Strangers in the Dark: Navigating opacity and transparency in open online career-related knowledge sharing

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Abstract

Given repeated upheavals in jobs and organizations, people increasingly share career-related knowledge in open online platforms. Dealing with career-related knowledge in an open online setting, though, is challenging. It requires people to balance between exchanging too much and too little career-related knowledge, e.g., to disclose and share the right knowledge without jeopardizing themselves. This study examines how participants achieve such delicate balance in open online processes. It investigates discussions in a career advice-focused online platform. Findings reveal how open online career-related exchanges include sequences of knowledge sharing, knowledge evaluating, and of diverting. They also include sequences of regulating openness that involve securing opacity for the people participating while also ensuring the transparency of the process. The study unpacks how participants in an open online setting navigate the dynamic balance between individual opacity and processual transparency. Findings hold implications for scholarship on open organizing, careers, and advice networks, as well as for practice.

Keywords

career, knowledge sharing, opacity, openness, processes, qualitative study, social media, visibility

Introduction

Careers, the sequences of people's work experiences over time (Arthur, Hall, & Lawrence, 1989), have become less bounded and linear (Callanan, Perri, & Tomkowicz, 2017). Trends in employment (Petriglieri, Ashford, & Wrzesniewski, 2019), organizing (O'Mahony & Bechky, 2006), management (Anderson & Bidwell, 2019) and technology (Akkermans & Kubasch, 2017) have heightened the uncertainty in careers. Moreover, some of the very same forces that have made careers more open-ended have also fuelled open organizing. Openness corresponds to the principle and set of processes whereby organizing has become less restricted, more accessible, and associated with increased transparency and participation (Dobusch, Dobusch, & Müller-Seitz, 2019; Puranam, Alexy, & Reitzig, 2014). Greater openness in organizing has been manifest as

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knowledge, relationships, or procedures have become more open and transparent (Ahrne & Brunsson, 2011; Raviola, 2017). Technological developments, innovations, and societal transformations have brought about open organizing along with changes in careers (Christensen & Cheney, 2015; Von Hippel & Von Krogh, 2003).

The transformations of contemporary careers and the concurrent greater openness in organizing have created complications for people. There are fewer templates and norms for career progression (Currie, Tempest, & Starkey, 2006; Ibarra & Barbulescu, 2010). Finding knowledge to make decisions about one's career is thus both critical and challenging (Smith, 2010). Furthermore, especially with web-based technologies such as online communities and social media, people have more access to knowledge. Yet, greater openness has been associated with secrecy (Birchall, 2011; Thorén, Ågerfalk, & Rolandsson, 2017). The combination of openness and closure with fewer established career paths heightens the sense of uncertainty regarding careers (Ashford, Caza, & Reid, 2018; Ibarra & Obodaru, 2016; Spreitzer, Cameron, & Garrett, 2017).

These trends associated with careers and open organizing make sharing career-related knowledge essential. Career-related knowledge corresponds to knowledge associated with the multiple questions that people may ask regarding their career, such as whether they should change position, look for new training or opportunities as well as how to negotiate offers and benefits. So far, scholarship on careers and advice networks has provided insights regarding how people can find career-related knowledge within their own, closed, social networks (Dobrow, Chandler, Murphy, & Kram, 2012; Higgins & Kram, 2001). This scholarship has however not much taken in consideration the implications of open organizing. Yet, open organizing has generated new ways of reaching out to people for advice. People have shared career-related knowledge in open online settings (Tomprou, Dabbish, Kraut, & Liu, 2019; Vaast, 2007, 2020). These open dynamics represent significant new means of career-related knowledge sharing. Examining how people openly share knowledge about their careers is important because so far scholarship has examined career-related knowledge sharing as happening in closed rather than open settings. We need a better understanding of openness in career-related knowledge sharing.

Developing this understanding is especially important because misinformation can spread online (Mihailidis & Viotty, 2017). Given how consequential career-related decisions can be, it is critical to understand how people can make sense of open career-related knowledge. Moreover, companies and people have started to witness information and misinformation about them being posted online (Pike, Bateman, & Butler, 2018). Open online forums, for instance on Glassdoor or Monster.com, constitute informal settings for people to access plentiful but not necessarily verified information. We thus need to understand how career-related knowledge sharing takes place in these settings.

To address this issue, this study builds upon the qualitative study of an open online social media platform where people exchange on issues related to their career to examine the following question: *How do people engage in open online career-related knowledge sharing?*

This study starts by building on theoretical foundations before detailing the archival qualitative case study of an online platform dedicated to career-related issues. Findings reveal that career-related knowledge sharing relies upon sequences not only of knowledge sharing, but also of knowledge evaluating and diverting. Importantly, the findings illuminate the importance of regulating openness sequences that maintain the transparency of the process while securing the opacity of participants. Regulating openness sequences provide and sustain the conditions for ongoing open online career-related knowledge sharing. These findings lead the way to implications related to open organizing, careers, and advice networks.

Theoretical Foundations

Contemporary trends in careers in an open environment

Careers have transformed as work, positions, and organizations have changed since the late 1990s (Arthur & Rousseau, 2001). Careers have been altered as people go through diverse positions and companies (DeFillippi & Arthur, 1996). Being successful in one's career particularly depends upon individuals' actions and sense of direction (Briscoe, Hall, & DeMuth, 2006; Hall, 2004). Scholarship has examined trends such as "boundaryless" and "protean" careers (see, e.g., Feldman & Ng, 2007; Sullivan & Baruch, 2009). It has also documented that careers increasingly take place beyond single organizations (Feldman & Ng, 2007).

Changes in careers have led researchers to reexamine the issue of agency (Tams & Arthur, 2010). A key question has been whether careers are determined by institutional contexts, individual agency, or their combination (Currie et al., 2006). Trends in careers have also had contrasting consequences depending on people's skills and social resources. Some people have seen their earning potential and status increase while others have faced fewer opportunities and greater constraints (Currie et al., 2006; Sullivan & Baruch, 2009). Furthermore, career trajectories have become less socially recognized and institutionalized (Ibarra & Barbulescu, 2010; O'Mahony & Bechky, 2006). Career scripts have thus become less available (Inkson, Gunz, Ganesh, & Roper, 2012). People however still need to develop narratives about the arc of their career as they go through diverse transitions in their roles, organizations, and industries (Ibarra & Barbulescu, 2010). To do so, people build upon various sources of knowledge and personal considerations as they construct career scripts for themselves and search for norms to apply to their situations (Duberley, Cohen, & Mallon, 2006). The institutional context shapes but does not determine career scripts (Tams & Arthur, 2010).

