

Online Freelancing on Digital Labor Platforms: A Scoping Review

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Online freelancing, a type of contingent work conducted via digital labor platforms, has attracted increasing attention from scholars in the CSCW and cognate communities in recent years. However, there is still a lack of comprehensive understanding in the research landscape regarding this phenomenon. To address this gap, we reviewed 86 papers published between 2017 and 2022 and presented the interim findings. The review followed a scoping method with a focus on three key aspects: research topics, conceptual framings, and methodological approaches. A thematic analysis reveals: 12 overarching research themes, with major focus placed on social inequality, freelancer wellbeing, and platformic management and control; 11 conceptual frameworks that primarily revolved around the worker, work, platform, and society; and qualitative methods emerged as the predominant approach in the methodological approach. Drawing from the preliminary findings, we present three implications for future research: (1) directing greater attention towards unexplored areas within the scholarship on online freelancing, (2) developing novel theoretical frameworks that are specifically tailored to the unique characteristics of platform-mediated freelance work, and (3) employing alternative research methods to holistically address the multifaceted nature of the online freelancing experience.

CCS CONCEPTS • Human-centered computing → Computer supported cooperative work

Additional Keywords and Phrases: Online Freelancing, Digital Labor Platform, Literature Review, Methodology

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1 INTRODUCTION

Online freelancing refers to a form of nonstandard work arrangement within the platform economy, wherein individuals utilize knowledge work-based digital labor platforms like Upwork and Fiverr to find and often engage in work. The term "freelancer" was coined in the early 1800s to describe professionals who offered their services to the highest bidder [93]. The advent of digital labor platforms in the late 1990s catalyzed the widespread take-up of online freelancing [13,72,80]. This mode of work is characterized by its emphasis on knowledge-intensive and often complex projects, frequent interaction with clients, medium- to long-term contractual agreements, and flexibility in terms of space and time for work [6,89, 64]. These attributes distinguish online freelancing from other forms of work in the platform economy such as micro-task-based crowdwork (e.g., Amazon MTurk) and location-based work (e.g., Uber) [23,54,89,6,89].

Online freelancing is increasingly common and is anticipated to sustain this upward trajectory into the foreseeable future. Estimates indicate that around 60 million freelancers in the United States and 163 million worldwide pursue this work at present [117,139]. Projections suggest that by 2027, freelance professionals will represent 60% of the global workforce, with the United States expected to have nearly 90 million freelancers by 2028 [21,116]. The expansion of online freelancing also reflects the ongoing transformation in the realm of work, particularly in terms of how work is

performed, employment is defined, and career paths are navigated. Online freelancing represents a departure from traditional working schedules, giving way to alternative arrangements like remote and hybrid work [11,29,44,70,102]. Online freelancing signifies a fundamental reconceptualization of employment and careers, as nonstandard work arrangements such as self-employment grow more prevalent. Also, freelance professionals are increasingly seeking diversified and fragmented paths that align with their individual professional values, life circumstances, and personal motivations [25,27,75,103,18,68,69,91,122].

The growing presence of online freelancing in the labor market and its implications for the changing nature of work have prompted the CSCW and related communities to address issues surrounding online freelancing [24,41,95,117,138]. In this context, this literature review is motivated by two issues with the existing scholarship. First, the literature regarding online freelancing is growing quickly - in the CSCW and other scholarly communities, making it hard to follow. Dozens of publications on online freelancing have been published each year over the past few years in the communities [3,5,16,17,18,24,46,74,78,96,98,133]. However there remains a lack of exploration into how such a growing body of literature phenomenologically, conceptually, and methodologically examines the rapidly emerging form of work. Second, the growth of knowledge regarding online freelancing challenges scholars to identify important themes and the critical gaps to consider. Therefore, this review aims to bridge that gap by providing an overview of the intellectual landscape, shedding light on existing knowledge while also identifying areas that require further investigation. Similarly, there is a dearth of discussions on future research directions for online freelancing scholarship for the CSCW communities. Although previous scholarly works may hint at potential avenues for future research, these conversations have not been explicitly synthesized. By synthesizing insights from the past studies, we (1) provide a comprehensive overview of online freelancing scholarship and (2) discuss future directions for online freelancing research in the CSCW community. Our research contributes to the growing scholarly literature on online freelancing by advancing our understanding of this phenomenon and stimulating academic discussions regarding both its current state and future research directions.

