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# Knowledge seeking and anonymity in digital work settings

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## Abstract

**Research Summary:** Employees often need knowledge from colleagues to complete tasks successfully. With distributed and remote work becoming more common, organizations increasingly rely on digital technologies, such as organizational platforms, to support members' knowledge exchange. We study factors that hinder employees from seeking knowledge from others on such platforms. We argue that individuals' seeking decisions depend on expected social-psychological costs and economic considerations and posit that both can be muted by anonymizing seekers. In two experiments, we test our conjectures and find that both types of expected costs reduce knowledge seeking. Social-psychological costs decrease individuals' knowledge seeking, while adding economic costs further reduces seeking. Moreover, in digital settings, female knowledge seekers are more sensitive to their identity being known than males and thus benefit more from anonymity.

**Managerial Summary:** Distributed and remote work arrangements, often subsumed under the label “new work”, often rely on digital technologies to enable the exchange of relevant knowledge among colleagues. For example, in the US, two-thirds of S&P 500 firms already maintain some form of digital platform for

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knowledge exchange, although with mixed success. Employees may avoid seeking knowledge on these platforms both for social-psychological (a fear of appearing incompetent to their peers) and economic (fear of suffering career consequences) reasons. In a series of (lab and vignette) experiments, we show that both can reduce knowledge seeking and that these implicit costs can be minimized especially in digital contexts through anonymity (to minimize social-psychological consequences) and separating knowledge seeking platforms by hierarchical levels (to minimize potential economic consequences).

#### KEYWORDS

anonymity, knowledge exchange platforms, knowledge seeking, knowledge work, lab experiment, search costs, survey experiment, virtual work

## 1 | INTRODUCTION

How can modern organizations foster the exchange of knowledge among members? In the knowledge economy, efficient utilization and exchange of existing knowledge is critical for organizational effectiveness and success (Argote, 2012; Berchicci et al., 2019; Grant, 1996; Haas & Hansen, 2007; Tsai, 2001; Zander & Kogut, 1995). Yet, especially in large and distributed organizations, geographic, structural, and social boundaries can impede knowledge exchange among employees (Borgatti & Cross, 2003; Cramton, 2001; Hwang et al., 2015), and thus amplify some members' informational disadvantages (Singh et al., 2010). As remote and virtual work becomes more popular, the relevance and impact of such issues on organizations becomes more pronounced (Choudhury, 2022).

Most prior literature on knowledge management takes a supply-side view, focusing on knowledge sharing (Haas & Park, 2010; Hansen et al., 2005; Hwang et al., 2015; Reinholt et al., 2011) and the contribution of information and knowledge in organizational contexts (Kankanhalli et al., 2005; Wasko & Faraj, 2005). We know less about the demand side, that is, individuals' knowledge seeking behavior (Argote et al., 2022). Since knowledge exchange is a two-sided process where individuals' first need to actively seek knowledge for contributors to share theirs, obstacles to seeking reduce the efficiency of the entire process. Hence, we specifically focus on the *costs associated with seeking* knowledge from others and test ways to reduce barriers to knowledge seeking.<sup>1</sup>

<sup>1</sup>Knowledge seeking may also yield benefits for the seeker. However, we intentionally focus on the costs associated with seeking knowledge from others. Besides practical considerations, our decision to examine costs is based on the rationale that addressing costs of seeking is crucial for optimizing the efficiency of the overall knowledge exchange process. We elaborate on this in our discussion.



Given the ongoing trends toward distributed and remote work (Choudhury, 2022; Spreitzer et al., 2017), knowledge seeking in organizations increasingly takes place on digital platforms used by companies to create a central touchpoint for their employees' knowledge exchange (Loebbecke & Myers, 2017; Thomas et al., 2014; Wu & Kane, 2021). Organizational knowledge exchange platforms are meant to efficiently match knowledge seekers and contributors by bringing together dispersed members of an organization that may not have connected otherwise (McIntyre & Srinivasan, 2017; Purvis et al., 2001). Yet, while such digital solutions come with several theoretical benefits, firms often struggle with fully realizing their potential because of low member engagement (Cabrera & Cabrera, 2002; Hwang et al., 2015).

Expanding on prior work showing that cost considerations can influence knowledge seeking in interpersonal (dyadic) exchange processes (Borgatti & Cross, 2003; Lim et al., 2020), we suggest that the *semi-public nature* of organizational knowledge exchange platforms may amplify individuals' cost concerns—which reduces platform engagement. While organizational platforms grant employees access to a large number of colleagues and potential contributors, we posit that *expectations* about reactions to employees' *identifiable behavior* on the platform are a key driver of seeking behavior and explore *how these expected costs influence individuals' willingness to seek knowledge*. Moreover, we explore anonymity as a lever to mute individuals' expected costs from seeking knowledge on the platform and test its behavioral consequences.

Seeking knowledge on organizational knowledge exchange platforms can trigger two types of expected costs: (a) social psychological costs (e.g., shame in front of others) and (b) economic consequences (e.g., career disadvantages due to reputational losses in front of superordinates and peers). While the former describes the psychological disutility of (expected) judgments by others, the latter captures individuals' expected payoffs from tangible outcomes such as future promotions. These costs become present when a seeker's identity is observable and behavior on the platform is public. Conversely, concealing a seeker's identity may mute these costs. We study the effect of each cost type on individual knowledge search by varying the extent and consequence of personal information available to other members on the platform.

To test our predictions, we conduct two experiments. The first is a lab experiment in which we simulate a platform for the exchange of (factual) knowledge. Subjects receive a set of questions, which they can either answer themselves or seek additional knowledge by requesting help on a platform. To complement our findings from the lab, we run a survey experiment with practitioners from different professional backgrounds as a second experiment. In several scenarios where individuals must complete a task that requires additional information from their colleagues, the participants express a propensity to seek knowledge through an organizational platform. In both experiments, we construct three scenarios varying individuals' expected costs by granting seekers anonymity and varying potential economic consequences when searching. These generate three categories of no costs (fully anonymous), only social psychological costs (non-anonymous), and full costs (non-anonymous, and with potential ramifications for subsequent compensation). We find that social and economic costs consistently reduce knowledge seeking. Under anonymity, individuals seek more knowledge from others, which in turn increases engagement on organizational knowledge exchange platforms. We also find a robust gender effect: in both experiments, female participants react stronger to anonymity than male participants do.

We contribute to literature on organizational knowledge management and exchange (Argote et al., 2022; Argote & Fahrenkopf, 2016; Hansen, 2002; Hwang et al., 2015; Reagans & McEvily, 2003) by exploring inhibitors of individual knowledge seeking behavior. Prior work found that social networks and relational structures influence individuals' search for knowledge in organizational contexts (Borgatti & Cross, 2003; Hansen, 1999; Paruchuri & Awate, 2017;

Singh et al., 2010). Although platforms are set up to simplify the process of seeking knowledge from potential contributors by muting the influence of informal network structures on individuals' search efforts, we show that expected (psychological and economic) costs tied to individuals' seeking behaviors matter in digital work contexts.

We also add to the literature on platform strategy (Cennamo & Santalo, 2013; Kretschmer et al., 2022; McIntyre & Srinivasan, 2017) by studying a specific type of platforms, that is, organizational platforms. Since membership on these platforms is bound to organizational affiliation, platform size per se is restricted. This makes user adoption and the network effects from joining (Afuah, 2013; Cennamo & Santalo, 2013; McIntyre & Srinivasan, 2017; Rietveld & Eggers, 2018) less relevant, and member engagement key for platform success (Claussen et al., 2013). We find that anonymity can be a powerful lever in organizational contexts to encourage participation and engagement of the seeking side through mitigating expected costs.

Finally, we speak to work on digitization and organization design (Fayard & Metiu, 2014; Kretschmer & Khashabi, 2020; Malhotra et al., 2021; Wu & Kane, 2021; Yang et al., 2022) by studying conditions for efficient collaboration in digital work contexts.

## 2 | THEORETICAL BACKGROUND

Driven by the increasingly interdependent and dynamic nature of work, collaboration and coordination with others becomes increasingly important for employees to get work done (Colbert et al., 2016; Grant & Parker, 2009). Seeking knowledge, defined as the act of identifying and accessing coworker knowledge, can benefit employees in uncertain organizational environments, help them solve problems more quickly and deliver high quality work given that coworkers can provide valuable complementary information (Burmeister et al., 2022; Lim et al., 2020; Miller & Jablin, 1991). Therefore, and due to these benefits, organizations have a vested interest in improving the process of seeking knowledge and make it more efficient.