These contemporary trends in careers make it important for people to find career-related knowledge. Scholarship has highlighted the importance of advice networks to do so (Higgins & Kram, 2001).

Reaching out to advice networks, offline then online

"Weak ties" help people in their careers (Granovetter, 1974; Seibert, Kraimer, & Liden, 2001). Weak ties include friends of friends, acquaintances, or relatives who can help one find a new job and make decisions regarding one's career. A central tenet of this scholarship is that these people may not directly know one another well, but that they are loosely connected in some ways (Seibert et al., 2001). Such connections can be useful for people in their career. With them, people can develop professionally (Seibert et al., 2001), search for a new job (Barbulescu, 2015), and find mentors (Higgins & Kram, 2001). Furthermore, strong ties can provide support for people during their job search and, more generally, in ambiguous situations (Krackhardt, 2003; Montgomery, 1992). Therefore, as they search for information of relevance to their careers, people may reach out to advice networks combining weak and strong ties (Podolny & Baron, 1997).

Scholarship has adopted a network perspective to understand how people get support in their careers (Higgins & Kram, 2001). Instead of focusing on dyadic relationships, this scholarship has highlighted that people access support and mentorship for their careers by mobilizing their professional networks. Advice networks vary in terms of tie strength, diversity, and impact on people's careers (Cotton, Shen, & Livne-Tarandach, 2011). Some people's networks are more "opportunistic" than others (Higgins & Kram 2001), for instance, with high diversity and weak connections. Other networks have stronger ties and lower diversity (Baker & Lattuca, 2010). Advice networks develop, are sustained over time, and hold different consequences for people's careers (Dobrow Riza & Higgins, 2019). Moreover, while much of this scholarship has focused on mentees rather

than mentors, the perspectives of all network members have started to be taken in consideration (Dobrow et al., 2012). Of note, these are ego networks: people name those who they consider members of their advice networks. These ego networks are thus closed rather than open.

Other recent scholarship has focused on networks developing in electronically-mediated contexts (Kane, Alavi, Labianca, & Borgatti, 2014). Leonardi (2015) for instance explained how, within an organization, enterprise social media help people find others who have access to desirable knowledge for their work. The visibility associated with enterprise social media within organizations (Leonardi & Vaast, 2017) i.e. the observation that connections among people and between people and content can be made visible, participates in transforming people's knowledge base within their organization (Hansen & Flyverbom, 2015). Yet, this is a specific case of a broader issue since people who ponder career-related questions search for knowledge not only within their employing organization, but also beyond. They reach a broader pool of people and relevant experiences beyond organizational boundaries.

A process perspective on career-related open online knowledge sharing

This study proposes a process perspective (Langley, Smallman, Tsoukas, & Van de Ven, 2013; Langley & Tsoukas, 2016) to understand how open online career-related knowledge sharing unfolds. A process perspective is particularly relevant for open online career-related knowledge sharing. For one, career-related knowledge is uncertain and bound to change (Ibarra & Obodaru, 2016; O'Mahony & Bechky, 2006). This contrasts with much existing scholarship on online communities that has assumed that contributions lead to the right piece of information (e.g. on how to solve a technical problem) (Ma & Agarwal, 2007). By contrast, with career-related knowledge, certainty evaporates (Skrbiš & Laughland-Booÿ, 2019). This makes it important to understand the processes through which career-related knowledge is articulated, shared, shaped, and evaluated.

Also, while much scholarship so far has focused on who participates in knowledge sharing online (Bateman, Gray, & Butler, 2011), a process perspective is more focused on how knowledge gets shared and circulated and on how people deal with the visibility and transparency of their participation (Hansen & Flyverbom, 2015). This is particularly relevant for career-related knowledge, given that it is provisional and highly personal (Laudel, Bielick, & Gläser, 2019).

What is more, with open online knowledge sharing, participants may share a fleeting connection, but no strong sense of social identification and membership of a community (Bennett & Segerberg, 2012; Vaast, Safadi, Lapointe, & Negoita, 2017). In traditional, less open, online communities, a relatively stable membership and deepening connections among participants contribute to a sense of common identification among participants (Fayard & DeSanctis, 2010; Vaast & Pinsonneault, 2021). However, with open online knowledge sharing unfolding in a social media platform, social identification is not guaranteed. Anyone may participate in discussions regardless of their commitment to the community. Participants may exchange among self-defined peers but may lack strong connections and the ability to know one another deeply (Bennett & Segerberg, 2012). A process perspective illuminates how open online career-related knowledge sharing involves participants dealing with transparency and visibility associated with open online platforms (Flyverbom, 2016; Sharon & John, 2018).

Methods

Research design and setting

This study built upon a qualitative research design focused on a single case (Yin, 1989). This research design suited this study because it involved an exploratory topic with delicate issues (Da

Cunha & Orlikowski, 2008; Vaast & Levina, 2015). This study relied upon an archival case study that enables researchers to access processes in the ways in which they were happening (Vaast & Walsham, 2013). With an archival case study, one can follow how open online career-related knowledge sharing unfolds. The research design was also suited for the process perspective of this study since such perspective "provide[s] explanations in terms of the sequence of events leading to an outcome" Langley (1999, p. 692). A process perspective examines things as they become rather than as they are. It offers an ontology of change rather than of stability, even if things seem stable for now. The archival qualitative research design allowed me to access threads unfolding differently.

I selected the research setting because of the salience of the phenomenon (Flyvbjerg, 2006). The study involved investigating career-related knowledge sharing on the online platform Shadow (a pseudonym). Shadow provides an online platform for anonymous sharing on career-related topics. It is "an anonymous social networking platform for professionals" where anyone may exchange on any issue associated with their career. Shadow is publicly available but access to content and participation depends upon users providing a professional email address. The application then anonymizes registered users. Available since 2015, Shadow had an estimated 3.2 million users as of July 2021. Many of its users worked in technology companies that have experienced high human resource turnover, frequent restructurings, career volatility, and, recently, corporate social responsibility scandals and questions. Shadow users were looking for insights associated with their work and career path. Typical questions discussed on Shadow included: "*What range would you expect the hourly pay rate of a data science intern at Uber to be?*" or "*What's the average salary for a UX* [User Experience] *designer with 9-year experience*?" Some participants asked which job offer they should accept ("*Amazon or LinkedIn? HTC or Google?*"). Others still wanted to know which companies would sponsor their green card application. Such discussions made Shadow a particularly relevant setting for this study.