2 METHOD

2.1 Data Collection

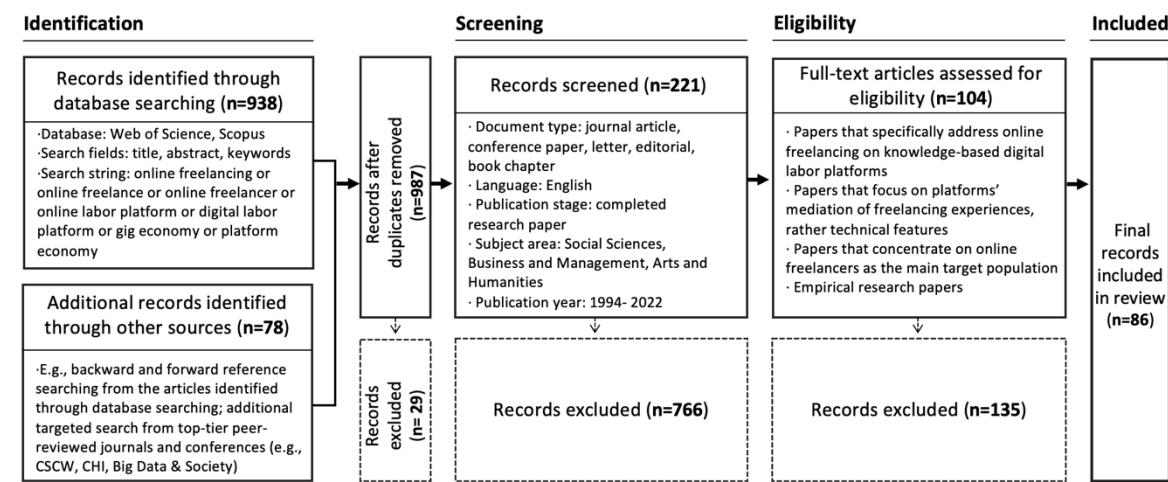


Figure 1: Paper sampling process

The work reported on here builds from a scoping review [94]. Scoping reviews have two aims: (1) understanding of the breadth of fields and (2) identifying important gaps in what is known. Scoping reviews provide a powerful means for reviewing evidence in emerging fields or fast-changing topics [94]. For this scoping review, we pursued a systematic sampling process following the PRISMA method, resulting in the inclusion of 86 papers [120, 140]. The details of our sampling procedure are presented in Figure 1.

2.2 Data Analysis

Building from this data collection effort, we pursued a thematic analysis [20,128]. We chose thematic analysis as it enables the construction of a link between various concepts from multiple datasets [2]. Due to the nature of the sampled papers - that have heterogeneous contexts shaping research topic, methods, and theoretical background - we used an inductive thematic analysis technique, following the four stages: initialization, construction, rectification, and finalization [20,128]. In the first stage, we read the sampled paper carefully and define initial meaning units focusing on (1) topics (e.g., primary research focus, keywords, research questions), (2) theory (e.g., conceptual framework), and (3) methodology (e.g., research design, data sets, data collection and analysis techniques). Then we coded these into higher-level categories. For example, papers in the similar meaning categories (e.g., marginalization, hiring bias based on race, gender segregation) were further classified into themes (e.g., race- and gender-based discrimination). In the next stage, we reviewed the initial themes according to their conceptual affinity and defined and described them together. In the final stage, through ongoing discussions and refinement in our research meetings, we further generated salient themes (e.g., social inequalities) and developed a final set of themes for research topics, conceptual framings, and methodological approaches.

3 FINDINGS

3.1 Publication by Year

Figure 2 provides a summary of the distribution of papers based on their year of publication. The earliest papers in our analysis were published in 2017, signifying the relatively recent emergence of online freelancing as a field of study. However, since then, there has been a significant increase in the number of publications over the past six years. This upward trend indicates a substantial growth in interest and research engagement focused on online freelancing and digital labor platforms within the CSCW community and beyond.

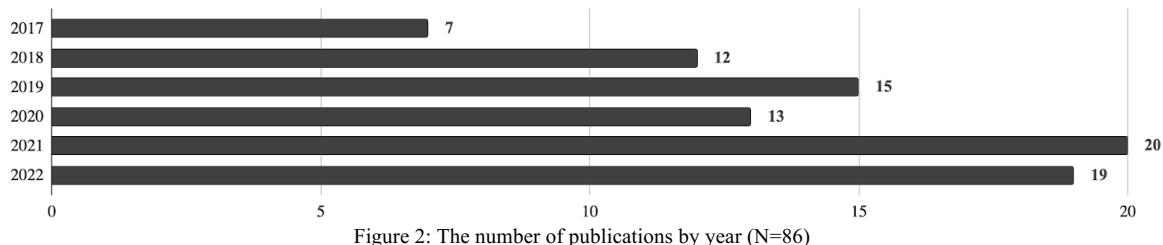


Figure 2: The number of publications by year (N=86)

3.2 Research Topics

The thematic analysis identified 12 topical categories. Table 1 provides a summarized classification of publications by topics with examples of pertinent research work for each topic.