Searching for knowledge from others can either happen in a directed or undirected way. Directed search occurs when an individual deliberately chooses a specific knowledge source and approaches it, often on a one-to-one basis (Gray & Meister, 2004; Hansen, 1999). Choosing a knowledge source is influenced by various factors such as the need for information, the source's perceived expertise, accessibility, and trustworthiness (Borgatti & Cross, 2003; Singh et al., 2010). In directed search contexts, individual seekers will only contact a specific source if they trust her, regardless of the source's qualification and availability (Casciaro & Lobo, 2008; Hansen & Løvås, 2004; Singh et al., 2010). Being able to choose whom to contact shields the seeker from negative consequences to a large extent.

In contrast, undirected search occurs when an individual broadcasts her knowledge request to a crowd of potential contributors and seeks knowledge from a set of sources, often on a many-to-many (or one-to-many) basis (Gray & Meister, 2004). Examples include knowledge exchange communities, such as professional forums, communities of practice (Brown & Duguid, 1991), and organizational knowledge platforms (Purvis et al., 2001). Undirected knowledge search has the advantage that individuals can seek without knowing exactly whom to ask, which makes a knowledge seeker's network position in an organization less relevant. While this might make the process more efficient, it implies less familiarity and trust in potential exchange partners in the network (Butler, 2001) and may thus trigger negative consequences for the seeker. We focus on the case of undirected knowledge search in modern digital organizational settings and discuss the potential costs of such seeking behavior.



## 2.1 | Seeking knowledge from others—A cost perspective

Following prior work (Ashford & Cummings, 1983; Morrison & Vancouver, 2000; Nebus, 2006), we conceptualize knowledge seeking as a decision-making process in which an individual decides whether to seek knowledge from coworkers based on the expected benefits and costs of obtaining that knowledge.

To date, research on knowledge seeking remains rather scarce with existing studies mainly focusing on the positive consequences of such behavior—both for the individual and the organization (Lim et al., 2020). For example, seeking knowledge from colleagues has been found to increase individuals' effectiveness at work (Bamberger, 2009; Lim et al., 2020), enhance problem-solving (Tippmann et al., 2013), and create learning opportunities (Gray & Meister, 2004; Zahra et al., 2020). Yet, following work on potential downsides of seeking knowledge from coworkers (Burmeister et al., 2022), we explore the role of costs involved in asking others for knowledge in digital organization settings.

## 2.2 | Expected costs of seeking knowledge from coworkers

To study the costs, individuals may face when seeking knowledge from others, we build on work showing that seeking resources, such as help or knowledge, might also come with negative consequences for the individual (Borgatti & Cross, 2003; Rosette et al., 2015). We propose two types of expected costs when individuals seek knowledge from coworkers: social psychological and economic costs.<sup>2</sup>

### 2.2.1 | Social psychological costs

Social psychological costs are driven by others' perception of oneself. Examples of social psychological costs of knowledge seeking include feelings of inferiority or shame (Ames & Lau, 1982; Gouldner, 1960; Lee, 2002; Wills & DePaulo, 1991). Psychological costs have been studied in a variety of settings and contexts, such as advice- (Brooks et al., 2015), feedback- (Ashford, 1986) and help-seeking behavior (Rosette et al., 2015). Since psychological costs originate from a process involving both cognitive and affective evaluation by the individual, emotions matter for individual decision-making when searching for knowledge (Ames, 1983; Hofmann et al., 2009). Affective factors influencing the decision of whether or not to seek knowledge from colleagues include the fear of appearing ignorant (Borgatti & Cross, 2003), incompetent (Brooks et al., 2015), shame, and fear of experiencing stigma (Chandrasekhar et al., 2018).

### 2.2.2 | Economic costs

Economic costs refer to future tangible losses affecting the individual when deciding to seek knowledge from others. In organizations, this could be lost bonuses, being passed over for

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<sup>2</sup>Most prior work focuses on individuals' reputational costs when seeking resources from others in organizational contexts (Borgatti & Cross, 2003; Rosette et al., 2015). We propose that, ultimately, these costs either translate into economic (tangible) outcomes or come with social consequences.



promotion, a lack of (strategic) collaborations with coworkers, foregone salary raises and further. Economic costs arise when managers and work peers with decision-making authority can observe individuals' seeking behavior, form negative judgments, and (subconsciously) penalize them. While we label these costs as economic costs, in our framework we consider the *expectation* of such economic consequences for the individual. Employees evaluate the expected costs and benefits when deciding to seek knowledge and are less likely to seek if they expect costs to surpass the benefits.

### 3 | RESEARCH CONTEXT

Organizational knowledge exchange platforms are technological architectures that facilitate and simplify the intraorganizational exchange between knowledge seekers and contributors by providing a digital, semipublic<sup>3</sup> space to interact across social and geographical boundaries (Gawer, 2014; Purvis et al., 2001; Thomas et al., 2014). Unlike open online communities and platforms where members are often not known or identifiable (Faraj et al., 2011; Sproull & Arriaga, 2007), organizational knowledge exchange platforms act as firm-internal "knowledge markets", where access is limited to organizational members and individuals' platform engagement is typically identifiable (e.g., by displaying members' full name when posting on the platform). By matching employees that might not have connected otherwise, organizational knowledge exchange platforms can overcome some of the challenges inherent to distributed, remote work. Most prominently, access to knowledge within organizations can be detached from individuals' network positions because employees can simply post their question on the platform. Depending on the platform's architecture, requests and corresponding answers are usually visible to virtually all members of the organization. Firm internal experts outside a knowledge seeker's personal network can thus share their knowledge (and display their status as experts) by responding to the public request.

Over the last two decades, organizations have increasingly implemented technology-enabled internal knowledge markets, including companies such as *McKinsey*, *Siemens*, *Bank of America*, the *World Bank*, and *IBM* (Benbya & Van Alstyne, 2010). Indeed, over 65% of the 500 largest listed companies in the US currently use platforms for internal collaboration and knowledge exchange.<sup>4</sup> On top of internally developed platforms, the market for third-party knowledge platforms has grown rapidly in the recent past, with examples such as *Stack Overflow for Teams* and *Bloomfire* (BusinessWire, 2022; TechCrunch, 2021; Verified Market Research, 2021). For instance, *Bloomfire* is a software company that offers a knowledge exchange platform, used by companies such as *Burberry*, *Capital One*, *Shopify*, *Jackson Hewitt*, and *Southwest Airlines* (Bloomfire, 2023). *Stack Overflow for Teams* is a commercial solution by *Prosus* akin to a corporate version of their default online Q&A platform, *Stack Overflow* for managing and sharing knowledge within companies (Stack Overflow, 2023). This platform is being used by over 10,000 teams around the world and by companies including *Microsoft*, *Logitech*, *Philips*, *Verizon Media*, *Dropbox*, *Doctolib*, and *Intuit*.

Two forces have aided the recent spread of knowledge exchange platforms: First, platforms are becoming the dominant form of organizing in the digital age (Gawer, 2022; Kretschmer

<sup>3</sup>These interactions are "semi-public" since they are visible to all members of the platform, while platform access is limited to members of the respective organization.

<sup>4</sup><https://github.com/Orgplat/Organizational-Platforms>.



et al., 2022; McIntyre et al., 2021). This “platformization” of organizing has now reached firms’ knowledge management efforts. While traditionally, two models of knowledge management systems have been identified in the past—the repository and the network model (Alavi, 2000; Kankanhalli et al., 2005), knowledge exchange platforms combine elements of both. Storing employees’ questions and answers while providing a centralized, digital space to connect and interact becomes increasingly important, particularly since individuals’ professional networks have shrunk since the COVID-19 pandemic (Kankanhalli et al., 2005; McKinsey, 2022).

Second, accelerated by the pandemic, an increasing number of organizations rely on flexible, remote, and virtual work arrangements, allowing employees to work from home or relocate (Aksoy et al., 2022; Lund et al., 2020). Consequently, *Stack Overflow for Teams* increased its annual recurring revenue by 72% in 2020 and gained a record number of new clients (TechCrunch, 2021). Yet, when employees lack a central, joint office space to interact they experience challenges, especially with knowledge sharing (Cramton, 2001; Orlikowski, 2002; Szulanski, 1996). In particular, remote work can cause employees to rely mainly on their existing strong ties (Bernstein et al., 2020), which leads to more static and siloed networks (Yang et al., 2022), and makes it especially hard for newcomers and members with inferior network positions to create new ties and access new knowledge (Singh et al., 2010). Organizational exchange platforms are designed to overcome these problems in that employees can match and exchange knowledge with other colleagues with whom they had never connected before.

