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INDIVIDUALS IN THE WORKPLA*TFORM*. EXPLORING IMPLICATIONS FOR WORK IDENTITY AND ALGORITHMIC REPUTATION MANAGEMENT

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ABSTRACT

In the new world of work, workers not only change jobs more frequently, but also perform independent work on online labor markets. As they accomplish smaller and shorter jobs at the boundaries of organizations, employment relationships become unstable and career trajectories less linear. These new working conditions question the validity of existing management theories and call for more studies explaining gig workers' behavior. Aim of this dissertation is contributing to this emerging body of knowledge by (I) exploring how gig workers shape their work identity on online platforms, and (II) investigating how algorithmic reputation changes dynamics of quality signaling and affects gig workers' behavior.

Chapter 1 introduces the debate on gig work, detailing why existing theories and definitions cannot be applied to this emergent workforce. Chapter 2 provides a systematic review of studies on individual work in online labor markets and identifies areas for future research. Chapter 3 describes the exploratory, qualitative methodology applied to collect and analyze data. Chapter 4 presents the first empirical paper investigating how the process of work identity construction unfolds for gig workers. It explores how digital platforms, intended both as providers of technological features and online environments, affect this process. Findings reveal the online environment constrains the action of workers who are pushed to take advantage of platform's technological features to succeed. This interplay leads workers to develop an entrepreneurial orientation.

Drawing on signaling theory, Chapter 5 understands how gig workers interpret algorithmic calculated reputation and with what consequences for their experience. Results show that, after complying to platform's rules in the first period, freelancers respond to algorithmic management through different strategies – i.e. manipulation, nurturing relationships, and living with it. Although reputation scores standardize information on freelancers' quality, and, apparently, freelancers' work, this study shows instead responses to algorithmic control can be diverse.

Chapter 1

Crowds, Talents, and Platforms: The World of Work in the Gig Economy

Technological changes and subsequent new technology adoptions promise to improve our living and working conditions. Thanks to ICTs, for instance, people living in different part of the world can communicate real time, workers can deliver tasks from home – i.e. telework -, virtual teams can perform and share their jobs at a distance, and organizations can increase control over production systems and workers performance. The several advantages fostered technology diffusion within organizations, and topics such as technology usage and how it influences the way work is structured and carried continue to catch scholarly attention (Colbert et al., 2016; Stone et al., 2015).

At the dawn of the 21st century, new technological tools – e.g. videoconference systems, wikis, or emails - have mainly changed how employees communicate and share their work within and across organizational boundaries. Recent technological developments – e.g. algorithms, online platforms, artificial intelligence –, instead, have mainly to do with work granularization, modularization, and decontextualization (Ashford et al., 2007; Connelly & Gallagher, 2004; Hollister, 2011; Irani, 2015; Stone et al., 2015). Thanks to these technologies, new forms of working arrangements and distributed work are emerging. Among the others, the distribution of activities via the Internet to undefined groups of people (i.e. *crowdsourcing* activities; Howe, 2006) is receiving much of freelancers', organizations', and scholars' attention.

If these activities became popular for engaging customers and external professionals in innovative activities, more recently, they are being used also for outsourcing several, micro-tasks to a digital, unknown workforce (Kittur et al., 2013) or to a new category of professionals on online labor markets – i.e. platforms that match buyers and sellers of tasks. The short and temporary nature of tasks – also called 'gigs' – and the increasing number of people employed in multiple, part-time jobs gave birth to the so called 'gig economy' (Brown, 2009; Kuhn & Galloway, 2019). New forms of electronically-mediated employment

and working arrangements represented by freelancers providing their services on online digital platforms – i.e. platform or gig workers (Kuhn & Galloway, 2019) – are thus emerging (Ashford et al., 2007; Spreitzer et al., 2017), challenging our knowledge of ‘contract work’ and the relations between workers and clients.

Workers of the Internet: The ‘Real’ Phenomenon

In the new world of work, organizations outsource jobs traditionally performed by employees to the ‘crowd’ – i.e. to an external, undefined workforce – via online platforms (Estellés Arolas & Ladron-de-Guevara, 2011). In online labor markets such as Freelancer.com, Guru, Upwork, or Fiverr, employers can hire external workers by posting specific demands for tasks, which are usually specific in nature and very short in time. People on these online markets, who hold very different backgrounds, skills, expertise, and cultural habits, are called to deliver this very specific tasks and they must navigate a digital environment mediating interactions.

Although recognized as emerging (Ashford et al., 2018; Carignani & Negri, 2015; Giorgiantonio & Rizzica, 2018; Spreitzer et al., 2017), understanding the dimension of this workforce seems to be a challenge (Abraham et al., 2018; Katz & Krueger, 2016, 2018; Kuhn & Galloway, 2019). The first obstacle is the lack of a unique definition for ‘gig work’, which prevents the formation of legal *ad-hoc* categories. Debates on how to legally identify these workers are still ongoing and largely depend on workers’ native country. As consequence, administrative or governmental databases on gig workers, as well as sector studies, are absent (Giorgiantonio & Rizzica, 2018). Second, working as drivers on Uber or as freelancers on Freelancer.com does not necessarily represent the first workers’ occupation or source of income. Whether asked, those people may not even declare to be employees of the ‘gig

economy' or, on the contrary, they may work for more than a platform at the same time and deliver gigs only sporadically (Kuhn & Galloway, 2019; Spreitzer et al., 2017). Traditional household surveys thus appear inadequate to identify those workers (Abraham et al., 2018; Kuhn & Galloway, 2019).

