "let's reunite."

For some builders, the closure provided the inspiration or opportunity to create or promote their own platform; they attempted to create a new platform for the OC out of the ashes of the closed one. As in the quote below, builders shared information on their creations. Builders also tried to encourage individuals to join the alternative platform and participate in building it. This included being part of the team that develops the platform, testing it and importantly, contributing content and knowledge as part of the community rebuild. Thus, builders promote the alternative and build legitimacy around it as well as mobilizing the dislocated community:

I am looking for people who'd like to join the community, who'd like to become moderators, who'd generate the content, brainstorm ideas how to improve, etc...I have created a chat room to brainstorm ideas how to kick this off.

4.1.9 | Migrator

Migrators focus on moving on to another OC. Migrators predominantly seek information on the best alternative OC and will often ask/answer questions to the community about which platforms are the best replacement or about specific platforms:

Seeing as it's been a few months now since the closing down of the IMDb boards, I wondered if there was a place that has come out on top as an alternative?

In contrast to builders who seek to create a collective space, the focus of migrators was on enabling and facilitating community migration and on maintaining the

community bonds and sharing their experience, either positive or negative. Peers provided a range of recommendations around where to reform the community and how to fill the void left by the closure of the message boards. In this way, the information role of the migrator is critical in shaping the migration path of the defunct community as it searches for an alternative OC. The process followed several pathways such as individuals migrating to existing platforms with similar communities focused on film/TV, such as Reddit; moving to substitutes, newly created by community members, that were similar to the IMDb message boards (e.g., IMDB2); or using OCs they were already part of that were not dedicated to film/TV but where a crossover of communities could occur such as on gaming forums.

4.1.10 | Shutdown supporter

Shutdown supporters are a counterbalance to the information roles articulated above. They focused on sharing information on their negative experiences and expressed support for the closure.

> Best thing to happen to the IMDb message boards, was that they got removed.

Their responses stemmed from users' past experiences with trolling, or harmful, derisive, and negative comments. "Trolls" or stronger terms such as "toxicity," "savage," "infested," "racism," or "cesspool" were used to discuss problems caused by lack of moderation on the message boards. Shutdown supporters clearly referenced tensions within the OC, such as its lack of cohesion, and the predictability of the closure:

> Wow! as of February 20th, @IMDb is shutting down its message boards. as someone who is trolled every single time I post, it makes sense.

In this way, shutdown supporters saw the collective space as tainted, although providing some value nonetheless. While some of their comments were unequivocal in support for the closure of the message boards or referenced their own negative experiences, others were more nuanced and conflicted. Individuals referenced both negative and positive experiences in the past, showing their conflicting affective states:

> \I know it was infested with trolls, but there were also so many clever, relevant discussions.

5 | DISCUSSION

5.1 | Connecting information roles to information behavior/practice research

While information science research foregrounds information considerations, this research supports the recent appeal (Worrall et al., 2021) to consider the interplay between information and socio-emotional factors. We focus on OCs as a form of human interaction and information sharing representative of everyday contexts (Ocepek, 2018a; Sin & Kim, 2013). Specifically, we investigate the undertheorized subject of disrupted and defunct OCs as contexts for daily hassles and negative experiences (Barahmand et al., 2019).

Our findings advance the view of OCs as combining emergent social constructions, human emotions, personal relationships, and important social ties alongside seeking, sharing, use, and creation of information and knowledge (Worrall et al., 2021). These are even more pronounced when an OC platform closes. With this view in mind, we examined not only the socio-emotional responses exhibited by users of a disrupted OC, but also how these manifest as information roles. The roles developed in response to the OC platform closure enabled dislodged users to cope with the loss, legitimize feelings, and seek out new places to attempt to re-establish the OC. As such, the roles may be cathartic but can also help coordinate users to act and make informed decisions about possible pathways to reform the community. At the same time, the role of shutdown supporters shows that not all OC users share the same experience.