Data collection and analysis

The data collection involved a theoretical sample (Strauss & Corbin, 1998) of discussion threads from Shadow posted from July 2017 to January 2019, on five key topics selected for having the potential to carry out long threads ("Compensation," "Diversity," "Career," "Startups," "Women in Tech"). Of note, all collected threads discussed issues related to career, not simply the ones from the "Career" topic. The latter topic dealt with career transitions (e.g. when to apply for a new position, how to negotiate entry into another job). I collected threads that included an initial entry and at least 10 replies. This minimal length ensured that there was a discussion about the issue covered in the initial entry. The data collection included 244 threads and 5,895 posts overall.

The data were collected manually. They complied with emerging ethical standards of research in online settings by avoiding automating the collected data and by respecting the privacy of participants (Byrne, 2017). Threads were entered into the qualitative data analysis software Atlas.ti to facilitate the data analysis process. The unit of analysis for this study was a thread as a process of career-related knowledge sharing. The analyses proceeded in a grounded fashion, and, especially, followed guidelines of the Straussian side of grounded theorizing (Strauss & Corbin, 1998). These guidelines help researchers build their analyses from back-and-forth between the data and existing concepts and theoretical perspectives (Charmaz, 2006). Figure 1 summarizes the data structure of this study.

First, I engaged in open coding by analysing actions in specific posts within threads. I coded different types of questions, answers, and comments. Some of these comments for instance evaluated others' posts. Others diverted from the main topic of the threads. Others did not deal directly with the career-related topic of the thread and, instead, ensured that participants remained opaque or that the process remained open.
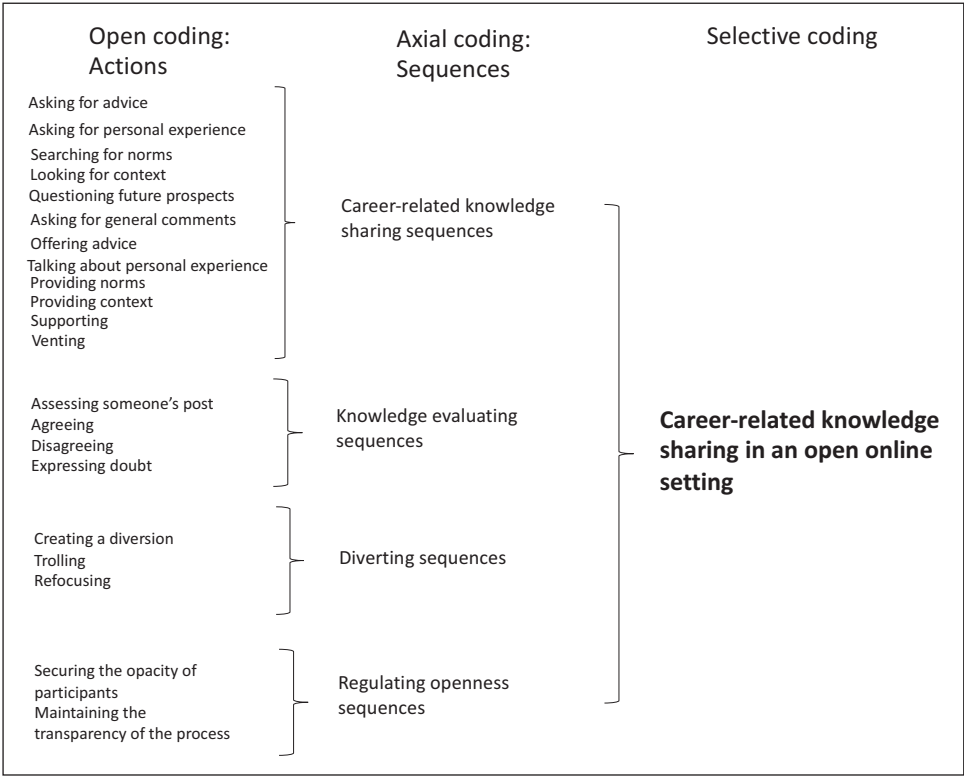
Figure 1. Data structure.

From this open coding of actions, consistent with the process perspective (Langley 1999), I brought together different actions into sequences within threads. The axial coding focused on examining how threads unfolded into distinct sequences. The most frequent sequences involved alternating questions and answers directly related to career-related knowledge. Other sequences included assessing others' posts (e.g. agreeing or disagreeing with them), as well as diverting away from the original topic of the thread and refocusing from a diversion towards the original topic of the thread. Regulating openness sequences addressed the tensions associated with openness on Shadow. The analyses revealed that regulating openness involved securing the opacity of participants (i.e. protecting participants by keeping them anonymous and separate from the knowledge they contributed) and maintaining the transparency of the process (i.e. ensuring that the knowledge sharing sequences were as transparent as possible to guarantee the quality of the knowledge being shared).

From this axial coding of sequences, the analyses turned to selective coding (Charmaz, 2006; Strauss & Corbin, 1998) of what made threads unfold the way they did to generate career-related knowledge sharing on Shadow. This stage of the analyses involved going back to the entire dataset to see how sequences were interrelated. Doing so revealed how sequences of regulating openness supported career-related knowledge sharing sequences.

Findings

This section details the sequences that took place on Shadow. The knowledge sharing ones were the most prevalent. These sequences led the way to knowledge evaluating and diverting sequences.

Table 1. Career-related knowledge sharing sequences on Shadow.

Sequence	Definition	Examples	%*
Career-related knowledge sharing sequence	Alternating questions and answers associated with career-related topics.	*Example 1*: "Rf [Radio-Frequency] test engineer, 10 yr related experience, jumping from Apple to Google. Current pay at Apple: 140k base salary, 100k rsu [Restricted Stock Unit]/year. Planning to ask for 200k base + match unvested rsu. Is it reasonable deal? 200k base if a salary for L6 engineers, which at Google is already the at the very top of the pyramid. If this is not the level you got after your interviews, it's not reasonable. They have a lot of flexibility on RSUs and sign on but not on base salary. Assuming you get l5, you can ask for 180. (Assuming the ladder pays the same as swe [Software Engineering]) Hmm, being a bit critical though why do you think google would pay you a bump of 40 percent in your base salary? You might want to negotiate more on rsu since they have more room on that. May want to confirm any stock refresh for the next few years though given u are getting $100k RSU/yr" *Example 2*: "I'm entertaining the idea of quitting by text. toxic team at amz [Amazon]. Is there a huge consequences to that? If Oracle can fire people over pre-recorded message then you can via text. Don't do it. You might not care about amazon but you never know when you will cross paths with your manager If you are really sure that you would never like to see your manager's face, go ahead and do it. Company was based in Arkansas?"	100%

*The percentage corresponds to the percentage of collected threads in which this sequence appeared at least once.