Despite difficulties lead to underestimate the number of gig economy's employees (Giorgiantonio & Rizzica, 2018) and generally slows down the measurement process, there is general agreement that there is a positive gig economy's growth trend (Boudreau et al., 2015; Farrell et al., 2018; Katz & Krueger, 2018; Spreitzer et al., 2017), especially in the American market. Farrell and colleagues (2018), for instance, who tracked payments from 128 online platforms between October 2012 and March 2018, reported an increasing number of participants to the 'Online Platform Economy' and an increasing total transaction volume, especially in the transportation sector. They also observed an explosion in terms of platforms offering online jobs (Farrell et al., 2018; Farrell & Greig, 2016). Similar trends have been observed also in Europe, where the labor platform market is growing (Balaram et al., 2017; Vaughan & Daverio, 2016). Positive trends are further confirmed by the number of registered workers on online platforms. For example, Upwork counted 9.7 million of registered workers in 2015 (Boudreau et al., 2015), more than 12 million in 2018 (Kuhn & Galloway, 2019). Similarly, Freelancer.com counted almost 24 million of registered users in 2016, almost 39 million in 2019.

Despite lack of regulations and sufficient data to estimate the phenomenon, the positive trends and rapidly growing numbers explain the scholarly, political and regulatory interest in the phenomenon. Kässi and Lehdonvirta (2018) estimate the worldwide demand for online-based gig work will increase by roughly 20% a year, which will probably mean more people employed in the gig economy. Understanding the phenomenon is thus essential to control and regulate it, fostering a positive economic and social transition. Whether the gig economy

represents a positive or negative avenue for workers is being largely debated in the literature, indeed. The debate is further nourished by the lack of studies and theories that explain the phenomenon. Current organizational theories, in fact, seem inadequate to analyze, interpret and explain what is going on (Ashford et al., 2018).

Uncertainty in the World of Work

There is widespread agreement that a new class of workers is appearing on the web (Carignani & Negri, 2015; Kuhn, 2016; Kuhn & Maleki, 2017; Spreitzer et al., 2017), even if we still miss a unique definition for it. The first studies on gig workers' characteristics highlight several elements of novelty and describe the extreme, uncertain conditions in which these workers operate (e.g. Deng et al., 2016; Graham et al., 2017; Irani, 2015). Many authors evinced concerns about gig economy's implications for workers job quality and well-being (Kuhn & Galloway, 2019), although the debate on positive and negative implications is still ongoing, ultimately trying to determine whether platforms represent beneficial workplaces or not.

Platforms versus workers?

There is widespread agreement that workers' experience in the gig economy is strongly marked by the extreme, uncertain nature of employment relationships (Kost et al., 2019; Spreitzer et al., 2017; Wood, 2019), which intrigues both organizational theorists and HRM specialists. Platforms like Fiverr or Uber provide matching opportunities for workers and clients, although they are not formally in charge of employment agreements. As result, workers are being considered as self-employed even if they must stick to platforms' rules to increase the likelihood of being hired and avoid being deactivated. This makes gig workers dependent from platforms (Kuhn & Maleki, 2017), which can be considered "shadow

employers" (Kost et al., 2019), but at the same time does not allow them to benefit from, for instance, paid time off or health insurance, as well as career advancements. This novel condition in-between self- and traditional employment hampers their ability to negotiate favorable employment conditions or pay rates (Kuhn & Galloway, 2019). Moreover, the typically short nature of tasks further nourishes conditions of uncertainty as workers must spend much of their time searching for and trying to win new jobs, experiencing financial instability and job insecurity (Ashford et al., 2018). Furthermore, specific information about matching and hiring processes are usually absent. The presence of unbalanced power structures (Graham et al., 2017), in fact, has been confirmed by findings on information asymmetries (Blaising et al., 2018). According to Blaising and colleagues (2018), workers on online labor markets lack information about the reasons for rejection or failure, for other online workers' success, and client expectations and algorithmic ranking calculations, which makes their experience even more precarious. Additionally, algorithms introduce biases (Hannák et al., 2017). By analyzing more than 13,000 workers profiles, Hannák and colleagues (2017) found that gender and race are significantly correlated with workers evaluations, and that these biases can harm the employment opportunities of these categories of workers, especially those of women and black people.

Despite these severe critiques, the debate seems to converge on a more agnostic view. For instance, through a seminal analysis of values shared by MTurk workers, Deng and colleagues (2016) shed some light on their relationship with the hosting platform. They argue that both marginalization and empowerment co-exist in micro-task crowdsourcing, and that, through an appropriate design of compensation, microtasks, technology, and platform's governance, workers can either fulfill or unfulfilled those values. Other relevant insights come from Graham and colleagues (2017), who conducted a multi-year study with digital workers from Africa and Asia and further documented both empowering and marginalizing

forces. Their study describes an unbalanced power structure that tend to favor clients, especially if workers' client pool is limited, but also an intermediation role played by the platform that allows workers to build both a reputational capital and a network of clients interested in the job they performed. They also criticize low payments and describe platforms as potential sources of economic exclusion, but also as places where individuals can find additional sources of income, especially in emerging countries. Similar arguments has been presented on skills development, as the concurrent presence of demanding- and micro-tasks provide workers either opportunities for career development or disqualification. D'Cruz and Noronha (2016) further confirm these findings in the Indian market and offer a more optimistic view on gig work. More recently, also Wood and colleagues (2019) have contributed to the debate and studied whether algorithmic control positively or negatively affects workers' job quality. They show that, on the one hand, rating and ranking systems foster high levels of autonomy, task variety and complexity, together with spatial and temporal flexibility. On the other hand, feelings of social isolation are likely to arise. The lack of social contact when working from home, as well as the need to work extra-hours to meet clients' demand, may lead individuals to work unsocial and irregular hours, resulting in sleep deprivation and exhaustion. To overcome these issues, however, Lee and colleagues (2015) showed workers of Uber and Lyft asking peers' advices on social platforms and communities, suggesting there are networking opportunities for gig workers (Kuhn & Galloway, 2019).