Because the information roles we identify emerged in a highly charged socio-emotional context, they are distinct to roles identified in other studies (e.g., Hara & Sanfilippo, 2017). Another major difference is the diffused nature of the OC in our study. Here the defunct OC had become fragmented and thus there was little need for typical OC roles such as moderator or governor (Hara & Sanfilippo, 2017). For this reason, we show the manifestation of socio-emotional information roles in OCs that evolve beyond tight and stable OC forms (rather than participation roles). In such instances, there is less opportunity for formally or collectively defined roles, such as connectors (individuals that connect multiple discussions and threads) (Hara & Sanfilippo, 2017; Kane et al., 2014; Kuk, 2006) or governors (watchdogs that monitor participants' behavior) (Hara & Sanfilippo, 2017; Schroeder & Wagner, 2012). However, there are overlaps with roles already described in the literature, such amplifiers or reinforcers (individuals that support agreed upon truths) (Hargadon & Bechky, 2006; Vaast et al., 2017), distractors (individuals that moved the discussion away

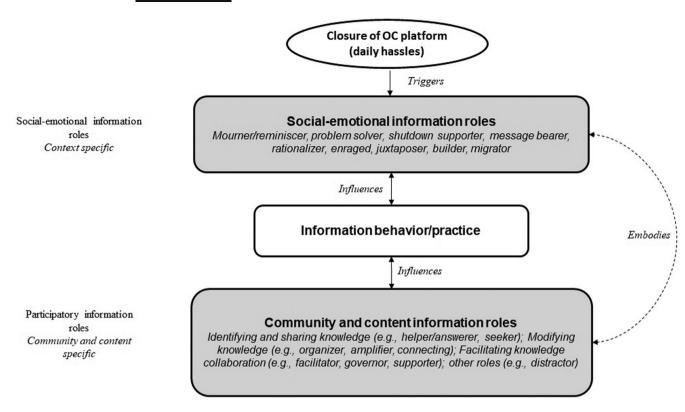


FIGURE 2 Connecting socio-emotional and participation/community roles

from the original topic) (Hara & Sanfilippo, 2017), or *sup-porters* (individuals that support particular positions) (Faraj et al., 2011). In our case, for instance, *mourner/reminiscer* may also amplify, support or distract.

To draw together the difference in roles described in the information science literature, Figure 2 that captures both information behavior/practice and socio-emotional views. It offers two levels of information role relevant to OCs. As the model shows, the upper shaded box captures socio-emotional information roles (e.g., mourner/reminiscer, builder, migrator), which influence information behavior/practice. Our information roles are not silos. Rather, in line with previous studies, the roles we define are overlapping; it is possible to be enraged and a problem solver. They represent some of the possible complex information roles that can emerge when an OC is dispersed and an attempt is made to hold on to the defunct OC. The same may happen should another critical/ disruptive event unfold. As noted in the model this level is connected to making sense of the everyday world and its events (Solomon, 1997), coping with daily hassles and negative experiences (Barahmand et al., 2019), and attempting to "keep things in meaningful order" (Savolainen, 1995). The figure also connects the roles with information behavior/practices such as information seeking, sharing, creating, and giving (Godbold, 2006; Savolainen, 2008; Wilson, 1999).

The lower shaded box in our model shows that *community and content-specific information roles* from the literature (e.g., Hara & Sanfilippo, 2017) also shape the organization and direction of the discussion. The curved broken-line arrow shows how the two levels may overlap (although not a focus of investigation in this study). Importantly, while the model is context-specific, it shows how the emotional and affective facets of OCs (or radical disturbance to an OC) influence the information roles, and in turn, the information behaviors/practices of individuals.

5.2 | Contribution to information science theory and practice

The notion of information roles raises important considerations for theory in information science. Information roles are typically considered in relation to professionals who have prescribed information-sharing roles, responsibilities, and task-orientation. In contrast, information behavior in OCs is everyday life information seeking (ELIS)-oriented (Barahmand et al., 2019), whereby roles are fluid and overlapping and are indicative of important dynamics in a thriving OC information space. Our work adds to this scholarly conversation by bringing together the emerging views on socio-emotional roles and information/community/participation roles in OCs (Figure 2).

Recent moves by some organizations to turn off, close, or restrict OCs and related features are forcing members to find alternative settlements. Given the ease with which OCs can be closed, it is important to understand how individuals respond and collectively move on. The information roles we have examined can be useful to community leaders who seek to preserve their OC in the face of a firm's actions. Our findings may also be useful to practitioners seeking to prevent undesirable OCs, such as radical political communities (Murphy, 2020) organized around misinformation or malicious content. The findings give insights into how better to prevent the OC from reforming post-shutdown. This could involve monitoring builders who use their leading role to reform the emotionally charged community or migrators whose comments may indicate where an OC is reforming.