Regulating openness sequences were less frequent, but they enabled career-related knowledge sharing to continue on Shadow. This section presents these sequences in turn.

Career-related knowledge sharing sequences

Threads primarily involved participants engaging in career-related knowledge sharing sequences including posts with different questions and answers. Participants suggested diverse solutions and elements of information that, together, answered specific queries. The knowledge sharing sequences often included: an original post presenting a situation calling for a solution or an answer, followed by: posts that shared the similarity of their situation with the original post; others that asked for clarifications; and, others that weighed in on solutions and proposed alternative ones (see Table 1 and Table A.1 in the appendix for examples).

On Shadow, career-related knowledge sharing was a process in which all registered users could participate and provide specific details (e.g. associated with a job offer) that would not be as widely

shared in other settings. Knowledge sharing sequences were longer or shorter depending on the questions being asked and whether there were readily available career scripts.

Shadow participants did not provide indications of being familiar with one another outside of the platform or even within the platform through repeated online interactions of threads. This came in great part from the anonymity of the setting. Despite not being personally acquainted with one another, participants shared painful experiences on delicate matters. Some participants asked questions such as: "For women on here who've had children, in what ways has it affected your career (good and bad)?" and provided answers such as: "As soon as I had a child they put a guy on my team to cover my role and they expected me never to come back." They also often offered sympathetic comments to others on a variety of situations discussed in threads. Examples of support included: "I'm with you!" or "This sounds really painful for you to deal with. Work shouldn't be that stressful." Advice and expressions of support were notable because they happened in a setting where relationships were tenuous. Shadow did not constitute the context of a typical "advice network" (Dobrowet al., 2012; Higgins & Kram, 2001). Connections among Shadow participants formed around threads and did not extend over time.

Career-related knowledge sharing sequences led to knowledge evaluating and diverting sequences. We turn to these sequences next.

Knowledge evaluating and diverting sequences

Knowledge evaluating sequences provided an assessment of what others had already posted. They amended answers and established conditions of applicability of the knowledge they exchanged. The evaluation could involve agreement (e.g.: "*This* 👏" (Hand clapping emoji)), disagreement (e.g. "*Really worst advice on Shadow yet lol* [Laughing Out Loud]"), or doubt (e.g., "*Re-reading your comments, I suspect that you don't quite understand what 83b means. That's OK - I learned about it many years after I got my first bunch of options*") (see additional examples in Table A.2 in the appendix).

Knowledge sharing on Shadow was often contested. Disagreements escalated in some threads. For instance, in a thread on how women engineers could ask for a raise, the conversation turned towards what constituted "fair" raises and who could receive them. One participant considered that raises resulted mostly from competition among coworkers and on the job market. Others disagreed. Complaints about unfairness mounted: "Is this a competition on who is suffering more injustice or is this a question of people actually getting a raise that's fair?" Another participant added: "Unfairness is unfairness - whether inflicted on women, men, immigrants, natives whomever. I think the thread is useful to discuss strategy for everyone who have been given unfair raises to figure out how to present themselves and get their fair share." Some disagreements thus stemmed from open knowledge sharing. In the absence of established objective information or single course of action, disagreements constituted one way to refine knowledge.

In some threads, diverting sequences also appeared. Diverting sequences happened as some participants introduced an off-topic direction to a thread, often with a humorous tone. For instance, in a thread about the evolution of demand for developers, a poster quipped: "My expert analysis after going through multiple data points says that it will either go up or go down or stay the same." See Table A.3. in the appendix for additional examples of diversions that emerged in threads.

Diverting sequences at times included trolling when someone posted inflammatory content. For instance, in a thread about talking with one's manager in a company, Facebook, a participant asserted: "*I'm glad FB* [Facebook] *works for you, but your products really are time-wasting garbage that pray on people.*" Diversions usually led to several follow-up posts that continued off-topic.

Table 2. Regulating openness sequences in Shadow.

Posts	Definition	Examples	%*
Securing the opacity of participants	Safeguarding the anonymity of participants in discussions so that they could talk openly without being identified.	"Shadow is anonymity with credibility and fraternity." "The day LinkedIn buys Shadow is the last day I'm posting on it! Facebook and Linked In are where people are expected to be real users and 'kind' of expected to use real names etc. I'd never be comfortable with anonymous app controlled by them." "Specific contents might identify me, so I won't disclose that."	12.3%
Maintaining the transparency of the process	Ensuring that knowledge sharing in Shadow was as open and transparent as possible to all participants.	"Every technical or compensation question I have is asked with one or two good answers and a few trolls. What more should we ask for?" "Because I don't need a safe space (this is a term from US universities, look it up), and I enjoy memes, jokes and other people's troll comments. Shadow has a lot of useful info too along that content." "I feel it is an accurate representation of office culture with none of the censorship we suffer in our day-to-day."	9.4%

*The percentage corresponds to the percentage of collected threads in which this type of post appeared at least once.

Diverting sequences at times continued until the thread ended. In other cases, though, diverting sequences ended with refocusing, when one or several posts brought back the thread towards the original, career-related, topic. For instance, in a thread about ways to start a business, the discussion had diverted onto national stereotypes. A post redirected the thread to the original issue: "How does approval for a side business works at Facebook? At Amazon if you are a software engineer, you can't start a software business, and need an approval for any other kind of side business."

Regulating openness sequences

Regulating openness sequences consisted of usually short sequences of posts through which Shadow participants modulated how open they wanted the exchanges to be. With regulating openness sequences, participants worked towards maintaining a balance between making sure that participants remained protected (securing the opacity of participants) while exchanges themselves were as open as possible (maintaining the transparency of the process). Regulating openness sequences were less frequent than other sequences on Shadow, but they made it possible for the other sequences to happen. See additional examples in Table 2.

Securing the opacity of participants involved preserving participants' anonymity by distancing posted content from individual posters. Participants' privacy was presented as essential to exchange on career-related issues that were usually not discussed openly: "People can speak their mind and are encouraged to do so because they can't normally." "*Most things here Anononimity* [are anonymous. It] *(. . .) allows people to speak openly*."

Securing the opacity of participants meant that participants exerted caution in what they wrote online. The platform was defined by the very anonymity of its participants. Yet, many participants acted as though they could be exposed. Therefore, as they posted online, they made sure not to provide details that could identify them: "Regardless of the specifics of this app, I generally try to behave on the internet as if everything I do and say can be linked to my name."