The Lack of Organizational Attachment

To describe the exceptional, uncertain nature of gig workers, traditional labels like 'nonstandard workers' (Ashford et al., 2007) or alternative forms of working arrangements (Spreitzer et al., 2017) seem inadequate. New classes of workers enabled by technology, e.g. teleworkers, or by new employment relationships pushing them at the boundaries of organizations, e.g. temporary workers, had been traditionally classified as 'nonstandard

workers' (Ashford et al., 2007) or as alternative forms of working arrangements (Spreitzer et al., 2017). Here, 'nonstandard' or 'alternative' mean these workers differ from traditional, standard employees, regularly hired by organizations on a long-term basis and working at their desks eight hours per day. Traditional employees typically show temporal, administrative, and physical attachment to organizations (Ashford et al., 2007; Pfeffer & Baron, 1988). Nonstandard workers, instead, typically lack one dimension of organizational attachment, meaning that they are typically flexible in the employment relationship, in the scheduling of work, or in where work is accomplished (Spreitzer et al., 2017). For instance, temporary workers lack temporal attachment with organizations, as there is no expectation of long term employment between parties and, therefore, flexibility on the employment relationship (Ashford et al., 2007; Spreitzer et al., 2017). Teleworkers usually work from home and lack physical proximity (Ashford et al., 2007; Spreitzer et al., 2017); contract workers, instead, are not formally under organizational control and lack administrative attachment (Ashford et al., 2007).

Gig workers fit the broad, general category of nonstandard workers. Similar to contract workers, they are hired to use their knowledge on short, specific projects (Spreitzer et al., 2017). Therefore, they lack administrative attachment and are flexible in employment relationships. Nonetheless, they live a new and more complex working experience if compared to contract workers (Cappelli & Keller, 2013). Although they normally lack administrative attachment (Ashford et al., 2007; Pfeffer & Baron, 1988) and job security or employer-sponsored training (Spreitzer et al., 2017), contract workers are temporally and/or physically attached with client organizations, as they typically work onsite and stick to organizational working hours. Gig workers instead are flexible and autonomous in the way they organize their working hours and normally work at a distance (Spreitzer et al., 2017). Moreover, they experience an even extremer flexibility in employment relationships, as

contracts tend to be even shorter than those signed by traditional contract workers (Spreitzer et al., 2017).

The simultaneous absence of all kinds of organizational attachment – i.e. temporal, physical and administrative attachment (Pfeffer & Baron, 1988) - put workers in a new, exceptional, high uncertain situation never experienced by other nonstandard workers before (Ashford et al., 2007, 2018; Spreitzer et al., 2017). There is, therefore, widespread agreement that explaining gig workers experience with existing theories is inappropriate (Ashford et al., 2007, 2018; Kuhn & Galloway, 2019).

The Need for New Theories

Most organization theories have been developed in the era of secure, long-term employment relationship, when organizational membership was perceived as stable (Ashford et al., 2007). In addition, existing theories have been developed with an organization-centric focus, that is, they study behavior that is central to organizations and organizing (Ashford et al., 2018). In the 'gig economy', instead, more emphasis should be given to individuals moving from contract to contract, sometimes even disregarding organizations, and operating in a digitally mediated environment. As responsibility for organizing now lays more on individuals' shoulders, we need evolved research approaches and perspectives.

For instance, with the shift away from organizations and unstable memberships, as individuals are constantly changing employers and people to deal with, is there still a context to which they must attend? If there is, do they still develop that commitment and sense of belonging to a community that foster citizenship behaviors? As shown by a few scholars (Lee et al., 2015; Newlands et al., 2018), gig workers search for peer advises on online forums and communities, where they can also organize collective actions against hosting platforms; thus,

sense of belonging might be developed outside platforms' boundaries and produce negative rather than positive effects for platforms. In addition, while motivation scholars have long cared about between-employee motivation variance in different contexts, they should now theorize about variance in motivation within single individuals and understand how they keep on being motivated over time, as they operate in a mutable environment (Ashford et al., 2018). Similarly, if gig workers are autonomous in shaping their own career trajectories in-between platforms and organizations, they are also exposed to adaptation periods in their work-life, promoting *liminal* conditions, that is, conditions of uncertainty of one's position in the workplace and a sense of "neither one thing nor another" (Ibarra & Obodaru, 2016). Moreover, there have been also scholars questioning autonomy and arguing that boundaryless careers in the gig economy are an oxymoron (Kost et al., 2019), due to the presence of platforms and algorithmic control mechanisms. Theories on career trajectories and organizational control should then be revised to explain what happens to workers who live in-between conditions of self- and traditional employment.

New empirical evidence and new theories are then needed to explain how workers navigate uncertainty in the new world of work, how their work is supported or constrained by digital platforms, what they can do to be successful (Ashford et al., 2018; Barley et al., 2017; Kuhn & Maleki, 2017). Despite the novelty of working conditions and the questioned applicability of existing theories, management studies addressing these issues are still scarce. In 2017, Spreitzer and colleagues even wrote: *"Interestingly, although it is a fast growing segment of work, virtually no research has been published on gig workers to date."* (Spreitzer et al., 2017, p. 480). Through a careful literature analysis, however, we could find studies on or related to gig work, and we provide a comprehensive review in the next chapter.

Along with the types of organizational attachment, further refined in gig work structural conditions (Ashford et al., 2018), this research can be organized in three main areas. When

individuals are highly independent, they are simultaneously exposed to different working experiences and become responsible for conducting their work, expressing themselves according to their desires, and shaping their careers. However, when they need to transit different short jobs over time, career trajectories become also unclear. Thus, a first research area that needs enrichment is that looking at meanings, career, and skills needed to undertake such uncertain career path. Then, as scholars identified autonomy and flexibility as a key structural differences between the old and the new world of work (Ashford et al., 2018; Spreitzer et al., 2017), more research on the nature of gig work is needed. In particular, issues of control and work-life balance should be investigated to understand how workers structure this claimed freedom. Finally, physical and relational separation hamper gig workers' ability of create and sustain networks of clients and peers, potentially leading to social isolation (Irani, 2015; Wood et al., 2019). At the same time, online forums and communities are proving to be powerful tools to structure sort of gig workers' collectivities (Newlands et al., 2018), thus more research is needed to understand whether and how gig workers build and manage networks over time. A third research area, then, is that looking at gig workers' online networks and relations. Figure 2 in the next chapter gives a graphical representation of these three areas.