Besides the abovementioned advantages of organizational knowledge exchange platforms, firms often do not realize their full potential because members are reluctant to engage. Anecdotal evidence from a large European industrial manufacturing firm revealed that 1 year after launching their firm-internal knowledge exchange platform, 50% of surveyed employees had never posted anything on the platform, while another 25% had actively participated three times or less within 12 months.<sup>5</sup> When asked about their (low) usage behavior, employees repeatedly mentioned their concerns for looking incompetent in front of colleagues and management. Focusing on the seeking side, we explore the role of expected costs in seeking knowledge from other platform members to identify levers to improve user engagement. While the theoretical arguments of our study are rooted in the context of organizational knowledge exchange platforms, our arguments also apply to other virtual work environments where employees’ knowledge seeking takes place via undirected search and where individuals’ seeking behavior is consequently broadcast to colleagues. This makes our study highly relevant to modern organizations in the digital age and the future of work.

## 4 | DATA AND METHODS

To focus on some key elements of knowledge seeking (and its costs) in undirected digitized organizational search we design and conduct a lab and a survey experiment. Each of these designs have their own unique advantages. Key benefits of the lab experiment are the high level of control over the environment, lack of contamination, and establishment of causality—that is, high internal validity. Conversely, survey experiments reflect real-world

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<sup>5</sup>The data were collected in a large German manufacturing company in the context of a master’s dissertation in winter 2022. The candidate, a participant–observer, ran a large-scale survey and conducted interviews in one of the firm’s divisions. Supporting information Appendix A includes statements by employees giving reasons for their low usage of the platform.



scenarios more accurately and allow for studying a more relevant population—that is, high external validity. Using both approaches to test our theory increases our confidence in the validity of our results.

In the lab experiment, we mimicked a knowledge exchange platform for participants to test the causal impact of the theorized costs on individual knowledge seeking behavior. In the survey experiment, we recruited real-world professionals to test the validity of our results from the lab in a more realistic setting. We asked participants to imagine a situation at work where they must seek knowledge from others on an internal exchange platform and surveyed their propensity to seek in reaction to the two types of costs present, based on different setups of the platform's architecture. We present first our lab experiment and then the survey experiment.

## 4.1 | The lab experiment

Our experiment was incentivized and we did not use deception. In three treatments, we systematically varied expected social psychological as well as economic costs of individuals seeking knowledge on a platform. We applied a between-subject design in which each experimental subject was randomly assigned to participate in one of the treatments.<sup>6</sup> We first describe the basic setup and then explain the treatment-specific differences.<sup>7</sup>

## 4.2 | Basic setup of the experiment

At the start of the experiment, subjects receive 15 general knowledge questions with multiple-choice answers. The set of questions is different for every subject and the selection process ensures that every subject receives questions of varying difficulty and the average difficulty of each question set is similar across subjects.<sup>8</sup> For every correct answer, subjects earn 1.25 EUR. Crucially, for every question subjects have the option of seeking knowledge by asking for additional knowledge on the platform. If they seek, they receive a correct answer with probability

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<sup>6</sup>Unlike a typical organizational setting where colleagues usually know each other, the subjects who participated in the lab experiment did not necessarily know each other and may have not kept contact after the experiment. If anything however, this creates a conservative bias since social psychological costs are less pronounced for the lab participants.

<sup>7</sup>Instructions as well as the user interface displayed to participants in our experimental setup are in supporting information Appendix B.

<sup>8</sup>The exact procedure for the assignment of questions to subjects was as follows: Questions were selected from different general knowledge quiz websites. The question difficulty was then pretested with subjects from the Max Planck laboratory econlab in Munich subject pool. To do this, we recruited 36 subjects and asked them to answer a set of 160 questions (for each correct answer a subject earned 0.12 EUR). Doing so, we collected 12 answers per question and classified questions by their inherent difficulty. For our main experiment, we created 18 different question sets, each of which contained four “easy” questions (correctly answered by at least nine subjects in the pretest), seven “moderate” questions (correctly answered by at least six subjects and up to eight subjects in our pretest), and four “difficult” questions (correctly answered by up to five subjects in the pretest). Within difficulty categories, the questions were randomly assigned to a question set. Each subject in a session was randomly assigned one of the question sets and no other subject in the session received the same set. This procedure ensures that all subjects in the experiment receive different questions (i.e., no question appears twice within a session) with varying difficulty, the difficulty of the questions, and the question sets are similar across subjects, and—within a difficulty category—questions are randomly assigned to a subject.



$p = 0.8$ . With probability  $(1-p)$ , subjects do not receive any reply and their own initial answers to the question count (the computerized contributor never gives a wrong answer). Seeking is costly (reflecting effort costs for posting a question on a platform) and subjects have to pay 0.10 EUR. Payoffs are such that, absent any other cost considerations (social psychological costs or risk of economic consequences), subjects should seek knowledge even if they have a high subjective belief (but not perfect knowledge) of knowing the answer.<sup>9</sup> With computerized contributions, we eliminate behavioral differences in knowledge providers' behavior and respective uncertainty of expected benefits of seeking knowledge on the platform. Thus, we can draw causal inferences of cost-side differences on the seekers' side without the need to control for differences in (expectations on) contributing behavior.

After deciding whether to seek knowledge for each of the 15 questions, subjects have to answer the full set of questions, that is, even those questions for which subjects sought additional resources as a "back-up" and no computerized contribution was given. Subjects only learn at the end of the experiment whether seeking was successful. This reflects the fact that in organizational contexts individuals who do not receive valuable contributions on organizational platforms usually have to proceed based on their own assessment.

Following the quiz stage, all subjects' seeking behavior is made public. All subjects in the session learn the number and content of questions a subject sought knowledge for. This reflects the public posting of questions or requests on organizational platforms.

Our stylized setup captures some key elements of individual knowledge seeking on organizational platforms. As is typical for common work environments, subjects are confronted with a multidimensional task reflected by a number of diverse questions. We asked general knowledge questions since for our generic laboratory subject pool not tied to any specific profession, admitting a lack of knowledge on general knowledge questions creates similar considerations about psychological costs and economic consequences as admitting a lack of capabilities or resources on skill-related professional tasks for members of an organization. Further, as with participation on organizational platforms, subjects in our laboratory experiment expose their lack of knowledge resources to a set group of others in exchange for increasing the probability of receiving correct answers or helpful contributions.

As explained in Section 2, exposing one's lack of certain knowledge to others may trigger expected social psychological costs and increase the risk of economic consequences. Yet, platform design may vary the extent to which seeking knowledge on organizational platforms affects these costs. Our treatments reflect this feature.

## 4.3 | Experimental treatments in the lab

### 4.3.1 | FullCosts

In our FULLCOSTS treatment, we simulate the presence of *both* social psychological and economic costs. This treatment most closely reflects the case of organizational platforms frequently found in professional contexts in which seekers are fully identifiable and seeking behavior is visible to other members of the platform, including superiors and managers. In these situations,

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<sup>9</sup>Risk neutral money maximizing individuals would seek if their perceived subjective probability of giving the correct answer without help is below 0.9.

seekers may be concerned that others infer from their seeking behavior that they lack certain abilities and skill levels and feel ashamed of not living up to individual and organizational standards. Seekers may also fear (especially when asking easy questions) that their behavior leads to negative future economic consequences in the form of foregone promotions or bonuses, among others.

To stimulate the social psychological cost component of knowledge seeking in FULLCOSTS, the disclosure of seeking behavior comes with a profile picture taken on a computer terminal prior to the experiment and the first name of the subject. With these identifiers, seeking behavior can be linked to a person. All other subjects in the session can then form an opinion about the person's seeking behavior and arguably her skills and abilities.