Table 1: Classification of the sampled paper by topic

Topic	Pertinent publication examples
(1) Social inequalities (24%)	<ul style="list-style-type: none"> Reproducing global inequalities in the online labor market [36] Gender stereotyping and occupational segregation in hiring practices on an online labor platform [48] Gender differences in hourly pay rate in an online labor marketplace [47]
(2) Freelancer well-being (19%)	<ul style="list-style-type: none"> Challenges commonly faced by gig workers (e.g., organizational, identity, emotional uncertainty) [27] Online freelancers' subjective well-being from the experiences of night work [110] The impact of worker personality and temporal dimensions of work on job satisfaction [126]
(3) Platform management and control (14%)	<ul style="list-style-type: none"> Platformic management and the paradoxical affordances of a platform [74] Emergence of platform labor control through brokerage relationships at multiple scales [113] Algorithmic control in the global gig economy [134]
(4) Freelancing strategy (8%)	<ul style="list-style-type: none"> Career trajectories among online freelancers [18] Experience of a career shift from the corporate world to freelancing [125] Freelance job search during times of uncertainty [64]
(5) Solidarity, community building (8%)	<ul style="list-style-type: none"> Institutional voids and solidarity networks in Pakistan [88] Workers' experience of building entrepreneurial solidarities through social interaction [114] Communication freelancer and online communities [92]
(6) Demographic characteristics (7%)	<ul style="list-style-type: none"> The nature of creative work on a digital labor platform in the context of neoliberal creative economy [104] The perception of meaningful work among creative freelancers [100] The relationship between an individual's demographic characteristics and their patterns of participation in the platform economy [60]
(7) Skills and competencies (7%)	<ul style="list-style-type: none"> The precarity of online freelancing and workers' strategies to navigate their work on labor platforms [119] Digital skills demand on digital labor platforms [49] Workers' skill provision and expansion and their influence on success in gig economy [66]
(8) Identity formation and management (6%)	<ul style="list-style-type: none"> Self-branding strategies of online freelancers on Upwork [19] Platform-specific self-branding practices among independent professionals [38] Deconstruction of workers' identify by platform intermediation [98]
(9) Client-freelancer interaction (2%)	<ul style="list-style-type: none"> Pre-contract communication between workers and employers in online platforms [62]
(10) Client experience (2%)	<ul style="list-style-type: none"> The transaction costs of corporate employees hiring freelancers [86]
(11) Pandemic and freelancing (2%)	<ul style="list-style-type: none"> The impact of Covid-19 on gig economy [127]
(12) Designing systems (1%)	<ul style="list-style-type: none"> Worker-centered design opportunities for online freelancers [4]

3.3 Conceptual Framing

We identified four conceptual categories: platform, workers, work, and society, with each reflecting distinct theories and concepts. Current research perceives digital labor platforms as either actors operating within a broader platform ecosystem or as intermediaries that shape the freelancing experience through the affordances enacted through their sociotechnical features. Scholars have undertaken an examination of workers using a conceptual framework that captures various aspects of their platform work experiences, including considerations of identities, community, skills, and well-being. Past studies also theoretically explored the changing nature of work, employment, and careers on digital labor platforms. Finally, scholars investigated social inequality by employing the concept of bias and identity-based segregation. Table 2 provides a summary of the theory and conceptual frameworks that were utilized in the sampled papers.

Table 2: Classification of theories and concept employed in the sampled papers

Category	Theory / Conceptual framework		Pertinent work
Platform	Ecosystem	Actor network theory	[81,78]
	Intermediation	Platform intermediation, algorithmic management	[108,61,113,61,74,86]
		Information asymmetry	[73,65,85]
	Affordance	Affordance, imagined affordance	[34,99,12,118,39]
		Boundary resource	[42,50,74]
Worker	Worker identity	Intersectionality, demographic heterogeneity	[31,129,131,124,67]
	Identity presentation	Dramaturgical theory	[53,19]
	Community building	Professional virtual communities, community of practice	[28,82,92,3]
	Strategies	Information-seeking theory	[90,15]
	Skill and competence	Infrastructural competency, bricolage	[107,73,87,65]
	Wellbeing	Subjective well-being	[22,110]
	Autonomy	Agency	[26,106,6]
Work	Nature of work	Decent work, meaningful work, invisible work	[71,77,35,51,115,100,30,33,111]
	Working condition	Precarization	[1,137,114]
	Career	Portfolio career, boundaryless career	[55,56,7,8,45,104, 13]
		Taskification (fragmentation) of career	[59,76,18]
Society	Social inequality	Occupational segregation, gender segregation, home bias	[14,83,121,60,63,84]

3.4 Methodological Approach

We grouped the papers into three methodological approaches based on their main data collection and analysis techniques. Out of the 86 papers sampled, our analysis focused on 56 papers that conducted empirical studies, and the findings are summarized below. Among these papers, 44% (25) utilized qualitative methods, 37% (21) employed quantitative methods, and 17% (10) adopted mixed methods. Table 3 provides a summary of the methodological approach.