Aim of this dissertation is answering this and other calls for more studies on digital, gig workers (Ashford et al., 2018; Kuhn & Maleki, 2017; Spreitzer et al., 2017) and contributing to the emergent body of literature on this topic. In particular, through an in-depth investigation of workers' experience in online labor markets, it (I) answers scholarly concerns on the applicability of existing identity theories and explores how gig workers shape their work identity; (II) studies how algorithmic calculated reputation changes dynamics of quality signaling and affects gig workers' behavior.

Chapter 2

Individuals in the Workpla*tform*.

A Literature Review and Research Agenda

This chapter presents a review of studies exploring, describing and explaining the individual work and experience of gig workers. The aims are providing a first answer to the call for knowledge on the topic (Ashford et al., 2018; Kuhn & Maleki, 2017; Spreitzer et al., 2017) and identifying avenues for future research.

In the 'gig economy', individuals and individual agency are the center of organizing (Ashford et al., 2018) and need to deal with digital platforms to deliver their work. This literature review then follows the idea of individuals as unit of analysis and takes workers' perspective, trying to assess what we know about their experience in the workpl*atform*. Given the growing scholarly interest in the topic, but the relative newness of the phenomenon, studies have been published in an unstructured manner across the fields of management, information systems, and sociology, and they are rather descriptive than theoretical. Furthermore, the same phenomenon has been referred to using different labels, like *crowdsourcing*, *online labor markets*, *gig work* and *algorithmic work.* The next section describes these different labels and the related streams of research where studies on platforms' workers have been published.

From *Crowdsourcing* to *Algorithmic Work*. Setting the Stage for the Review

Initial scholarly interest for work on platforms can be dated back to the emergence of *crowdsourcing* activities. Crowdsourcing activities are meant to allow organizations searching for different competences and expertise outside their boundaries, and to ask to an undefined online audience to provide problems' solutions, find creative products' ideas, or deliver specific tasks (Boudreau & Lakhani, 2013; Howe, 2006). The first stream of this literature has approached crowdsourcing as a form of open innovation (Battistella & Nonino, 2012; Ghezzi et al., 2018; Majchrzak et al., 2016; Malhotra & Majchrzak, 2014): companies can run online contests or hold firm-hosted collaborative communities for catching new or building

cumulative ideas for their products (Boudreau & Lakhani, 2013). A second, more recent stream has instead approached crowdsourcing as a way for organizations to request for specific skills and expertise on external platforms and have delivered specific tasks (Boudreau & Lakhani, 2013). Studies looking at these instances of crowdsourcing – i.e. *micro-task* crowdsourcing (Deng et al., 2016) – have been the first looking at individual work on online labor platforms.

A branch of *micro-task* crowdsourcing, sometimes treated as a stand-alone stream, is that of online labor markets (Boudreau & Lakhani, 2013). Online labor markets are platforms matching buyer and sellers of service and are the fore where *micro-task* crowdsourcing happens. Examples of online labor markets are Amazon MTurk, Freelancer.com, Guru, Fiverr. Here, organizations or single individuals can find and hire external talents to deliver specific tasks. Therefore, digging into research exploring these platforms is useful to collect studies on the experience of individual workers in the gig economy.

Other terms largely used to refer to work on platforms are 'gigs', 'gig work', and 'gig economy'. The term "gig economy" was coined to capture the increasing labor market's flexibility and accommodate the increasing numbers of people who held multiple part-time jobs or freelanced (Brown, 2009; Kuhn & Galloway, 2019). Recently, however, these terms are used to categorize electronically mediated employment arrangements and individuals finding short-term tasks or projects via the aforementioned labor platforms (Kuhn & Galloway, 2019). We have also extensively applied this definition in the first chapter and categorized individuals working through online platforms as 'gig workers'. As consequence, the review includes also studies categorized under the 'gig work' label.

Finally, the complex algorithmic architecture of online platforms has given rise to the notion of 'algorithmic work', which captures how algorithmic – instead of human - bosses influence individual work in digital environments (Rosenblat & Stark, 2016). Although this label has

been mainly adopted in information system studies, the attention towards algorithms, algorithmic management and algorithmic control is increasing in the fields of sociology (e.g. Bucher, Schou, et al., 2019; Wood et al., 2019) and management (e.g Kellog et al., 2019; Marabelli & Newell, 2019) too. Thus, this review includes studies from the 'algorithmic work' stream of research.

Methodology

Articles' selection started with a search on the SciVerse Scopus online database for scientific articles. Scopus is less selective than other scientific databases – e.g. Web of Science – yet better organized than others – e.g. Google Scholar. This allowed searching into a wider array of outlets, yet easily navigating and selecting studies according to keywords and relevance. For instance, because of phenomenon's newness and the emerging nature of literature, we decided to include papers published in both academic journals and conference proceedings. This decision came about from the scope of this review, which is identifying the main issues tackled so far and collecting novel and relevant findings with high potential for publication, although this means including also a heterogeneous material not subjected to a traditional peer review process.

As mentioned, to discover and cover studies investigating the experience of workers on digital platforms we searched within the literature on at least four salient macro-topics: (I) 'crowdsourcing'; (II) 'online labor markets'; (III) 'gig work'; and (IV) 'algorithmic work'. For each keyword, we adopted the multi-step process described below to select articles. A similar multi-step approach has been used also in previous reviews on similar topics (e.g. Ghezzi et al., 2018). In the first step, we run a general search for (1) articles with one of the aforementioned keywords in their title, keywords or abstract. We started from the

‘crowdsourcing’ literature. Since we wanted to focus on articles with management-type implications, the (2) search was limited to the subject area of ‘Business, Management and Accounting’. Then, we filtered for (3) articles written in English. Later, we retained articles that met the following, more-refined criteria: (4) they must have been published in Scopus’ journals and conference proceedings, in the sub-subject areas of management, business and decision sciences (including information systems management); in particular, to meet this criteria, we had to specifically select the main journals and conferences in the sub-subject areas; (5) the text must be available, either through academic licenses, online research platforms – i.e. ResearchGate – or open access; (6) articles must focus at the individual level of analysis or describing individual gig workers’ behaviors and experiences; (7) articles must be relevant, as inferred from their title or abstract, or by examining the paper. Finally, during articles’ examination, (8) we included those relevant papers excluded from the initial search, but that appeared in the first paper sample’s list of references. We ended the process editing duplicates. The final database includes 39 articles. The process, reiterated once for each key-term, is summarized in Table 1.