To introduce potential economic consequences of seeking knowledge on the platform, the first stage answering of questions (and asking for knowledge if needed) is followed by a second stage: another multiple-choice knowledge quiz. In this stage, subjects answer another set of 10 questions and earn money for each correct answer. Here, no additional seeking is possible. Importantly, individual bonuses for this quiz are chosen by a judge—a randomly chosen subject who does not actively participate in the first stage of the experiment. The judge observes the first stage and is shown the seeking behavior of each subject in the session before deciding whether an individual shall receive a low, medium, or high bonus for correct answers in the second stage quiz.<sup>10</sup> The judge assigns low bonuses to one third of the session subjects, medium bonuses to one third of the subjects, and high bonuses to one third of the subjects. Subjects are informed about this procedure (including information about individuals' seeking behavior provided to the judge and incentives of the judge) at the beginning of the experiment. Hence, participants may consider the consequences of their first-stage behavior on the platform for the second stage of the experiment. When posting questions in the first stage to seek additional knowledge, a subject may fear being considered less competent by the judge and receive lower second stage bonuses. The judge receives a payment of 20 percent of each individual's second stage earnings. Hence, her incentives are to assign high bonuses to individuals with high expected performance and low bonuses to individuals with low expected performance. Note that FULLCOSTS is the only treatment in which subjects face a second stage; this second stage is absent in the other treatments, which we explain in greater detail later.

Again, this treatment reflects organizational platform contexts where seeking knowledge may be tied to possible future economic consequences because others draw inferences about their ability and expertise. While individual behavior may trigger multiple follow-on economic consequences, our setting most closely captures promotion decisions by superiors.

### 4.3.2 | SocialCosts

In the SOCIALCOSTS treatment, the provision of personal information on individual seekers resembles our FULLCOSTS treatment. Accordingly, knowledge-seeking behavior of all participants is shown to the other subjects with a profile picture and a first name. However, unlike in FULLCOSTS, there is no second stage quiz and subjects do not have to consider explicit pecuniary

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<sup>10</sup>Low/medium/high bonuses are 0.25/1.00/1.75 EUR per correct answer. Since we are interested in the consequences of seeking help and of other influences based on personal characteristics, the judge decides based on anonymized public knowledge seeking and is presented neither profile pictures nor names of participants.



consequences of their seeking behavior. Hence, while keeping the risk of experiencing shame and stigmatization constant (i.e., social psychological costs) we mute negative economic consequences.<sup>11</sup> The closest real-world analogy is an organizational platform in which resource seekers are identifiable, but those who could affect subjects economically are not active on the platform (e.g., hierarchically superior members of the organization who promote individuals or assign bonuses do not have access to the platform). By comparing behavior in the SOCIALCOSTS and FULLCOSTS treatments, we isolate the impact of economic cost considerations beyond the impact of social psychological costs.

### 4.3.3 | NoCosts

In NoCosts, seeking behavior of participants cannot be traced back to individuals since posting requests on the platform is neither connected to a profile picture nor a name. There is no second stage in which prior behavior could matter economically either. Hence, in our NoCosts treatment, both types of expected costs stemming from judgments by other participants are muted (participants still pay 0.10 EUR per question). Deviations from expected behavior (i.e., seeking knowledge on the platform) can then be explained solely by an individuals' aversion to seeking external help in solving the task of answering the questions (as seeking behavior is private). Comparing behavior in the NoCosts and SOCIALCOSTS treatments helps us understand if psychological costs associated with providing personal information to other platform members affect seeking behavior and platform engagement.

## 4.4 | Post-experimental stage

After each session, subjects answered a short questionnaire including questions on socio-demographics, risk attitudes, and general social image concerns. Finally, participants learned their payoff and to what extent it was attributed to their own correct answers and the received knowledge, respectively. Prior to leaving the laboratory, subjects privately received their payment in cash. Table 1 summarizes the stages and the treatment differences.

## 5 | MEASURES

### 5.1 | Dependent variable

We measure participants' seeking behavior per question as a binary variable (knowledge sought/not sought). Since pecuniary benefits (1.25 EUR) and out-of-pocket costs of seeking

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<sup>11</sup>By eliminating a second stage (compared to FULLCOSTS) one may argue that not only economic consequences due to judges' behavior are muted, but other anticipatory effects may affect first-stage behavior. For instance, just by knowing that there is second stage with additional rewards, may make subjects less attentive in stage one. We do not deem this very likely, among others because of the monetary incentive for stage-one behavior. Moreover, we can compare stage-one behavior across treatments that should be affected by the mere presence of a second stage, but not by our treatment manipulation—the judge's bonus allocation. We compare subjects' quiz performance the 15-questions-quiz of stage one, disregarding knowledge seeking. Subjects' performance and the time spent for solving the 15 questions are almost identical across treatments, supporting our intuition that our judge treatment manipulation is driving behavior and not the mere presence of a second stage.

TABLE 1 Overview on specifics of treatment stages.

Stage	Sub-stages	Treatments		
		FULLCOSTS	SOCIALCOSTS	NoCOSTS <i>Neither social psychological nor economic costs</i>
Preparatory stage	Taking photos	Yes	Yes	No
	Instructions	All yes		
Stage 1— knowledge seeking and quiz 1	Presentation of 15 quiz questions	All yes		
	Indication for which question a subject asks for help			
	Answering of quiz 1 questions			
	Belief elicitation			
	Public disclosure of knowledge seeking	With profile picture and first name	With profile picture and first name	Anonymous
Stage 2—quiz 2	Judge decides on subjects' incentives for quiz 2	Yes	No	No
	Subjects learn incentives for quiz 2	Yes	No	No
	Answering of quiz 2 questions	Yes	No	No
Post-experimental stage	Questionnaire	All yes		
	Learning about individual success and received help			
	Payment			

(0.10 EUR) are constant across treatments, differences in seeking behavior across treatment groups (FULLCOSTS, SOCIALCOSTS, NoCOSTS) are driven by different levels of expected costs of seeking knowledge on an organizational platform.

## 5.2 | Independent variables

We systematically vary social psychological and economic costs across treatments. FULLCOSTS is set up as the most cost-intensive setting and includes both types of expected costs. Since we assume that individual decision making in organizational reality features the full range of proposed cost considerations, we use FULLCOSTS as our baseline setting. In SOCIALCOSTS, we stimulate participants'

**TABLE 2** Summary statistics of variables (lab experiment).

Treatment	Variable	Observations	Mean	Std. Dev.	Min	Max
FULLCOSTS	<i>Seeking</i>	1275	0.38	0.48	0	1
	<i>Age</i>	1275	26.78	8.87	18	63
	<i>Gender</i>	1275	1.51	0.50	1	2
	<i>German</i>	1275	0.74	0.44	0	1
	<i>Experience</i>	1275	3.54	2.17	0	6
SOCIALCOSTS	<i>Seeking</i>	1350	0.49	0.50	0	1
	<i>Age</i>	1350	26.18	8.23	18	63
	<i>Gender</i>	1350	1.54	0.50	1	2
	<i>German</i>	1350	0.80	0.40	0	1
	<i>Experience</i>	1350	3.52	2.19	0	6
NoCOSTS	<i>Seeking</i>	1320	0.55	0.50	0	1
	<i>Age</i>	1320	27.91	10.53	18	63
	<i>Gender</i>	1320	1.33	0.47	1	2
	<i>German</i>	1320	0.84	0.37	0	1
	<i>Experience</i>	1320	3.19	2.22	0	6

feelings of shame and fear of social stigma while muting economic costs. Finally, NoCosts is the least costly treatment (both types of expected costs are absent). We include control variables for participants' gender, age, prior experience in experiments as well as a dummy indicating whether a participant's native language is German. Moreover, to get at the mechanisms at play, we asked participants for the importance they attach to the opinion of others on a 5-point Likert scale.<sup>12</sup>

### 5.3 | Sample description

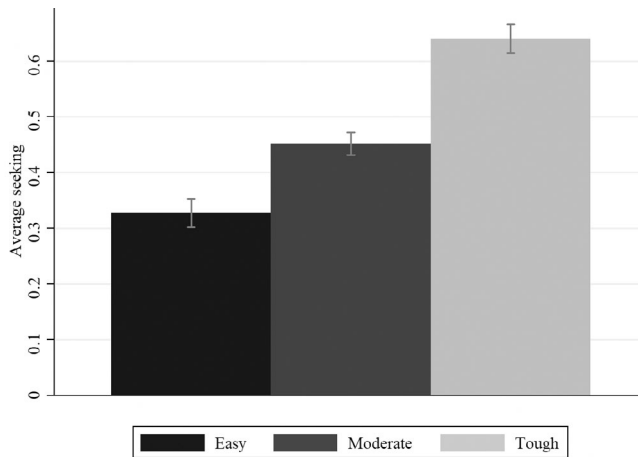
The experiment was conducted at the Max Planck laboratory econlab in Munich in 2019. We used z-Tree (Fischbacher, 2007) for programming. In total, 268 participants were recruited from the lab's subject pool using the recruitment software ORSEE (Greiner, 2015). 82.9% of the subjects were students from a large variety of disciplines. On average, subjects were 27.0 years old, 55.0% being female. We ran 15 sessions, with 15–19 subjects per session. Participation in the experiment lasted about 75 min. On average, subjects received a payment of 20.3 EUR (equivalent to 22.8 USD at the time of the experiment), including a show-up fee of 6 EUR.