Securing the opacity of participants was needed because participants could share private or polemical knowledge. It ensured that participants would remain protected and enabled the process of knowledge sharing to remain open and unencumbered. It was useful to contextualize the knowledge being shared while protecting the people who shared it. Too much visibility in the participants could make some hesitate to share delicate knowledge, which explains why securing the opacity of participants was needed to counterbalance maintaining the transparency of the process.

Maintaining the transparency of the process involved making sure that the process remained as transparent as possible for all participants. Maintaining the transparency of the process was essential for participants to work towards accessing the right knowledge for them. This was particularly the case because what was right, wrong, or less applicable knowledge was unclear and could differ by participant. The following exchange illustrates the importance of maintaining the transparency of the process. Particular content was posted to become vetted or criticized by subsequent posters. The original poster of a thread noted: "*I was treated unfairly at adobe and hr* [Human Resources] *did nothing. So many terrible managers but no way to notify hr without risking your career.*" Several following posts offered empathic comments and shared their own experience at this company and others. A poster however countered that the initial post left too much to the imagination to be insightful: "*The post is valu*[able] *and it would be nice to have more information—I've heard really positive things about Adobe.*"

This post illustrated how participants relied on their own and others' experiences, and on general information and rumors about particular situations to interpret posts. Maintaining the transparency of the process ensured the presentation of multiple perspectives and the articulation of dissimilar pieces of advice and opinions. Maintaining the transparency of the process was key to reaching answers to questions. Diverse participants shared various pieces of information from their perspectives and added what they considered to be relevant elements of context, personal experiences, and norms.

The absence of moderators' involvement in discussions also facilitated the transparency of the process. Participants explained that the openness of online discussions was key to true contributions:

> I much rather have the ugly true nature of people than the fake version they pretend to be. This is Shadow, this is the reality. Moderation and banning people would only create another fake community.

> People actually talk here [on Shadow]. People often are actually talking about what they know. It's the next best thing to having a bunch of friends at every company so you can get a sense of how they feel about things.

Moreover, combined, securing the opacity of participants and maintaining the transparency of the process regulated openness in the online setting by helping participants share freely on career-related topics: "People can speak their mind and are encouraged to do so because they can't normally. . ." Specifically, securing the opacity of participants was key for participants to be willing to maintain the transparency of the process. A participant expressed their appreciation for the openness of process combined with posters' opacity in the following manner: "[Shadow] *is a reflection of society because it's anonymous so people let others know what they really think and feel.*" Yet, complete opacity of participants combined with transparency of the process provided an online context favourable to the emergence of trolling, which led to diverting sequences: "Anonymity allows people to be trolls."

In another thread a participant acknowledged the connection between transparency of the process and opacity of participants, as well as the risks associated with this connection:
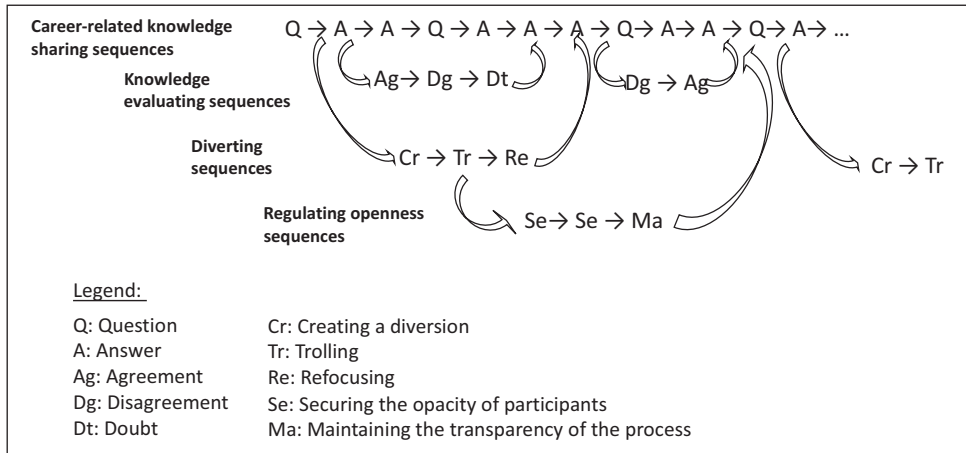
Figure 2. Career-related knowledge sharing in an open online setting.

> Anonymity is a powerful tool that enables sharing sensitive information without accountability. It should not however be used to get away with saying hurtful comments you wouldn't otherwise say out loud in public.

Openness at times led to toxic content. Yet, participants acknowledged that this undesirable outcome came with open career-related knowledge sharing: "There's toxicity here definitely, but if you can filter that out you'll also find helpful content." Shadow participants thus had to find a balance between exposing themselves too much and remaining too guarded to make contributions. They regulated openness to engage in career-related knowledge sharing. The following quote, for instance, had a participant provide some advice regarding how to behave on Shadow:

> I am not saying- don't be honest, that is helpful and is the reason why [Shadow] is awesome. But don't write stuff that can and will f*** up your career and life.

Discussion and Implications

Theoretical elaboration

This study set out to understand how people engage in open online career-related knowledge sharing. Findings from the Shadow setting illuminated opportunities and challenges generated by openness for career-related knowledge sharing. Opportunities included access to shared experiences, to multiple perspectives on the same issue, and to a broad pool of participants. Challenges included risks of trolling and uncontrolled quality of contributions. Figure 2 elaborates upon the findings.

Figure 2 displays distinct but connected sequences in an open online setting dedicated to career-related issues. The most prevalent sequences are knowledge sharing ones. They include alternating questions and answers. These knowledge sharing sequences help participants articulate an ad hoc corpus of career-related knowledge. From these knowledge sharing sequences stem knowledge evaluating ones. These sequences involve engaging in the assessment, criticism or approval of the career-related knowledge emerging from knowledge sharing sequences.

Knowledge evaluating sequences complement knowledge sharing ones. A knowledge evaluating sequence is triggered when a knowledge sharing sequence has generated different answers and

perspectives to a particular query. As they participate in a knowledge sharing sequence, some participants articulate distinct and often contradictory pieces of career-related advice. The knowledge evaluating sequence appears as participants assess some answers. It leads to criticism as well as the addition of nuance and context associated with career-related insights. The openness of the online setting breeds the evaluation of the shared career-related knowledge by enabling anyone to assess others' contributions.