---- Insert Table 1 around here ----

Table 2 provides the list of included articles included. They had been categorized according to issues explored. For instance, papers dealing with workers’ skills, feelings, or performance and motivation, fall into the ‘WORKFORCE TRAITS’ category. Those dealing with algorithmic control and reputation systems fall into the ‘NATURE OF WORK’ concept. Finally, the ‘RELATIONS’ label collects studies dealing with collective actions on online labor markets. For each article, the table provides additional information on platforms being studied and research method.

---- Insert Table 2 around here ----

The following paragraphs describe the emergent streams of literature, the main issues tackled and findings on individuals in the workpla*tfrom*.

A Closer Look at the Workforce: Meanings, Careers, and Behaviors

The first studies on online work tried, first, to map the characteristics of this emerging workforce (e.g. Barnes et al., 2015; Carignani & Negri, 2015; Chandler & Kapelner, 2013; Chen & Horton, 2016; Deng et al., 2016). As gig work is commonly associated to cheap, scrap, unprofessional work (Bucher, Fieseler, et al., 2019), these studies started to explore (I) whether there are specific skills required to perform gig work, and whether the workforce is a skilled or deskilled one; (II) gig workers' feelings and the meaning of work; (III) motivations leading people to join the gig economy and performance.

Skills

Whether people who engage in online work can be categorized as professional, or whether they simply deliver easy, repetitive tasks was one of the first emerging questions. This led the investigation of gig workers' skills and further questions about platforms' ability to guarantee new skills' development. However, despite the heated debate on work practices' fragmentation resulting in workers deprofessionalization (Irani, 2015; Kittur et al., 2013; Shibata, 2019), studies on the topic are still scarce and focused more on describing the type of workforce. For instance, through a content analysis of tasks in 2010, Carignani and Negri (2015) mapped the most requested abilities on Amazon Mechanical Turk. They discovered that Turk's workforce was mostly employed to survey information about consumer habits, categorize or label images, transcribe audio files, or rank and evaluate existing websites or applications. Despite no specific skills were needed, they revealed most MTurkers held high levels of education and professional skills. Barnes and colleagues (2015) confirmed these

findings and, rather, argued that gig workers need an initial set of skills to be successful on other types of platforms. They also discovered self-efficacy, motivation, self-reliance and adaptability as essential traits to attain this work.

Feelings and Meaning of Work

In line with discovering more about the gig economy workforce and, following assumptions on gig work as scrap work, some scholars tested behavioral responses to exploitation and investigated gig workers' meaning of work (e.g. Boons et al., 2015; Bucher, Fieseler, et al., 2019; Deng & Joshi, 2016; Kapelner & Chandler, 2010). First and foremost, in 2013 Chandler and Kapelner explored the role of task meaningfulness on workers' efforts. They hypothesized that the greater the amount of meaning, the greater the likelihood of participation, and found support to their predictions through a field experiment on MTurk. Interestingly, they also found that high meaning increases quantity of output, while low meaning decreases quality of output. Boons and colleagues (2015) proposed a similar argument and empirically showed that workers' feelings of pride and respect influence their level of activity on the crowdsourcing platform. Finally, Bucher and colleagues (2019) recently strengthened these results. Through an online survey on Mechanical Turk, they found that the ability to positively frame one's work as a significant contribution predicts work engagement in the long run. In other words, workers who perceive to matter and to 'make a difference' will be more immersed in digital labor (Bucher, Fieseler, et al., 2019).

Along with meaning, Yin and colleagues (2013) explored the role of fairness expectations on work quality and workers' efforts. Via two experiments on MTurk, they tested behavioral responses to financial incentives when workers must perform tasks in a sequence. They found that work quality and workers' efforts increase (or decrease) when the second task's reward increase (or decrease). These findings suggest an anchoring effect, that is, workers formulate

hypothesis on fair payment expectations based on the first task, and, therefore, allocate more or less effort in the second task according to received incentives (Yin et al., 2013). These results confirm that gig workers expect to be treated fairly by clients, an argument formulated also in other studies (Chen & Horton, 2016; Deng & Joshi, 2016). For instance, Chen and Horton's (2016) field experiment on wage cut responses to test showed that, despite the stigma of working in a spot markets for tasks, workers feel part of an employment relationship and act according to the idea of being an active part in a contract. Another seminal study conducted by Deng and colleagues (2016) identified nine key values and expectations workers hold when engaging in online work. These are equal access to work opportunities and unbiased work processes, autonomy, transparency, security, dignity, possibility to make an impact, good communication between clients and workers, and accountability of actions (Deng et al., 2016).

Motivations and Performance

An essential condition for online platforms' existence and survival is widespread participation of stakeholders – i.e. client organizations and workers. Along with studies investigating the meaning of work and gig workers' feelings (e.g. Boons et al., 2015; Bucher, Fieseler, et al., 2019; Chen & Horton, 2016; Yin et al., 2013), which are essential to understand how workers feel and what drives sustained participation, other pieces of research explored in depth workers' intrinsic and extrinsic motivations to participate in online tasks (e.g. Deng & Joshi, 2016; Jabagi et al., 2019; Keith et al., 2019; Pee et al., 2018) and how this eventually drives performance or work choices (Pee et al., 2018). For instance, some scholars tried to establish a relation between sources of motivations and task choice (e.g. Pee et al., 2018). Their findings showed that individuals interested in developing competences tend to choose high-commitment tasks requiring more efforts and, therefore, opportunities to learn new or improve existing skills. Those who are motivated by social affiliation, instead,

declared to choose more interdependent tasks requiring coordination and collaboration with other participants. Payment-based motivation induced workers to try to showcase their abilities and therefore to choose structured tasks with clear, comparable output. Sodré and Brasileiro (2017) further explained that a significant driver of task choice is owning qualifications, which also influences the number of times individuals choose tasks requiring owned qualifications.