## 6 | RESULTS

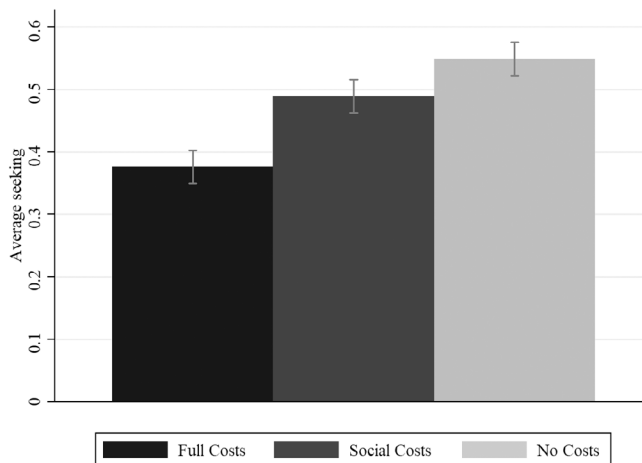
Table 2 gives a summary of our main variables.

<sup>12</sup>This question is only available for a subset of our data, which results in smaller sample size of these analyses.





**FIGURE 1** Average seeking behavior across the question difficulty categories. The illustrated confidence intervals are calculated at 95% level.



**FIGURE 2** Average seeking behavior across the three main treatment groups for the lab experiment. The illustrated confidence intervals are calculated at 95% level.

The dependent variable for all our analyses is seeking behavior. Models are estimated at the question-level. In a robustness test, we aggregate seeking behavior to subjects and run individual-level analyses with very similar results. Unless specified otherwise, the reported  $p$ -values for the bar chart results correspond to  $t$ -tests for equality of means, and the  $p$ -values for regression results report the  $t$ -test of statistical difference from zero (or the baseline).<sup>13</sup>

Before discussing the treatment effects, we show how question difficulty relates to seeking patterns. Figure 1 shows average seeking behavior by question difficulty.

<sup>13</sup>Below, we present the Mann–Whitney  $U$  test  $p$ -values and show that our results are robust.

TABLE 3 Odds ratio for the main treatment effects (lab experiment).

Logit estimations Dep. Var.: <i>Seeking</i>	(1) Odds ratio b/se/p	(2) Odds ratio b/se/p	(3) Odds ratio b/se/p	(4) Odds ratio b/se/p	(5) Odds ratio b/se/p
Baseline: FULLCOSTS					
Treatment:	1.590	1.599	1.589	1.609	1.609
SOCIALCOSTS	(0.191)	(0.191)	(0.190)	(0.193)	(0.194)
	[.000]	[.000]	[.000]	[.000]	[.000]
Treatment:	2.019	1.970	2.011	2.055	2.099
NoCOSTS	(0.261)	(0.256)	(0.255)	(0.261)	(0.268)
	[.000]	[.000]	[.000]	[.000]	[.000]
Gender		0.866	0.849	0.856	0.874
		(0.089)	(0.086)	(0.087)	(0.090)
		[.159]	[.107]	[.126]	[.189]
Age			0.983	0.983	0.984
			(0.005)	(0.005)	(0.005)
			[.000]	[.001]	[.001]
German				0.824	0.842
				(0.105)	(0.106)
				[.128]	[.173]
Experience category					Included
<i>N</i>	3945	3945	3945	3945	3945
<i>N</i> (cluster)	263	263	263	263	263
Wald-chi2	31.569	35.112	46.839	50.527	62.500

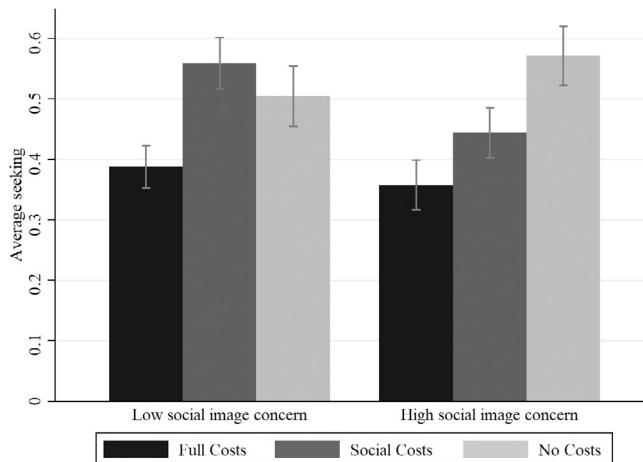
Note: The estimated coefficients are odd ratios. Robust standard errors are in parentheses below the coefficient, and clustered around individuals. *p*-values are reported in brackets and below robust standard errors. An estimated constant is excluded from the table for each specification.

Knowledge seeking is higher for difficult questions (64% for the category of “tough” question, 33% for the “easy” category). Seeking behavior across categories is significantly different at  $p = .00$ , which supports our experimental design choices regarding the question set.

## 6.1 | Main treatments

We test if different types of expected costs affect seeking behavior on the platform. Figure 2 shows average seeking behavior across the treatments (FULLCOSTS, SOCIALCOSTS, NoCOSTS).

The lowest seeking behavior is for our baseline setting, FULLCOSTS (=37.6%), which comprises both social psychological and economic costs. By muting economic costs, seeking increases by around 30% ( $p = .000$ ) in the SOCIALCOSTS treatment group (=48.9%). The seeking behavior in the NoCOSTS treatment (=54.8%), where economic and social psychological costs are



**FIGURE 3** Average seeking behavior for low/high image concern participants across the three main treatment groups in the lab experiment. The illustrated confidence intervals are calculated at 95% level.

muted, shows a 46% ( $p = .000$ ) increase compared to the FULLCOSTS treatment. This is 12% ( $p = .002$ ) higher than the SOCIALCOSTS treatment.

To control for subject characteristics and test for statistical differences between seeking behavior across treatment groups, Table 3 reports the odds ratio of a logit regression with knowledge seeking behavior as dependent variable. Again, FULLCOSTS is our baseline. All specifications use robust standard errors clustered around individuals.<sup>14</sup> For completeness, we also report tables with the common log odds ratio coefficients in supporting information Appendix C.

Column 1 in Table 3 reports the effect of treatments on individual seeking behavior without controls. Seeking behavior in the SOCIALCOSTS treatment group significantly increases with respect to the baseline (*odds ratio* = 1.590;  $p = .000$ ). In addition, the NOCOSTS treatment group shows even higher seeking behavior compared to the baseline (*odds ratio* = 2.019,  $p = .000$ ). Seeking behavior in NOCOSTS is also significantly higher than in the SOCIALCOSTS treatment group ( $p = .063$ ). In Columns 2 and 3, we control for participant gender and age. The effect of the treatment groups stays robust, while estimates show that older participants seek significantly less. Male participants seek (marginally) less on the platform (lowest  $p$ -value = .107 in Column 3). Additionally, we control for experimental experience of individuals and whether the participant's native language is German (the language of the experiment). Results are robust to inclusion of these controls. In the full specification in Column 5, NOCOSTS shows significantly higher seeking behavior than SOCIALCOSTS ( $p = .032$ ), and both are significantly higher than the FULLCOSTS treatment group ( $p = .000$  for both).<sup>15</sup>

<sup>14</sup>Given that each participant only takes part in a single treatment session, individual fixed effects are multicollinear to the treatments. Therefore, we cannot include them in these specifications.

<sup>15</sup>As an additional test, we analyze whether improved seeking rates across treatments interact with question type (difficulty)—i.e., if individuals seek more when facing a specific type of questions across treatments. We show that lifting social and economic costs drives subjects to seek more irrespective of question difficulty. Nevertheless, the increase in seeking is more pronounced when subjects face questions with *moderate* difficulty level.