Knowledge sharing and knowledge evaluating sequences at times give way to diverting sequences. Diverting sequences are prompted by exchanges associated with knowledge sharing and evaluating, but they deviate from them. They can lead to trolling with attacks and outrageous comments but can also trigger a refocusing on career-related knowledge sharing. Diverting sequences happen because participation is open, career-related knowledge deals with complicated matters that rarely have a single answer, and people experience deeply the events of their careers. Therefore, in addition to or instead of looking for specific pieces of information, some participants may seek to contribute by venting, conveying humour, and expressing divisive or even offensive comments. Diverting sequences steer discussions away from knowledge sharing. Yet, they often end by refocusing towards a discussion of a career-related issue.

Diverting sequences are indicative of the risks of unbounded openness in an open online setting. They can also lead to the emergence of regulating openness sequences. Regulating openness sequences stem from knowledge sharing sequences, when career-related questions and answers may threaten the anonymity of participants, and from diverting sequences, when they are associated with attacks and a lack of accountability for participants. Regulating openness sequences bound the openness of the online setting so that it does not become detrimental to career-related knowledge sharing. These sequences also ensure that the online setting does not become too closed. They help maintain the transparency of process and secure the opacity of participants. Regulating openness sequences therefore ensure that anyone can continue participating in processes and that contributions are visible to all. They also enable participants to remain anonymous and separate the contributions being provided in the open online setting from the individuals who provide them.

Regulating openness sequences enhance the opportunities and limit the challenges of open online career-related knowledge sharing. While regulating openness sequences are not as prevalent as knowledge-sharing ones, they are crucial for knowledge sharing to continue unfolding. They constitute ongoing guardrails for the openness of the online setting. Without the combined opacity of participants and transparency of the process, open online career-related knowledge sharing would not continue because participants' privacy would be endangered or because contributions would stop. Participants' opacity and the openness of participation in the online setting enable each other and ensure broad participation.

Moreover, this study illuminates how regulating openness unfolds. In Shadow, the transparency of the process at times led participants to fear that their anonymity would be lost. Consequently, some did not share insights that could make them vulnerable. More generally, too much transparency of the process can come at the detriment of privacy and can endanger the knowledge sharing process. Furthermore, when the opacity of the participants becomes unruly, this can lead to trolling and to online conversations unfocused on sharing career-related knowledge. Getting back to career-related exchanges involves appealing to the transparency of the process. This study thus reveals the limits for open online career-related knowledge sharing of too much opacity and too much transparency. Open online career-related knowledge sharing involves navigating acceptable levels of transparency of the process while maintaining the opacity of participants. What constitutes such acceptable levels depends on the actual process, its participants, and the issues discussed online.

Implications

This study holds implications for scholarship on open organizing, on careers, and on advice networks, as well as for practice.

Existing scholarship on open organizing has highlighted contradictions and challenges associated with it (Birchall, 2011; Thorén et al., 2017). It has shown how openness can at times trigger contrary tendencies towards closure, i.e. towards limiting or excluding participation (Dobusch et al., 2019; Ringel, 2019; Shaikh & Vaast, 2016) as well as towards secrecy (Costas & Grey, 2014). Scholarship on openness and its contradictions has also noted how people can deal by themselves with some of the challenges of visibility and transparency, when all activity and interactions are visible, recorded, and accessible.

This study adopted a process perspective (Dobusch & Schoeneborn, 2015) and related the openness of the knowledge sharing process to the opacity of the participants in this process. This study adds to scholarship by considering how participants share knowledge via sequences that are supported by regulating openness sequences. It brings original insights by highlighting the connections between securing the opacity of participants and maintaining the transparency of the process. Securing the opacity of participants involves ensuring their anonymity and privacy in an environment that is open and where exchanges are visible to all. Career-related knowledge is highly personal: there are high stakes for people associated with sharing career-related knowledge. Securing the opacity of participants is important for participants to continue contributing career-related knowledge in the open online setting.

This study thus highlighted the need to differentiate what openness involves for participants and for the process of open knowledge sharing. So far, scholarship has noted the importance of distinguishing openness and closure of procedures and content (Dobusch et al., 2019) and has considered participants' behaviour as well as the evolving roles of content (Kane & Ransbotham, 2016). This study adds to scholarship by revealing that regulating openness involves protecting participants while maintaining the transparency of the process. These elements enable and balance each other. They also emerge organically and compensate each other. Without opacity of participants, knowledge sharing processes would end because participants would be wary of disclosing knowledge. Participation would dwindle. Without transparency of the process, though, anyone could post anything, the evaluation of contributions would be challenging, and knowledge sharing would be jeopardized.

Moreover, much scholarship on knowledge sharing in online communities has adopted an individual level of analysis (Butler, 2001). Scholarship has also examined the conditions through which people can identify the right answer to technical questions. This study adds to this scholarship by focusing on emerging collective processes. When individual participants lack information about the identity, motive, and actual knowledge base of those who provide them with answers, a process perspective is pertinent. Such a perspective places less emphasis on individual sources of information, and more on the emerging dynamics that enable and limit the circulation and validation of misleading knowledge. This enables the identification of sequences in an open online platform that facilitate or hinder knowledge sharing.

The study also revealed an unexpected upside of trolling for open organizing. Scholarship on trolling has noted its many detrimental consequences (Braithwaite, 2016; Herring, Job-Sluder, Scheckler, & Barab, 2002). This study reveals that trolling can prompt others to refocus their discussions in an open online setting. Trolling constitutes an extreme behaviour that can trigger course correction. The process perspective adopted in this study reveals that outrageous positions or rude language can lead others to redress discussions and bring them back to the original issue. In open online platforms where it is not possible to validate all posts and

where discussed topics are complex, trolling can elicit compensatory pushes towards more plausible answers.

Regarding implications for career scholarship, this study responds to Arthur's (2008) call for an interdisciplinary examination of careers. The study of how people share career-related knowledge in open online settings brings new light to important trends in careers and career management. First, existing scholarship had noted that career norms and scripts have become more difficult for people to find but have remained important (Dany, Louvel, & Valette, 2011; Duberley et al., 2006). This study documented how people search for, access, and make sense of career norms and scripts as they participate in open online platforms.

Second, career scholarship that has documented deep changes in careers has also noted that there are "winners" and "losers" with changes in careers (Currie et al., 2006). This study focused on Shadow, a social media platform particularly used by people working in the technology industry, i.e. in highly skilled jobs. Shadow participants were thus mostly what scholarship would call "winners" in the new career order. Yet, by focusing on how people searched for career-related knowledge online, this study helps loosen the dichotomy between losers and winners of boundaryless careers and the new economy. The open online setting makes more perceptible the widespread ambivalence towards careers as well as the search for norms and career scripts.