Recently, other scholars move further in describing individual behavior and, instead of searching for results explaining the whole workforce behavior, they have started to account for potential differences among groups of individuals (see also Pee et al., 2018). These scholars correlate the way workers see the platform to differences in usage, and to different degrees of future life satisfaction and work engagement (Keith et al., 2019). Through a survey on MTurk, the authors claim that two types of workers exist: those who see MTurk as their primary source of income and those who see the work performed there as a job. Results reveal that workers who rely on the platform as primary source of income tend to spend more time on it and to complete more HITs, and are generally pushed into the gig economy for the lack of alternatives. They are also more likely to report lower levels of current and future life satisfaction. On the other hand, workers who see the online work as a job engage more in online communities, tend to have regular work schedules, declare to engage because of enjoyment or willingness to help researchers, and describe the gig economy as an interesting alternative to traditional jobs. These findings help our current understanding of the online workforce and suggest future studies to account for subgroups differences when describing individual behavior and performance on online labor markets.

Finally, along with debates on whether platforms are empowering or marginalizing workplaces (Deng et al., 2016; Graham et al., 2017; Wood et al., 2019), other scholars investigated the relation between platforms' architecture and motivation and enegament. For

instance, Jabagi et al. (2019) developed propositions on how platforms' design can foster intrinsic motivation of gig workers. Specifically, they posit that the way rating systems, social networking areas, provided support from the platform, and social badging are designed can positively impact on gig workers' need for autonomy, competence, and relatedness, and thus on intrinsic motivation. Similarly, Deng and Joshi (2016) focused on a comprehensive set of factors influencing individual participation in open source work. Guided by job characteristic theory and work value perspectives, they explored the characteristics of crowd workers, crowdsourced task and crowdsourcing environment as antecedents of individual participation in micro crowdsourcing (see Deng and Joshi, 2016: 728, Figure 2 for the full list of factors).

Figure 1 provides an overview of studies mentioned in this section and help readers mapping individual behaviors, traits, motivations and outcomes already been investigated in the literature. Moreover, it allows to easily identify areas to move research further, as discussed later in this chapter.

---- Insert Figure 1 around here ----

Algorithmic Management and the Nature of Work: Autonomy and Flexibility, Control and Reputation

Building on studies on workers' boundary conditions and perceptions (e.g. Deng et al., 2016; Graham et al., 2017), scholars have started to question the degree of freedom left by platforms' algorithmic structures (e.g. Lee et al., 2015; Wood et al., 2019). Platform companies need algorithms to structure their rules and design specific intermediation services. For instance, platforms like Uber and Lyft need algorithms to geo-localize passengers, check the position of drivers in the neighborhood, control the status of the driver (e.g. free or booked), and eventually build the ride. On these platforms, as well as on

Freelancer.com for example, algorithms also calculate the performance of workers drawing from clients' feedbacks and display the information on their profiles. The existence of algorithms for assigning tasks or calculating performance generates an intrinsic paradox: workers are supposed to be autonomous and independent from platforms, but at the same time they need to deal with those rules to stay on the market, acquire visibility and increase the likelihood of being hired. Understanding this paradox is of prominent importance, as algorithms potentially exert a new form of supervision overcoming spatial and temporal barriers of traditional, organizational workplaces (Wood et al., 2019). Studies have therefore started to tackle the issue of control and investigate the degree of autonomy allowed to workers on online platforms. This literature divides into two main streams: the first stream generally deals with algorithmic control (Kuhn & Maleki, 2017; Lee et al., 2015; Lehdonvirta, 2018; Pichault & Mckeown, 2019; Rosenblat & Stark, 2016; Shapiro, 2018; Veen et al., 2019) and occasionally talks about flexibility, while the second is more focused on feedback and reputation systems (Bucher, Schou, et al., 2019; Gandini et al., 2016; Holthaus & Stock, 2018; Hong et al., 2018; Horton et al., 2015; Irani, 2015; Lehdonvirta et al., 2019; Lin et al., 2010; Pongratz, 2018).

The Autonomy versus Control Debate

In a conceptual piece, Kuhn and Maleki (2017) theoretically discussed the issue of control on online platforms. They analyzed working relationships between platforms and workers and identify four distinct categories according to the degree of worker autonomy (high-low) and worker's dependence on the platform firm (high-low). According to this theorization, workers who present a low degree of autonomy and a high dependence on the platform are the most control-affected. These conditions are at sake when the platform controls pay rates and assess performance through algorithms (low autonomy), and when it represents the main source of income for workers (high dependence). This paper traces an interesting starting

point for understanding control issues, unless it lacks a clear definition of aspects of individual work that appear to be more in control by the platform, such as task choice, time scheduling, or time spent on the platform itself. For instance, Pichault and Mckeown (2019) design three dimensions of autonomy, suggesting hybrid situations may exist: (I) autonomy in work status – i.e. access to social protections; (II) autonomy in work content – i.e. work design, coordination mechanisms; and (III) autonomy in work conditions – i.e. access to skills development, income, time, and space arrangements.

Along with investigating autonomy in work conditions, Lehdonvirta (2018) compared three different online workplaces and studied the forces constraining workers' time flexibility. Although he recognizes the importance of dependence on income from the platform and of platforms' job allocation mechanisms, he specifies that job availability is also an important factor. Specifically, when job availability on the platform is low and workers highly depend on the platform for income, they end up being constantly on call and allocate a considerable portion of their time to job applications and interviews. These conditions ultimately led them to lose control on their working time. However, the author also highlights that, in absence of a formal structure that helps workers managing their time, workers express autonomy in the development of daily routines to better allocate their time (see also Petriglieri, Ashford, & Wrzesniewski, 2018, for holding environments).