For OCs in the difficult position of having their platform shut down, the findings provide two major takeaways. First, that the online space offers individuals a way to continue interacting with other users in the wake of the closure. It may be as a place to mourn, to theorize the reasons for the closure, vent anger, collectively take steps to reverse the decision, or act out against the firm. Second, that vibrant OCs may be able to reform and continue, albeit in a different form and the variety of vibrant socio-emotional information roles may be indicative of the OCs ability to adapt and survive.

5.3 | Study limitations and future research

A limitation of this study is the specific setting of OC closure. However, closure also offers new insights that are not possible through the study of stable OCs. While digital data offers rich insights, common to other studies of OCs we are limited to individuals' digital traces (Hara & Sanfilippo, 2017; Introne et al., 2020; Nakikj & Mamykina, 2018). That we can only observe the tweet or message board post provides a further challenge as we can only infer the motivations of the individual. Future research could interact directly with users of a defunct OC to build on these findings, following studies of ELIS and information/behavior practices that often consider multiple sources of information (Savolainen, 2008). Another challenge in OC research is how to account for fluidity of membership and determine who is or is not a member of the community (Faraj et al., 2011; Faraj et al., 2016). In our study this is further complicated due to the OC closure, which saw its users digitally dislocated from one another. This sets it apart from studies that focus on stable OCs, but also relates to our distinct research question.

6 | CONCLUSION

Building on recent interest in ELIS in information science, particularly its socio-emotional aspects, we examine the novel case of an OC platform being shut down. We make two major contributions. We identify and discuss the socioemotional information roles that manifest, and develop a model of how they relate to different aspects of the closure. Theoretically, we connect the notion of socio-emotional information roles to the information behavior and practice literature and to emerging research that considers community and participant roles. To this end our model attempts to connect these three elements. The concept of information roles is positioned as an important, and hitherto understudied, theoretical concept in information science.

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APPENDIX A

TABLE A1 Breakdown of the categories

Context	Roles	Description	References
Identifying and sharing knowledge	Helper or "answerers"	Offer support to seekers	Hara et al. (2010), Hargadon and Bechky (2006), Kane et al. (2014), and Welser et al. (2007)
	Seeker	Seek help and often initiative discussion	Hara et al. (2010), Hargadon and Bechky (2006), and Kane et al. (2014)
	Mover	Move discussions forward	Swarts (2009)
Modifying knowledge	Knowledge shaper	Refine content, in a role parallel to organizers and facilitators within discussions (rather than refine or reconstruct it)	Majchrzak et al. (2013) and Yates et al. (2010)
	Organizer	Engage in synthesizing and rep-resenting the information shared by other users into a more usable set of links or facts (they may summarize rather than shape content)	Faraj et al. (2011)
	Reframer	Assist the formation of consensus and translating helpful information from conversations into useful and consistent content	Hargadon and Bechky (2006) and Kane et al. (2014)
	Reinforcer/ amplifiers	Support agreed-upon truths; Reinforcers reconstruct the consensus by repeating conclusions and providing evidence in support of consensus	Hargadon and Bechky (2006) and Kane et al. (2014)
	Connector	Connect multiple discussions and threads	Kane et al. (2014) and Kuk (2006)
Facilitating knowledge collaboration	Facilitator	Facilitate production process with-in ongoing discussions by seeking to identify quorums and moderate discussions that will lead to progress	Kane et al. (2014)
	Governor	Watchdogs that monitor participants' behaviors, with an interest in protecting the status quo using rules of engagement	Schroeder and Wagner (2012)
	Mediator	Step in when tensions run high within a community and when there are entrenched interests in multiple perspectives	Faraj et al. (2011)
	Supporter	Encourage particular positions articulated within discussion and seek out references and resources to enhance claims and positions	Faraj et al. (2011)
	Unmasker	Reveal user(s) employing deception regarding their identity to harm a community	Faraj et al. (2011)
Other roles	Judge	Evaluate the content; necessary to evaluate the content of other participants' posts	Hara and Sanfilippo (2017)
	Distractor	Move the discussion away from the original topic; may hinder constructive discussions	Hara and Sanfilippo (2017)

Source: Hara and Sanfilippo (2017).