Third, and more generally, career scholarship has so far taken a long-term perspective. It has investigated careers as they unfold in the long run (e.g. over 10, 20, or 30 years) (Chudzikowski, 2012) and has highlighted the major transitions that people go through as they change jobs, roles, or organizations (Ibarra, 1999). This long-term focus is understandable since a career develops over years. Yet, this has left less examined the many, small and short-term, decisions that people make regarding their career. These decisions, when aggregated, can have meaningful effects on the arc of one's career. This study adds to scholarship on careers by putting these decisions and the uncertainty that comes with them front and centre. It documents how people ponder not only big career transitions, but also many, seemingly much smaller, career-related questions.

This study also holds implications for scholarship on advice networks. This scholarship has highlighted how consequential it can be for people and their careers to access and develop advice networks over time (Dobrow Riza & Higgins, 2019; Higgins & Kram, 2001). Typical advice networks in this scholarship are ego networks in which private knowledge can flow (Dobrow et al., 2012). This study adds to this scholarship by digging into what happens when open organizing principles are added to a traditionally closed domain, that of career-related knowledge. This study revealed how the introduction of open organizing principles to career-related knowledge leads to opportunities and challenges that people address with specific sequences. The exchanges that took place in Shadow did not qualify as coming from a traditional advice network and did not constitute mentoring relationships (Higgins & Kram, 2001). Yet, they generated fluid sequences in which open exchanges provided insights for participants in an ongoing manner and on a wide variety of topics. The study focused on an open online setting where relationships among actors were neither sustained nor developed over time. Yet, they provided advice and personal support.

The process perspective adopted in this study also revealed how career-related knowledge sharing in an open online setting is contested. This knowledge is contextual rather than universal and associated with ongoing discussions, debates, diversions, and refocusing. This study provides a fresh contrast with existing scholarship on advice networks that has often mostly focused on key structural dimensions of these networks. This study illuminates how, for participants, accessing evanescent networks in an open online setting is not merely about finding unique

knowledge, but is also about collectively generating and questioning a career-related knowledge base.

Finally, this study holds practical implications. First, for people looking for knowledge to help their career, this study brings insights stemming from its process perspective. This leads to advising people to think less about accessing the single best piece of advice or particular source of knowledge and more about seeing how threads unfold. Rather than focusing on individual posts, this study highlights the value of looking at sequences of posts in entire threads. The refinement of knowledge is useful for career-related issues that rarely have simple answers. Second, for online communities or social media platforms administrators, this study leads to advocate a "less is more" approach to moderating. It suggests the importance of letting processes unfold to enable corrections to happen. This study also emphasizes the importance of publicizing a code of conduct in an online platform rather than of strictly policing threads as this could inhibit open knowledge sharing.

Future research

This study has limitations that create avenues for future scholarship. For one, this study involved a qualitative investigation of processes unfolding in a single open online platform. Its ambition was not to reach statistical significance or representativeness but, instead, to develop theory based on grounded analyses (Charmaz, 2006). Additional studies of other open online platforms could help deepen the theory development and get a better sense of the magnitude of the phenomenon. Also, as typical of archival case study scholarship, this research did not involve direct contact with participants. Future scholarship could consider interviewing participants to understand better the rationales for their participation and behaviours.

Moreover, this study focused on the processes of knowledge sharing that unfolded in an open online setting. It left aside the rhetorical strategies that participants employed and the sensemaking in which they engaged (Berente, Hansen, Pike, & Bateman, 2011). Examining the rhetorical and sensemaking aspects of open online settings would complement the findings. In a related manner, this study concentrated on what happened in an open online setting and did not consider how open online dynamics connect to career-related exchanges in more traditional advice networks. Future scholarship could investigate how people exchange career-related knowledge in different, more or less open and more or less virtual, contexts.

Conclusion

As careers have become more open-ended and as online platforms have become settings that people turn to in order to access and circulate knowledge, it has become critically important to understand how people engage in open online career-related knowledge sharing. This study proposed a process perspective and examined open online knowledge sharing. It found that sequences of career-related knowledge sharing in an open online setting are guided by regulating openness sequences involving maintaining the transparency of the process and securing the opacity of its participants. Regulating openness is key for participants to deal with the contradictions of openness and with the uncertainties around the future of work.

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Appendix

Table A.I. Career-related questions and answers on Shadow.

Questions and answers	Definitions	Examples	%*
Types of questions			
Asking for advice	Looking for particular guidance on how to act in a particular career- and work-related situation	"How to get a fair raise as a female engineer?" "What is the fastest way to jump the corporate ladder?" "I'm entertaining the idea of quitting by text. toxic team at amz [Amazon]. Is there a huge consequence to that?"	40.6%
Asking for personal experience	Seeking others to share their own experience associated with a particular work or career-related issues	"Anyone else experience sexual harassment, assault, misconduct at Deloitte?" "Anyone with similar experiences starting at their first job out of undergrad give me advice?" "Would like to hear from amazon sde3 who got promoted from sde2. What were their experiences and any suggestions they would like to provide?"	11.5%
Searching for norms	Asking others to provide norms and what may be considered "normal" in a particular situation	"Sorry for sounding like an idiot, but how does health insurance and other stuffs work? If Linkedin is matching your 401k, then would that still be the case in new company?" "@ Google / Is it normal for that wage to be 7% more even though cost of living only differs say 4%?" "I have worked at Microsoft and now working at Amazon. Can I expect a level jump for going back to Microsoft? If yes, how much?"	21.3%
Looking for context	Asking others to share contextual information about, e.g. a job, a company.	"It would be nice to have more information. . ." "What kind of things were you asking for flexibility on? Do they stress long hours and face time over results? Are you in engineering?" "If you don't mind sharing, I'd love to know what specifically she disliked and what she was looking for/how did the job not meet her expectations? Want to make sure I've got my eyes wide open."	17.6%
Questioning future prospects	Asking others to speculate on the future evolution of a particular issue	"I was playing around with bitcoin in 2014 but didn't put any money in. Now it's nearly 10x as much per btc. I also missed the early buy-in on ethereum. What are the current altcoins that you feel are going to scale?" "I have about 50 shares bought at 20$ Will snap get acquired?" "Wondering how much in demand is this specialization [Android developer] currently and what do you guys think of it in the next 5-10 years."	4.9%

