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# Navigating Uncertainty in the Future of Work: Information-Seeking and Critical Events Among Online Freelancers

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## ABSTRACT

Online freelancer marketplaces offer workers the flexibility and control they desire. However, workers also struggle with the uncertainty resulting from these benefits. In traditional brick-and-mortar workplaces, workers who experience uncertainty during specific phases of their assimilation into a new role or organization engage in information-seeking behaviors. Understanding these phases of heightened uncertainty helps organizations better cater to workers' informational needs e.g. through

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*CHI'19 Extended Abstracts, May 4–9, 2019, Glasgow, Scotland UK*

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ACM ISBN 978-1-4503-5971-9/19/05.

<https://doi.org/10.1145/3290607.3312922>

**KEYWORDS**

online marketplaces; information-seeking; freelancer; job search process; organizational assimilation; future of work; online labor platforms

mentorship programs. While understanding the uncertainty that *online* workers experience as they assimilate into their career is critical to understanding online workers' needs, such an understanding is currently severely limited. Therefore, we conducted semi-structured interviews with 29 online freelancers to investigate critical events that contribute to uncertainty early in their online careers. We situate these critical events within the context of organizational assimilation, and how participants employ diverse information-seeking tactics.

**INTRODUCTION AND RELATED WORK**

In 2017, freelancers contributed \$1.4 trillion to the U.S. economy [13], \$585 billion more than they did in 2014 [1]. The digitization of labor, through online marketplaces (e.g. Upwork, Etsy, Amazon Mechanical Turk) is a key reason behind the rapid increase in on-demand freelance work [2]. This is in large part because compared to more traditional forms of employment (i.e. a brick-and-mortar organization), online labor platforms give workers increased control over their working lives. Recent Human-Computer Interaction research highlights how workers often choose to work in these new digitized forms of work for increased control, despite experiencing high amounts of uncertainty [15].

In traditional, brick-and-mortar organizations, there exists a large body of research focused on newcomer assimilation: the process in which an individual moves from outsider to fully integrated member in an organization (e.g. [14]). The assimilation process is traditionally represented in *four phases*: **1. anticipatory socialization** (period prior to becoming a organizational newcomer) **2. encounter** (period when individuals enter an organization as newcomers) **3. metamorphosis** (period when individuals participate as full organizational members) **4. exit** (period when individuals leave the organization) [8, 10]. Organizational assimilation is considered an interactive process in which individuals negotiate their roles while navigating the organization's efforts to influence them to fill its needs (socialization) and an individual's efforts to change the organization to meet their needs (individualization) [8].

Notably, *individuals experience heightened uncertainty during the **organizational anticipatory socialization** and **encounter** phases of assimilation*. During these initial phases, newcomers experience increased pressure (and desire) to seek information to reduce uncertainty and successfully navigate their new role, relationships, expectations, organizational culture and norms (e.g. [11]). In short, there is a robust understanding of assimilation and associated information-seeking behavior during organizational entry (i.e. early phases of assimilation) in traditional organizations. Yet, in online workplaces, where many aspects of work are reconfigured in the absence of a traditional organizational structure, there is a large gap in our understanding of these phases. Closing this gap is critical to developing a richer understanding of worker needs in new forms of work [3].

Understanding which phases of assimilation increase uncertainty among workers, and the common information-seeking needs during these phases has allowed traditional organizations to identify

Tag:	Platform Specific Job Title:
P1	IT & Networking
P2	Writing
P3	Writing
P4	Customer Service
P5	Web & Software Development
P6	Design & Creative
P7	Data Science & Analytics
P8	Design & Creative, Writing
P9	Writing, Sales & Marketing
P10	Writing, Customer Service
P11	Web & Software Development, Writing
P12	Admin Support, Design & Creative
P13	Admin Support
P14	Sales & Marketing
P15	Writing
P16	Programming & Tech, Business
P17	Digital Marketing
P18	Programming & Tech, Video Animation
P19	Business, Digital Marketing
P20	Writing & Translation, Fun & Lifestyle
P21	Business
P22	Writing & Translation
P23	Digital Marketing
P24	Full-time Etsy shop owner
P25	Part-time Etsy shop owner
P26	Part-time Etsy shop owner
P27	Part-time Etsy shop owner
P28	Part-time Etsy shop owner
P29	Part-time Etsy shop owner

**Figure 1: Participants' Platform Job Titles**

opportunities to support workers as they assimilate into a new role or organization (e.g. [6]): such as structuring formal socialization and mentorship programs based on this knowledge. Similar programs may be central to creating a successful future of work in the context of flexible, online freelancing.