Another new study goes further than algorithmic control and provides evidence that, on online platforms, control takes more hybrid forms (Veen et al., 2019). In their cases of Uber and Deliveroo in Australia, Veen and colleagues (2019) shows that the mere subscription to the platform is itself a form of control, as workers immediately depend on it to find work. Second, they highlight that platforms constrain workers' activity through the creation of information asymmetries. Specifically, by providing a selected subset of information – e.g. by proposing a pre-assigned ride instead of displaying a pool of possible choices -, the platform

robs workers' opportunity of deciding how to organize their work, trying to maximize its profits (see also Shapiro, 2018). Moreover, they blame the absence of clear explanations on management and performance algorithms' functioning for resembling bureaucratic control. In their works, Cheng and Foley (2019), and Rosenblat and Stark (2016) support the idea that, if the presence of algorithms is essential for platform functioning and helps filling some information asymmetries between clients and workers, nonetheless they create other bargaining asymmetries and weaken workers' power. The lack of transparency gives platforms the opportunity to control drivers (Rosenblat & Stark, 2016) and hosts (Cheng & Foley, 2019), who need to experiment and make sense of algorithms to continue their work. In other words, they need to develop what Cheng and Foley (2019) call an 'algorithmic competence'. A more detailed focus on rating and reputation algorithms' control is given in the next section.

Algorithms, Rating and Reputation

Online labor platforms facilitate clients in connecting with a global supply of workers (Howe, 2006; Lehdonvirta, 2018). However, finding the right match and hiring the right talent out of that large supply is far from being an easy task. The complexities deriving from geographical distance, communication through technology, or cultural differences, make it difficult for both freelancers signaling their quality, and employers finding desired skills. To attenuate these difficulties, online labor platforms usually 'organize' or 'categorize' their workforce through algorithmic calculated signals based on past performance on the platform. For instance, when passengers ask for a ride on Uber or Lyft, they can see a number of stars assigned to their drivers, or they can easily read past qualitative feedback or scores on various dimensions of performance (e.g. quality of the talk during the ride, cleanness of the car). On other platforms like Freelancer.com or Fiverr, ratings become essential to workers for signaling their reliability and capabilities, and increase the likelihood of being hired.

Evidence show that workers who do not have reputation scores are less likely to be chosen, while those with higher ratings are more likely to win contracts (Lin et al., 2010). This condition is further exacerbated for certain types of contracts (Lin et al., 2010).

A central challenge for platforms' workers is therefore that of signaling their quality to global clients (Lehdonvirta et al., 2019). Due to the importance of those signals, some recent studies investigated the relation between rating score and revenues on the platform (Gandini et al., 2016; Holthaus & Stock, 2018; Lehdonvirta et al., 2019). For instance, Holthaus and Stock (2018) tested the relation between earnings and different signals displayed on a freelancer's profile. Specifically, they looked at (1) assessment signals, like number of tests, portfolio items, and rating; (2) conventional signals, such as self-promotion and ingratiation signals, and price. They found that price, self-promotion and number of tests are good predictors of earnings, while ratings do not show a significant effect. Contrary to these results, the work by Gandini et al. (2016) shows that there is a positive correlation between earnings on the platform and reputation scores. In particular, the higher the rating, the higher the earnings. The author advance then the argument that the acquisition of a 'reputational capital' is essential to survive on the platform and is central in guarantying trust among contractual parties. Similar results have also been presented by Lehdonvirta and colleagues (2019), who tested the impact of platform-verified and platform-generated signals on freelancers' pay rates.

In line with these last results and with the words of Lee et al. (2015), it has also been said that using objective signals to categorize workers lead to their deprofessionalization and that, despite the utility for clients, these parameters are not able to really evaluate performed work and workers' quality (Irani, 2015). There has been also evidence that reputation on these markets tend to be inflated (Horton et al., 2015). Irani (2015), and also Pongratz (2018), further claimed that those algorithmic performance indicators do not really evaluate

professionalism, but rather proficiency on the platform. The literature shows that, to mitigate the effect of reputation on the likelihood of being hired, workers' design strategies to keep it in control (Cheng & Foley, 2019). For instance, effective strategies are that of initiating a private conversation with clients (Bucher, Schou, et al., 2019; Hong et al., 2018), or over-delivering and under-billing (Bucher, Schou, et al., 2019). What this literature mainly lacks, however, is a clear explanation of the mechanisms leading workers to use certain strategies, as well as whether the same strategies are indistinctly used by all workers in all stages of their career on platforms.

Relations and Network of Peers

It is widespread belief that the success of the gig economy roots in the exploitation of workers and that platforms create unbalanced power structures in favor of clients instead of workers (Graham, Hjorth, & Lehdonvirta, 2017). This conviction had been confirmed by the words of Jeff Bezos, founder of Amazon Mechanical Turk, who originally described the platform with the following words: "You've heard of software-as-a-service. Well, this is human-as-a-service". It has been acknowledged that workers risk to suffer from social isolation given algorithmic control mechanisms and the need to stay online to deliver their work (Wood et al., 2019). Nonetheless, despite the risk of exploitation, surprisingly little research has been devoted yet to workers protections, online collective movements or online workers' communities. We mention here the few examples, which represents the seminal works of an emergent stream of research.

The first study is due to Lehdonvirta (2016), who asked whether workers on online platforms are able to develop some sort of collective identity that, in turn, enables collective actions. His findings reveal that the dispersed nature of work makes it difficult to create and sustain a

collective identity. The issue of fragmentation is mirrored in other empirical results presented by Graham and colleagues (2017), who revealed that online workers tend to talk about their peers more as competitors than colleagues, perceptions dismantling the opportunity to create collective actions. Also, D'Cruz and Noronha's (2016) results showed that Indian freelancers judged the algorithmic system of the platform as meritocratic, and in some cases declared to be against online unions to preserve their conquered status on the platform.