(Continued)

Table A.1. (Continued)

Questions and answers	Definitions	Examples	%*
Asking for general comments	Asking others to give their overall perspective on different career- and work-related topics	"Anyone done performance comparisons? Is it slower than java? Thought performance was the major advertised feature when it was first released." "Seriously, why do we work? Not only work, but work very hard and sometimes even sacrifice our health and personal/family life? Just money? Or prestige? Your thoughts?" "I believe work-life balance/stress management can be more challenging these days than ever before for us women, women in tech, women business owners and ceos. What do you think?"	7.4%
Types of answers			
Offering advice	Recommending particular courses of action in response to specific situation	"Kids are hard, and I'd recommend having them earlier than later whatever your career goals may be." "You want to move up more rapidly and/or head into management? Stay with LinkedIn. Just want the freedom to be wherever you want and still get paid well? Go remote." "Ask more specifically what specific aspect of your behavior make people feel that way. Without knowing that the feedback is not quite actionable. But once you know that some deliberate effort will make it easy to improve."	50.8%
Talking about personal experience	Explaining one's particular experience on a topic	"I am a dad not a mom, but like you often have lot of schedule needs, school drop offs, doctors appointments, leaving early days where I WFH etc. My team is very kid friendly." "I felt like I'd go above and beyond to impress but in the first year I was called into meetings with him so much I started doubting myself. We moved into a diff team temporarily and I got praise, and it wasn't just me, my coworker was being treated the same and he felt the same too." "I've had similar problems with the people I work with. The most satisfying thing I did Fri was put in my 2 weeks. Made sure that no one else knew I was leaving (or they could keep a secret). Seeing the look on the managers panicked face who then quickly ran to tell the CIO was one of the most rewarding feelings in a while."	42.2%

(Continued)

Table A.1. (Continued)

Questions and answers	Definitions	Examples	%*
Providing norms	Elaborating upon what the norms may be about a particular topic	"Median salary in bay area is 80k. It means half the people make less than that." "A discount is rather standard when investors buy common shares that have no liquidity preference as opposed to preferred shares. I don't know why people are all over the fact that there is a discount on the deal." "Merit increase has lots of inputs - economic climate, company performance, current compa ratio, competitive landscape, personal performance. . ."	18.0%
Providing context	Elaborating upon the context in which a situation is taking place	(Talking about a particular company and location) "Nice work life balance. Pay is not good." "There are 80+ services in OPC, BMC is currently making new versions of ~10 of them and can only run 4 of the existing ones. There is still a long way to go on that front. There are more new OPC rollouts over the next year than BMC. BMC is more of an add-on for the next few years at least" "Microsoft is typically a bit more salary than the other tech giants but way less rsu. . ."	23.8%
Supporting	Expressing understanding, compassion, and empathy for a particular situation another participant is going through	"So sorry this happened to you. HR is not your friend." "I'm 100% on your side. This is wrong and I hope more speak up who dealt with that at Deloitte." "Don't listen to haters. You are awesome." "You are doing a great job!!! Age is nothing but a number."	8.6%
Venting	Giving full expression to a particular, usually negative, emotion	"Vent - irritated at the 12 year olds who work at these companies and think they can still be a rogue entities. Grow up! I can't wait until Satya hacks you guys up and lays off 75% of you idiots." "You think you have it tough? Try being a woman in this kind of environment and not feel like you're being a b*** for calling people out. It's so against our nature." "Ah, the pitchfork wielding outrage machine in action. Ignore everything else that makes it specific, but just latch on to one word or phrase so you can crucify someone and gain some brownie points."	4.1%

*The percentage corresponds to the percentage of collected threads in which these questions or answers appeared at least once.

Table A.2. Posts from knowledge evaluating sequences.

Posts	Definition	Examples	%*
Assessing someone's post	Evaluating what a previous post articulated or recommended	"Great response but it didn't really answer the OP's question about white males experience with rejection" "This is a good approach but looks like OP [Original Poster] is way past that." "Otherwise, I don't think it's realistic."	37.7%
Agreeing	Expressing accord with another post's content	"Agreed other people can't fight these battles. . . people do need to advocate for themselves." "Well stated." "+1, insightful"	11.5%
Disagreeing	Expressing disapproval or criticizing another post's content	"Bad advice." "This is a terrible idea - don't do it." "Terrible advice. You can't fix and aren't responsible for fixing this person."	12.7%
Expressing doubt	Expressing uncertainty or scepticism for another post's content	"It's bull***. I once had the same experience. I didn't know any better and i caved in. (. . .) They need you far more than you need them." "How can a googler ask a question like this? The barriers to entry must be too low nowadays." "Beware of negative trash talk from former employees who may not have made their own decision to leave."	5.7%

*The percentage corresponds to the percentage of collected threads in which the type of post appeared at least once.

Table A.3. Posts associated with diverting sequences.

Posts	Definition	Examples	%*
Creating a diversion	Bringing an off-topic direction onto the thread	In a thread about how to climb the corporate ladder: "You can get paid even weller;)" In a thread about a sign on bonus and total compensation: "You get to drink the tears of the unworthy :)"	36.5%
Trolling	Posting inflammatory or outrageous off-topic content onto the thread	In a thread about salary negotiation when changing job and organization: "Ask for 1000% if you are coming from lalaLand." In a thread about reacting to bullying in one's job: "Pay to run a background check find some dirt it's there. (. . .) Then in passing in the meeting you say something like 'yeah I once knew this Dev arrested for (whatever)' or who whatever even if it's not hugely offensive. Figure out a way to spread that rumor." In a thread about compensation packages in a particular company: "Medical benefits: Some loose gun powder to cauterize the wounds and makeshift tourniquet to keep your soul from escaping"	25.4%
Refocusing towards the main topic of the thread	Bringing back the discussion towards the main topic of the thread	In a thread about the usefulness of a particular programming language (C#), the discussion had diverted onto criticisms of particular companies. A posted refocused the thread: "The number of jobs requiring C# are infinitesimal compared to other 'free' languages. The number of extremely high paying jobs that need C# are non-existent outside of Msft and maybe a few financial companies." In a thread about someone feeling pressured to accept a job offer too fast, the discussion had diverted onto a heated diversity-related discussion. A post refocused the rest of the thread to its original topic: "The recruiter I talked to at Facebook told me that 2-3 weeks is fine if you have other interviews you are waiting to hear back from. Google & Amazon recruiters said 2 weeks."	20.9%

*The percentage corresponds to the percentage of collected threads in which the type of post appeared at least once.