**TABLE 4** Odds ratio for the main treatment effects across image concern and gender subsamples (lab experiment).

Logit regression Dep. Var.: <i>Seeking</i> Odds ratio estimates	Social image concerns		Gender	
	High (1) b/se/p	Low (2) b/se/p	Male (3) b/se/p	Female (4) b/se/p
Baseline:				
FULLCOSTS				
Treatment:	1.659	2.021	1.807	1.574
SOCIALCOSTS	(0.315)	(0.386)	(0.307)	(0.295)
	[.008]	[.000]	[.000]	[.015]
Treatment:	2.827	1.797	1.937	2.326
NoCOSTS	(0.643)	(0.345)	(0.346)	(0.425)
	[.000]	[.002]	[.000]	[.000]
Gender	1.098	0.876	–	–
	(0.190)	(0.149)		
	[.586]	[.438]		
Age	0.989	0.972	0.971	0.993
	(0.008)	(0.008)	(0.008)	(0.006)
	[.192]	[.000]	[.000]	[.273]
German	0.767	0.946	1.165	0.670
	(0.180)	(0.177)	(0.215)	(0.111)
	[.259]	[.767]	[.409]	[.016]
Experience category	Included	Included	Included	Included
<i>N</i>	1470	1665	1815	2130
<i>N</i> (clusters)	98	111	121	142
Wald-chi2	36.305	37.677	33.842	42.876

*Note:* The estimated coefficients are odd ratios. Robust standard errors are in parentheses below the coefficient, and clustered around individuals. *p*-values are reported in brackets and below robust standard errors. An estimated constant is excluded from the table for each specification.

Note that seeking behavior matters for subjects' first stage payoff. Irrespective of the treatment, the more subjects seek knowledge the higher their payoff. Together with the treatment differences in knowledge seeking behavior this implies that on average, in the first stage subjects earn most in NoCOSTS, followed by SOCIALCOSTS, and least in FULLCOSTS.<sup>16</sup> Regarding first stage behavior, this suggests that subjects seek too little. However, under FULLCOSTS participants may factor in the (negative) impact of first stage seeking on second stage bonuses, suggesting that seeking less in the first stage may be optimal.

<sup>16</sup>Treatment differences in stage-one payoffs are statistically significant for the comparisons of FULLCOSTS versus NoCOSTS ( $p = .016$ ) and FULLCOSTS versus SOCIALCOSTS ( $p = .055$ ) and insignificant for NoCOSTS versus SOCIALCOSTS ( $p = .569$ ). Details of the analyses are available by the authors upon request.

## 6.2 | Heterogeneous effects

### 6.2.1 | Social image concerns

Our main results show that knowledge seeking increases significantly when economic and social psychological costs decline across treatment groups. To provide confidence that the observed pattern is indeed due to expected cost, we use a split-sample post hoc analysis and investigate seeking behavior across two samples with low/high *social image concerns*, split at the median of our survey question on the importance of others' opinions.

Figure 3 shows seeking behavior for low versus high image concern participants across the three treatment groups. For the low image concern sample, muting social psychological costs (from the SOCIALCOSTS to the NoCOSTS treatment group) does not change individual seeking behavior. This implies that participants in this sample are not sensitive to social psychological costs. Conversely, in the high image concern sample, moving from the SOCIALCOSTS to the NoCOSTS treatment group is associated with an almost 24% increase in seeking knowledge on the platform. In line with our visual results, Columns 1 and 2 in Table 4 report the odds ratio coefficients for the split-sample analysis between low versus high image concern samples. We report the corresponding logistic (log odds ratio) coefficients in supporting information Appendix C.

These specifications reflect a split sample analysis of Column 5 in Table 3 (i.e., the full model). Column 1 reports treatment effect for the high image concern sample. The results are similar to the full sample and show that participants in the SOCIALCOSTS treatment group seek knowledge on the platform significantly less than the NoCOSTS group ( $p = .014$ ). This pattern is absent in the low image concern sample (Column 2). Moving from the baseline (FULLCOSTS) to SOCIALCOSTS and NoCOSTS significantly increases seeking ( $p = .00$ ), but there is no statistically significant difference between seeking behavior in the SOCIALCOSTS and NoCOSTS treatments ( $p = .577$ ) suggesting that social psychological costs do not discourage individuals with low social image concern from seeking knowledge on the platform. This mechanism test is in line with our theoretical arguments and experimental design.

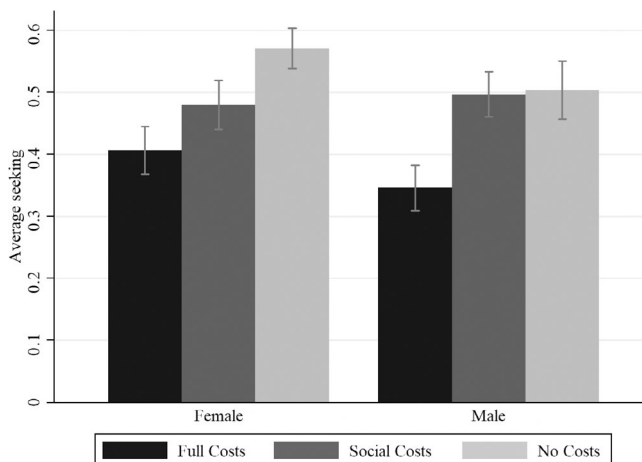


FIGURE 4 Average seeking behavior for female/male participants across the three main treatment groups in the lab experiment. The illustrated confidence intervals are calculated at 95% level.



## 6.2.2 | Gender

We split our sample by participant gender to capture heterogeneous effects. Figure 4 shows average seeking behavior for female and male participants across treatments.

The treatment effects in the *female* subsample resemble the main results. For participating women, moving from the baseline (FULLCOSTS) to SOCIALCOSTS, seeking significantly increases by around 18% ( $p = .009$ ) and increases by another 19% in the NoCOSTS treatment group ( $p = .001$ ). The pattern is quite different for *males*. Male participants' seeking behavior increases by 43% when economic consequences are muted. However, as Figure 4 suggests, social psychological costs do not significantly discourage male participants from seeking knowledge on the platform (the difference between mean seeking behavior across SOCIALCOSTS and NoCOSTS is insignificant;  $p = .82$ ).

Columns 3 and 4 of Table 4 show odds ratios for the gender split-sample analysis. Results are consistent with Figure 4. Muting economic costs (from FULLCOSTS to SOCIALCOSTS) significantly increases knowledge seeking for male ( $p = .00$ ) and female ( $p = .015$ ) participants. However, social psychological costs (from SOCIALCOSTS to NoCOSTS) discourage female participants ( $p = .012$ ), while their effect on male participants is insignificant ( $p = .703$ ).

## 6.3 | Alternative specifications

We now discuss the robustness of our results to alternative specifications. In the previous section, we presented *question-level* analyses to show the effects of expected costs on individual seeking behavior on the platform. We now discuss *individual-level* analyses with participants' seeking behavior as the dependent variable.

We first perform a Mann–Whitney  $U$  (Wilcoxon) nonparametric test to investigate the difference between seeking behavior across treatment samples. This test comes without any distributional assumptions. Starting with the main treatment results, the test shows that (individual) seeking is significantly higher in the SOCIALCOSTS treatment group compared to FULLCOSTS ( $p = .00$ , two-sided Mann–Whitney  $U$  test). Further, our results show that participants seek knowledge more often in the NoCOSTS treatment compared to the SOCIALCOSTS treatment group ( $p = 0.05$ , two-sided Mann–Whitney  $U$  test).

Next, we check the robustness of the individual-level regression results. Since the dependent variable is a count variable (i.e., number of requests posted on the platform; mean = 7.08; sd = 3.25) and slightly overdispersed, we run both a Poisson model and a Negative Binomial estimation with robust standard errors. The results of both models are consistent with our Logit estimates in Table 3 and reported in supporting information Appendix C.

## 6.4 | Survey experiment

Lab experiments display high internal validity due to their controlled environment in which alternative mechanisms and noises are muted. Nevertheless, they may come at the cost of low external validity (Lucas, 2003). If real-world alternatives like randomized controlled trials (RCTs) are not feasible, survey experiments are a practicable option to address external validity concerns by giving access to large and diverse samples that would be difficult to get in the lab.