Table 3: Classification of methodological approach employed in the sampled papers

Methodological approach	Pertinent publication examples
Qualitative (44.6%) (e.g., interview, case study, content analysis, design fiction, ethnography)	[3,6,15,17,18,19,24,32,35,38,49,52,78,86,88,100,101,104,110,114,118,125,132]
Quantitative (37.5%) (e.g., survey, statistical modeling, experiment)	[9,62,109,110,10,37,47,48,57,60,62,65,66,83,123,61,83,84]
Mixed (17.8%) (e.g., document analysis, interview, and cognitive walkthrough)	[40,97,74,73,78,135,58,92,131]

4 DISCUSSION AND FUTURE WORK

On the basis of our analysis on the current landscape of online freelancing scholarship, we have described a growing community of scholars interested in online freelancing, as well as the breadth of research topics, conceptual and theoretical frameworks, and methodologies. As shown in Figure 2, the number of publications on this topic has significantly increased in recent years, especially since 2017. This finding indicates the rising importance of online freelancing scholarships in academic discussions in the CSCW and cognate communities. The expanding body of research also suggests a recognition of the significance of online freelancing as a relevant and evolving phenomenon within the broader landscape of work and employment. As a concluding remark, we discuss three key insights for future work. By considering these insights, we hope that the CSCW community will further advance our understanding of the evolving nature of work and working in the context of online freelancing on digital labor platforms.

(1) The importance of focusing on unexplored areas within the existing scholarship on online freelancing

Recognizing the importance of understudied areas in the current literature, it is essential to emphasize the need for exploring both relatively unexplored themes and novel dimensions associated with this phenomenon. For example, as shown in Table 1, themes such as client-freelancer interaction, building computer-supported systems for improving online freelancing experiences are significantly understudied. Gaining an understanding of the dynamics and challenges associated with interaction between clients and freelancers can offer valuable insights into effective communication, collaboration, and relationship establishment between clients and freelancers. Also, building computer-supported systems tailored specifically for online freelancing can address existing challenges. By studying and developing such systems, researchers can contribute to the advancement of technology-driven solutions that optimize freelancing workflow, increase productivity, help freelancers' skill building and enhance the overall quality of freelancing experience. This can be achieved by leveraging the themes identified in our review. For instance, research centered around social inequality, well-being, and skills often explore how computing systems can contribute to improving the freelancing experience in platform-mediated work. Drawing upon these valuable insights, future work can further advance design-oriented research that has been hitherto underexplored.

(2) The necessity of developing innovative theoretical frameworks that cater to the distinct features of platform-mediated freelance work

We underscore the need for theoretical frameworks specifically tailored to address the unique characteristics of platform-mediated freelance work. Our review of the sampled papers highlights a noticeable focus on phenomenon-driven research, indicating a relative scarcity of theory-driven papers that adhere to rigorous scholarly norms and expectations regarding theoretical contributions. As shown in Table 2, even in studies that incorporate conceptual perspectives, there has been a tendency to adopt theoretical strands from established disciplines. However, it is important to recognize that traditional theories may not fully capture the complexities and dynamics associated with the new mode of work. Rather than borrowing existing theories to provide a contextual backdrop or to explain research findings, future studies should actively engage in testing the applicability of existing theories, with the aim of constructing novel theoretical perspectives. This can be accomplished by defining the boundary conditions of existing theories and determining which theories effectively explain specific empirical phenomena within the context of online freelancing. By developing innovative theoretical frameworks, researchers can offer more nuanced explanations and insights into this evolving form of work.

(3) The need for adopting mixed methods and for exploring alternative methodologies that can comprehensively capture the intricate nature of the online freelancing

We suggest two implications for research methods: the necessity of incorporating mixed method studies and exploring novel methodologies. Online freelancing encompasses a multitude of dimensions, including social interactions, technological platforms, economic factors, and individual experiences. Hence, in order to comprehensively grasp this phenomenon, it is crucial to collect data from diverse sources, spanning different spatial and temporal contexts, and involving a diverse range of workers through various techniques. Table 3 demonstrates that less than 20% of the examined papers employed mixed method research. The mixed method approach is widely recognized as a strategy for enhancing the rigor of scientific research [39]. Future research can greatly benefit from the adoption of multiple data collection and analysis endeavors to address the multifaceted nature of online freelancing experiences. Additionally, researchers may consider going beyond well-established research methodologies and explore alternative approaches to capture the multifaceted nature of the online freelancing experience. Embracing alternative approaches such as research through design (RtD) [136], historical analysis [112], and longitudinal studies [79] can help researchers effectively capture the complexities of online freelancing and gain a holistic understanding of these intricate dynamics.

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