Recent work applied traditional information-seeking theory as a lens to identify unmet informational needs of online workers: for example, barriers to observation and overt questions in an online workplace [4]. We seek to understand how online labor platforms reconfigure the assimilation process by highlighting key areas of uncertainty and emergent information-seeking behaviors, and extending HCI research investigating ways to support workers in the absence of traditional organizational structures/activities (e.g. [5]).

## METHODS

We recruited participants from three online marketplace platforms that support open-ended, creative tasks: Etsy.com (marketplace for handmade and vintage goods), Upwork.com and Fiverr.com (marketplaces for digital services e.g. social media management and web development). These markets were chosen because they allow open-ended tasks, and uncertainty can be high when directions and desired results are ill-defined. Note that workers often “multi-channel”, so while participants used one of these three platforms by way of recruitment, they often shared their experience working on *multiple platforms*.

We conducted 29 semi-structured interviews with online freelancers (ages 18-60; 17 women, 12 men): 15 Upwork (P1:15), 8 Fiverr (P16:23), 6 Etsy (P24:P29). Interviews were conducted in English, via video-chat, phone call or Facebook messenger (P5 due to language barriers) between June and July 2017, and ranged from 30 minutes to one hour. Participants were compensated \$10. To recruit participants, we used a combination of targeted and snowball sampling to strive towards representative sample [9]. We worked to systematically find freelancers with diverse levels of experience (duration working online, education, work history), success (profile rating, jobs completed, profit earned) and demographics (ethnicity, age, gender) Figure 1, 2. We created job postings to target specific populations and messaged participants using tools provided by the platform. Our interview protocol used questions that focused on the experience of being an online freelancer and online freelancers' information-seeking behavior. For example, we asked: “Can you walk me through the first time you tried to find online work?”, “What are three of the biggest challenges you experience working online?”, as well as clarifying follow-up questions. We hypothesized the journey to landing work for the first time online would be critical to understanding how freelancers navigate early phases of their online career. Initial answers to “can you walk me through the first time you tried to find online work?” revealed early phases of participants' online career were filled with **critical events** that contributed to *heightened uncertainty and information-seeking*. Later interviews used these early findings to gain insight into details around each critical event (e.g. *challenges faced, tactics used*).

Job Domain:	Median Wages:	OLM dataset N = 121,704:
Web/Mobile Development	\$15-20	~ 10/ 15
Business/Finance	\$10-15	~\$20
Design/Creative	\$10-15	~\$10
Sales/Marketing	\$10-15	~ 4.5/ 5
Lifestyle/Other	\$10-15	~\$5
Writing	\$10-15	~\$10

**Figure 2: Participants' median wages compared with median wages reported in [7]**



**Figure 3: Critical events during early phases of assimilation**

<sup>1</sup>By applying an organizational framework of socialization, we are equating the role of two-sided platforms and clients to that of an organization. We highlight the benefits and drawbacks of this comparison in our discussion

Interviews were recorded and transcribed. We followed a three-step data analysis process. First, we open-coded interview transcripts using Saturate.app [12] to identify common tactics and challenges from our interviews. Second, we created an affinity diagram (a method for grouping data (e.g. quotes) based on their relationships) using transcripts from six interviews that captured diverse freelancing experiences.

Affinity diagramming with data from six interviews helped us understand how participants navigated critical events in their career. We then analyzed the remaining interviews for further insight into details and points of uncertainty surrounding critical events. Finally, we reviewed identified critical events and traditional descriptions of the organizational anticipatory socialization and encounter phases of assimilation as lens to identify if, when and how each critical event aligned with traditional phases of heightened uncertainty and information-seeking.<sup>1</sup>

## RESULTS

*Critical events during early phases of assimilation lead to heightened uncertainty: **organizational anticipatory socialization**.* Participants entered what we consider the first organizational anticipatory socialization phase as they navigated a frequent first critical event: **finding and picking the right platform(s)**. Here participants often sought to learn about online freelancing, and more specifically online labor platform(s): searching for platforms that aligned with their goals and needs, amid a sea of available options. For example, participants discussed their experiences finding a platform that supports international workers (P21), offers “worthwhile work” (i.e. relevant and fulfilling) in terms of domain relevance, opportunity for skill development and money (e.g. P1, P2, P17, P9, P10, P14). While participants discussed this process as critical to their online career, for many this time was filled with prolonged uncertainty, taking some weeks or months (e.g. P20, P21, P2, P16).