Hence, to complement our findings from the lab, we ran an online survey experiment. Participants were recruited via the online experiment platform *Prolific*,<sup>17</sup> which let researchers draw tailor-made samples from a subject pool of more than 70,000 registered subjects for the execution of online surveys or experiments. Since we wanted to understand whether the results from our stylized lab experiment also apply to employees from real organizations, we recruited subjects with full- or part-time employment in large private or publicly listed organizations. By requiring technology (e.g., software) use at work, we focused on white-collar employees and knowledge workers in particular. The majority of the subjects were in their late twenties or thirties and represented a wide range of responsibilities in their company. Most frequently, subjects indicated to be a trained professional (17.8%). Further roles occupied by our participants included middle and junior managers as well as administrative staff. The sample was gender balanced. While we recruited worldwide, we required fluency in English to ensure that participants would understand the content of our survey experiment set up in English.

In total, 1504 subjects participated in our online survey experiment in Winter 2021/2022 on the online survey platform *Qualtrics*.<sup>18</sup> On average, it took participants about 6 min to complete the experiment. They earned a fixed amount of 1.00 GBP payable through Prolific upon completion of the experiment. The procedure of the survey experiment was as follows: First, for all scenarios, we asked our subjects to *imagine a situation at their respective workplace* in which they have to solve a task. To accomplish this task, they need to seek knowledge from colleagues. In all scenarios, we provided subjects with the information that there is an organizational knowledge exchange platform available in their respective firm on which they can post their questions.

Analogous to our lab experiment, we created three scenarios that varied (a) anonymity when seeking knowledge on the platform and (b) potential economic costs associated with posting a question on the platform. The wording from our survey experiment is in supporting information Appendix D.

#### 6.4.1 | FullCosts

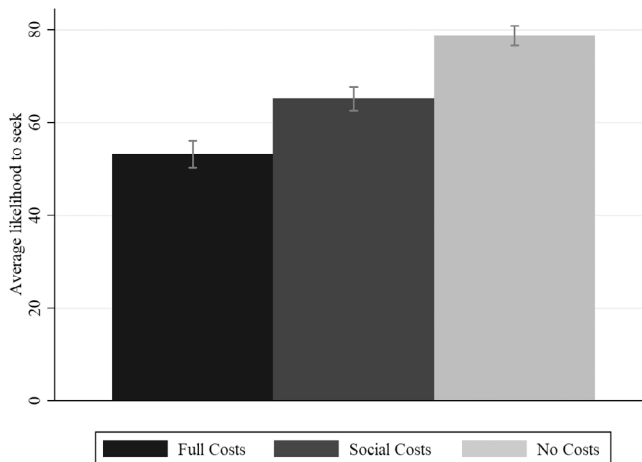
In our FULLCOSTS scenario, we informed subjects that posting questions on their organizational platform is personally identifiable. Moreover, subjects implicitly learned that their seeking behavior is visible to their supervisor who is active on the platform, and thus may have tangible consequences, for example, in the annual performance review by their supervisor.

#### 6.4.2 | SocialCosts

In our SOCIALCOSTS scenario, we again informed subjects that their identity can be linked to their questions on the platform. However, subjects implicitly learned that consequences of posting a question are limited, since platform engagement does not involve exposure to higher management, that is, supervisors are not present and active on the platform.

<sup>17</sup><https://www.prolific.co>.

<sup>18</sup><https://www.qualtrics.com>.



**FIGURE 5** Average seeking likelihood across the three main treatment groups in the survey experiment. The illustrated confidence intervals are calculated at 95% level.

**TABLE 5** Fixed-effects and OLS estimations for the main treatment effects (survey experiment).

Fixed-effects (1) and OLS regression Dep. Var.:	(1) Within-subject Seeking b/se/p	(2) Between-subject Seeking b/se/p
Baseline:		
FULLCOSTS		
Treatment: SOCIALCOSTS	14.73 (0.622) [.000]	12.19 (2.042) [.000]
Treatment: NOCOSTS	33.75 (0.879) [.000]	25.58 (1.916) [.000]
Respondent FE	Yes	No
Controls	No	Yes
Observations	4512	1504
Number of respondents	1504	1504
R-squared	0.410	0.163

*Note:* Robust standard errors in parentheses. The standard errors of the fixed-effects model in Column (1) are clustered around respondents. *p*-Values are reported in brackets and below robust standard errors. The between-subject model in Column (2) include controls and category dummies to account for respondents' age group, gender, employment experience, and role in the company and industry. The estimated constants are not reported in the Table.

### 6.4.3 | NoCosts

In the NoCosts scenario, subjects were asked to imagine that posting questions on the platform is fully anonymous and their behavior cannot be traced back to them.

At the end of each scenario, subjects indicated their likelihood of posting a question on the platform ranging from 0% (“extremely unlikely”) to 100% (“extremely likely”).

To analyze the survey experimental data, we apply both within-subject and between-subject designs. To estimate *within-subject* effects, we collect three responses per subject, indicating their likelihood of seeking for each scenario. The order of the scenarios is randomized. This approach has the advantage that all collected data is included and we can use a fixed-effect estimator. To estimate *between-subject* effects, we only focus on participants’ responses to the *first* scenario presented to them. As we randomized the order of the scenarios, one third of the subjects were presented with the NoCosts scenario first, one third with the SOCIALCOSTS, and one third with the FULLCOSTS scenario. The *between-subject* responses are not contaminated by potential priming effects of reading previous scenarios. The estimates in this approach are more conservative, however only one third of the data is used. Analogous to our lab results, we first present descriptive statistics and raw outcomes of the survey experiment and then report regression results.

Figure 5 plots the seeking likelihood for survey respondents across the three scenarios (within-subject). Consistent with our theoretical arguments and results from the lab, respondents have the lowest seeking rate in the FULLCOSTS scenario where social psychological and economic costs prevail (seeking = 49%). The seeking likelihood increases to around 64% in the SOCIALCOSTS scenario. Finally, seeking is highest among respondents in the NoCosts scenario where both costs are lifted (seeking = 83%). The differences between these seeking rates are all statistically different across scenarios ( $p = .000$ ).

We estimate two regression models for the drivers of seeking behavior using both within and between-subject analyses with robust standard errors. In Column 1 of Table 5, we run a fixed-effect estimator with robust standard errors clustered around respondents. This model uses all 4512 observations from 1504 respondents. In Column 2, we estimate a between-subject estimator and include category dummies to control for respondent age group, gender, employment experience, role in the company and industry. As before, we use FULLCOSTS as the baseline setting. The results support our theoretical arguments and are in line with the findings from the lab. In both models, moving from the baseline to the SOCIALCOSTS scenario significantly increases respondents’ seeking rate ( $p = .000$ ). There is an almost equally pronounced increase in seeking when respondents are faced with the NoCosts scenarios ( $p = .000$ ). The difference between the SOCIALCOSTS and NoCosts scenarios is also strongly significant in both models ( $p = .000$ ). Including controls in Column 2 does not alter the results, which is reassuring regarding the quality of our randomization process. Overall, the results from our auxiliary survey experiment are highly consistent with the results from the lab.<sup>19</sup>

## 7 | DISCUSSION

Propelled by technological advancements and an increase in distributed, digital work, knowledge exchange within organizations increasingly takes place using digital technologies. Most recently, organizational knowledge exchange platforms have seen a substantial growth in adoption. These digital solutions transform interactions among individuals from one-to-one to many-to-many, which implies that employees’ behavior on the platform is broadcast to both

<sup>19</sup>For completeness and consistency, we also collected data on social image concern and gender in the survey experiment. Interacting these dimensions with the treatment generates qualitatively similar results to our lab findings: female survey respondents are more sensitive to social psychological costs than male respondents. Also, survey respondents with higher social image concerns react more to our NoCosts treatment.



peers and superiors within the firm. We focus on the knowledge seeking side and study the effect of expected costs on individual proclivity to seek knowledge in undirected, digital search contexts. In two experiments, we vary expected social psychological and economic costs and introduce anonymity as a lever to mute these costs when seeking knowledge.

Our findings show that both types of expected costs matter when deciding to seek knowledge on organizational knowledge exchange platforms. Further, male and female subjects react differently to changes in the social psychological and economic costs of seeking knowledge. This is noteworthy given that extant research posits that the costs of seeking help from others are higher for men than women (Lee, 2002; Lim et al., 2020)—but fails to acknowledge that in organizational contexts, there are two types of costs present which can vary in their influence on male and female seeking behavior. In both experimental contexts, females react more strongly than males to muting expected costs by introducing anonymity. Our results are robust across specifications and datasets, and consistent with the notion that individuals (women more so than men) care about their social image when interacting with others (Leavitt, 2015; Taylor et al., 2022). While the influence of anonymity on user participation has been studied primarily in non-organizational contexts like online communities (Omernick & Sood, 2013; Pu et al., 2020), we propose anonymity to be a powerful tool for organizations to trigger the initiation of search processes on organizational knowledge exchange platforms.

We combine information from multiple sources to ascertain the face validity of our results. Our stylized lab experiment lets us isolate the effect of expected costs on knowledge seeking behavior, which is confirmed in our auxiliary online survey experiment where practitioners respond to a hypothetical real-life scenario.

Individuals in both settings are discouraged to actively seek knowledge for fear of negative social and economic consequences. This confirms existing findings on knowledge search in directed search contexts (Borgatti & Cross, 2003), where costs are usually less prevalent as individuals can direct their search toward more trustworthy knowledge sources.

Our results have important practical implications: instead of proposing ways to stimulate benefits (e.g., through monetary incentives), it can be more effective to reduce social psychological and economic costs in digitized organizational exchange settings, where knowledge seeking is undirected. Since individual decision making in organizations likely includes both economic and psychological costs, there are different ways to achieve higher levels of knowledge seeking and thus higher participation rates. While introducing anonymity for knowledge seekers might be one cost-effective and relatively easy-to-implement tool to stimulate member engagement and boost the initiation of resource exchanges (especially for female employees), our findings also let us identify further, alternative solutions to reduce individual expected costs in seeking knowledge. We specifically discuss two potential options.

First, initiating changes in organizational culture and increasing trust between employees might lower both economic and psychological costs perceived by knowledge seekers, thus addressing the issue of low levels of user engagement on organizational platforms in the long run. Second, organizations might rethink existing structures, especially when it comes to digitally enabled knowledge exchange processes. Since especially economic costs from seeking knowledge from others in the organization are linked to (expected) career disadvantages (e.g., due to reputational losses in front of managers and peers), the expected costs of seeking might be lowered if firms create subcommunities of homogenous hierarchical layers.<sup>20</sup>

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<sup>20</sup>This also relates to work by Schweisfurth et al. (2023) who show that hierarchical position affects individuals' evaluation of others' ideas and that this can create biases in processes spanning multiple hierarchical layers.

However, this logic should be treated with caution as it may discourage the engagement of marginalized groups. Here, anonymity can act as a powerful tool to democratize access to knowledge by reducing the importance of “whom you know” in organizations (Singh et al., 2010).

Drawing on the notion that “more information can be a bad thing”, our results extend research in at least three domains: First, we inform research on knowledge management and transfer (Argote et al., 2022; Argote & Fahrenkopf, 2016; Hansen, 2002; Hwang et al., 2015; Reagans & McEvily, 2003) by exploring inhibitors of individual knowledge seeking behavior.

Since research on knowledge seeking remains rather scarce to date, with existing work mainly focusing on the positive (individual and collective) consequences of such behavior (Lim et al., 2020), we study the role of expected costs in individuals' seeking decisions. Prior work has shown that “identity matters” in that certain traits (e.g., gender, social status, hierarchical position) influence the type and amount of knowledge individuals can access (Poleacovschi et al., 2021; Singh et al., 2010). Although platforms are set up to simplify the process of seeking knowledge from others by reducing the influence of informal networks on individual search efforts, we show that expected (psychological and economic) costs tied to individual seeking behavior are paramount in digital collaborative contexts.

We also inform scholars of platform strategy by studying a specific type of platforms, organizational knowledge exchange platforms. Since membership on these platforms is inherently bound to organizational affiliation, platform size per se is restricted. This makes user adoption and the network effects from joining (Afuah, 2013; Cennamo & Santalo, 2013; McIntyre & Srinivasan, 2017; Rietveld & Eggers, 2018) less relevant, and existing members' engagement key for platform success (Claussen et al., 2013). Our research underscores the role of information provision on platforms, where members obtain a certain level of knowledge about each other, and where interactions take place repeatedly. While there is consensus that transparency helps the efficiency of reputation mechanisms and recommendation systems, we show that full information disclosure may be costly for particular groups of actors. Finally, we add to work on digital collaboration and organization design (Fayard & Metiu, 2014; Kretschmer & Khashabi, 2020; Malhotra et al., 2021; Wu & Kane, 2021; Yang et al., 2022) by identifying conditions for efficient collaboration in digital work contexts.

## 8 | LIMITATIONS AND FUTURE DIRECTIONS

We used a lab experiment to generate a controlled setting with no contaminations to measure the causal effects of knowledge seeking costs in modern organizations. Like any lab experiment, the internal validity advantages come at certain cost, including having an abstract setting with lab subjects not being professional employees of an organization. Our survey experiment was chosen to mitigate these concerns about external validity. By stimulating professionals to imagine their real-life work setting and colleagues, we replicated our findings in a more realistic context. While the combination of the two experimental approaches adds confidence to our findings, we acknowledge that an ideal approach to study our research question would be a RCT in the field. By assigning randomized treatments to real-world employees at their workplace, this approach would bestow internal and external validity within a single experiment (e.g., Khashabi et al., 2021). Our approach of using both a lab and a survey experiment deviates from such an ideal RCT in the field, although the combination of both delivers at least some of the advantages of an integrated approach.



Further, knowledge seeking in organizations might not only be associated with costs, but could also have benefits for seekers. For instance, seeking can have positive signaling value since seeking demonstrates interest in a certain topic. In our experiment, we focused on one mechanism within the seeking process, which we considered dominant during in-depth conversations with a large European manufacturing firm which already uses an internal platform for knowledge exchange. Conducting interviews and running a survey among the companies' employees' revealed that while individuals acknowledge that seeking knowledge on the platform might signal interest in topics to others, they found potential costs associated with seeking much more relevant and salient than these potential benefits. Thus, and to cleanly measure the impact of this mechanism, our experiments were intentionally designed to focus on the costs of seeking. Nevertheless, we fully acknowledge that such design choice abstracts away from including all the potential mechanisms—namely benefits of seeking. Thus, to build a more comprehensive understanding of the seeking process, future studies could combine these mechanisms together in a single setting. Finally, in our experiments we focus on the seeking side in knowledge exchange and do not incorporate the knowledge provider side. A natural follow up for our study would be to investigate how contributors will react to anonymous seeking requests by others on the platform.

We close with further avenues for future research. First, combining both supply and demand of knowledge exchange could uncover intricate dynamics of knowledge seeking and provision and the influence of identity cues on exchange processes. Although anonymizing the seeking side can help increase platform engagement, it remains unclear how contributors react to anonymous knowledge requests. While theoretically, responding to knowledge requests on organizational knowledge exchange platforms can broadcast expertise and increase individuals' status, employees might only respond selectively, given their limited resources. To what extent this selection is based on a seeker's identity remains to be investigated. Further, it would be promising to study whether anonymizing knowledge seeking in digitized organizational exchange contexts changes the quality of contributions. Theoretically, this could be because knowledge providers adapt the effort in their answers depending on whether they know whom they exchange knowledge with, but also because anonymizing knowledge seekers can make it hard for knowledge contributors to cater specifically to a seeker's request, given that important information (such as departmental membership or organizational tenure) is missing.

Second, investigating how digital interchanges among individuals influence interpersonal networks in organizations would be interesting. Although anonymizing knowledge seeking on organizational knowledge exchange platforms can facilitate increased engagement of specific (marginalized) subgroups and potentially foster democratizing access to knowledge within firms, we do not know how interactions in digitized organizational settings spill over on unmediated, interpersonal exchanges of employees—and consequently shape their networks.

Lastly, as discussed before, a RCT in the field on how anonymity influences individual knowledge-seeking behavior in digitally mediated organizational settings would be an excellent setup to complement the research at hand. Such a study could reveal how identity cues affect both employees' expected costs and benefits when choosing to seek knowledge from others while taking into account the supply side of digitized organizational knowledge exchange and the respective organizational culture. A potential alternative that may be more easily implementable would be lab-in-the-field experiments. For now, these remain exciting avenues for future work.



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## DATA AVAILABILITY STATEMENT

The data that supports the findings of this study are available under <https://github.com/Orgplat/Organizational-Platforms>.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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