**Encounter.** Next, we find participants entered what we align with the encounter phase after they settled on primary platform(s) and created their account. Notably, unlike the encounter phase in most offline workplaces, once freelancers join a platform, onboarding is more or less voluntary and done independently by workers (i.e. it is largely up to the online freelancer to find and implement platform provided onboarding material). For some participants this reality meant beginning their online career without acquiring necessary information. For example, P27 experienced heightened uncertainty after she skipped Etsy’s tutorials and started losing money from her initial Etsy sales. It is during this phase that we find participants faced the next critical event in their online career: **setting up their online profile or shop**. “*creating the account is one thing, but creating a profile is another thing entirely.*” -P16. For many participants, the process of setting up a profile or shop in an online setting was intimidating largely due to many unknowns, both in terms of what it meant to establish an online presence in digitized workplace, and how to best use platform provided features to do so. For example, participants recalled wondering: what are profile keywords and how should



Figure 4: Summary of diverse information-seeking tactics participants employed

they be used (P2), how is Upwork’s “job success score” (JSS) calculated from your profile (P8), what offline experience are relevant to include in your online profile (P1), is an Etsy shop theme necessary to stand out to buyers (P25), how do you communicate your experience without a resume (P10), how does “SEO” (search engine optimization) work (P24).

But, unlike in brick-and-mortar organizations, where the thought of landing work is rarely a concern after joining an organization (i.e. *after* the encounter phase) we find that after participants joined a platform and set-up their profile or shop, **many navigated what we consider the anticipatory socialization and encounter phases once more** as they approached another critical event: **landing their first job or sale**. Only now, instead of seeking information about a potential platform to join, participants entered a second anticipatory phase: learning what it meant to successfully navigate their job search process as an online freelancer. Here we find they often experienced heightened uncertainty as questions abounded: for example, how “*formal*” should your Upwork proposal be (P8), what type of gigs will attract clients to your profile on Fiverr (P20), how do you stand out to clients in your Upwork proposal (P14). Here participants also often discussed concerns surrounding rejection or failure during their job search process: for example, P3, like many other participants, expressed frustration with no feedback on what she should change when she was rejected from jobs for weeks on end: “*It was really hard sitting there not getting feedback and not knowing...do I not have enough background in remote work, is that why I was not getting hired?*”. Finally, before participants entered what we consider the metamorphosis phase (when participants were generally confident and comfortable in their new role) we find they entered the encounter phase **again** after they finding work for the first time. Only this time, participants were faced with uncertainty surrounding how to successfully complete their work and work with online clients.

*Participants use multiple information-seeking tactics in response to uncertainty* **Figure 4** shows the diverse information-seeking behavior participants engaged in. Notably, participants deployed similar tactics in diverse ways. In many cases, we classify this as the difference between **finding and using existing information** and **experiential information-seeking**. For example, to “*think like a client*” some participants drew on offline experience(s) with client/intuition of what clients want (e.g. P1, P2, P4, P9, P12, P14, P19, P22, P23), whereas others actually *became* an online client/buyer (e.g. P10, 27).

## DISCUSSION

By drawing on a traditional organizational framework, we have equated the role of a platform and client to the role of an organization to understand an online freelancer’s assimilation process. On the one hand, this is a helpful analogy as it allows us to understand the role both platforms and clients play as online freelancers navigate uncertainty and assimilate into their new role/career. Similarly, given how little is known about assimilation in an online workplace, this framework can act as a helpful starting point to compare how assimilation occurs in online workplaces with that of offline workplaces.

Yet, this analogy fails to acknowledge key differences in the relationship between platform, client and freelancer with that of organization and worker. For example, during the assimilation process, organizations are considered more active in influencing workers to fill their needs and control their actions to a large degree. The typical platform and client may be unable to take such an active role with freelancers who want greater flexibility/control over their work. However, in practice, we find (as above) platform design and client relations do influence how online freelancers navigate challenges and phases of uncertainty to some extent. Future work might explore what role each is best suited to play in the assimilation process and design technologies to support these roles.

Finally, a natural next step will be to study which tactics are **most successful** at reducing uncertainty and enabling workers to acquire necessary information to complete their work and assimilate into their online career [10]. Such an understanding among the HCI community could enable technologists to introduce systems to *nudge* workers to leverage specific information-seeking tactics.

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