Despite difficulties and different workers' opinions, Lehdonvirta (2016) also found MTurkers creating and meeting on online virtual spaces like communities and sharing information about clients or advices, although these actions are limited and too weak to sustain the emergence of an online movement. Wood, Lehdonvirta, and Graham (2018) derive similar conclusions. In particular, they describe social media groups as central in supporting and structuring communications among workers, while unions are absent. Moreover, these groups increase workers' perception of security and protection, although they are fragmented by nationality, occupation and platform (Wood et al., 2018). The use of the web to mobilize workers had also been described by Tassinari and Maccarrone (2017), who analyzed the mobilization of Foodora couriers in Italy. Their study talks about a critical online campaign aimed at negatively affecting the reputation of the platform, and about a mass unlogging from the app to hamper its capacity to fulfill clients' requests. Finally, other scholars investigated the more active people in promoting collective actions (Newlands et al., 2018). Although the authors recognized the difficulties in organizing collective actions and the widespread inaction of a large proportion of workers, they identified five distinct types of labor-activists through a cluster analysis on data from across 12 European countries. These activists have been named moderate employment advocates, activist employment advocates, independent collectivists, independent individualists, and independent opponents.

How to move forward? A Research Agenda

Our literature review systematizes and identifies the main issues tackled by existing studies on gig workers in online labor markets. Figure 2 provides a graphical representation of the three main areas and emergent streams of research. After this knowledge assessment, the next sections show gaps in the literature and consequent future research directions for each research area. Blue colored words refer to yet underexplored topics.

Platforms as Spot Markets for Tasks or Empowering Organizations?

Before detailing new research avenues for each identified area, we want to comment on the role played by platforms in the gig economy and their relationship with workers. In chapter 1, we mentioned existing debates on whether platforms should be interpret as empowering rather than marginalizing workplaces (e.g. D'Cruz & Noronha, 2016; Deng et al., 2016; Graham, Hjorth, & Lehdonvirta, 2017) and, in this chapter, we mentioned studies exploring which platforms' elements are likely to enhance workers motivation to engage in online work (Deng & Joshi, 2016; Jabagi et al., 2019). Given the prominent role played by platforms as places where individuals organize their work, we first need a clear theorization of the platform itself as a workplace.

Finding a proper definition is far from being an easy task, as platforms present elements that pertain to both markets and organizations. For instance, workers are not employed by the platform they work on and like being autonomous and the ones making decisions over their work (Deng et al., 2016; Graham et al., 2017). On online labor platforms, they also usually compete on a global market selling their skills and manage a direct relation with their clients. These characteristics make the platform similar to a market. On the other hand, freelancers describe the lack of information on how well they do their work (Blaising et al., 2018) and call for more transparency from the platform, which regulate career progressions or job

opportunities through algorithms (Deng et al., 2016; Graham, Hjorth, & Lehdonvirta, 2017). Moreover, it has been noticed that the design and polices of some platforms may lead workers to perceive themselves more as employees of the platforms rather than independent contractors (Kuhn & Galloway, 2019; Smith, 2016). These elements make the platform similar to an organization.

A couple of mentioned studies deal with the issue of defining the platform, but the advanced arguments go in different directions (Boons et al., 2015; Lehdonvirta, 2018). On the one hand, Boons and colleagues (2015) hypothesize that workers develop feelings of pride and respect towards the platform, which in turn positively affect organizational identification with the platform. Therefore, in their conceptualization, platforms may somehow be perceived as organizations. On the other hand, platforms have been defined as offshoring institutions providing a signaling environment in which clients and freelancers manage their working transactions (Lehdonvirta et al., 2019). Indeed, it is important here to remember that they are technological companies themselves, which compete with other similar companies (e.g. Uber versus Lyft, Upwork versus Freelancer.com) and need to generate profits in order to survive. In line with this reasoning, one could also argue that online labor platforms resemble the 'matchmaker' definition of Bonet, Cappelli, and Hamori (2013). According to these authors, matchmakers are labor market intermediaries overseeing the process of matching individuals and hiring organizations. Matchmakers also pack information for both individuals and organization, therefore influencing hiring procedures and impacting on which candidate is going to be selected in important ways (Bonet et al., 2013).

These contradictory insights and hypotheses from previous studies makes it hard to clearly understand what platforms really are and which role they actually play for workers. Moreover, the existence of different types of platforms (Duggan et al., 2019; Howcroft & Bergvall-Kåreborn, 2019) further complicates this task. Nonetheless, defining the

workpla*tform* is essential to better understand and theorize about workers' conditions and expectations, and to continue to build knowledge on what happens in these new working domains.

RQ1: What is an online platform? To what extent platforms are similar to or different from organizations?

RQ2: How do workers perceive platforms? Under what circumstances workers identify with platforms?

Individuals on Platforms: Towards Workers' Differences, Identity and Careers

We showed that studies digging into workforce's characteristics have been mainly interested in skills, feelings and meaning of work, and motivations to engage in online work.

As far as skills are concerned, extant results show a professional, skilled rather than deskilled workforce (Barnes et al., 2015; Carignani & Negri, 2015; Chen & Horton, 2016; Deng et al., 2016). This is a divisive rather than unifying element, as the presence of skills makes the workforce even more heterogeneous than it appeared before. As consequence, one may argue that some workers are more likely than others to be employed and survive in these workplatforms, and that different career paths are likely to occur. In addition, this survival might be influenced not only by specific (portable) skills, but also by personal traits. With the only exceptions of Keith and colleagues (2019) and Sodré and Brasileiro (2017), however, this aspect has been yet largely neglected (see also Figure 2). Variables like age, gender, or nationality may play a significant role in understanding the way individuals approach their online work, and therefore their outcomes. Furthermore, individuals who approach online platforms as first occupation may behave differently from those who already had previous working experiences. We therefore call for studies considering individual differences and testing their effects on, for instance, employability (Barnes et al., 2015) or survival.

RQ3: Do different skills shape different gig workers' experiences?

RQ4: What kind of individual traits do increase workers' likelihood to survive on platforms?

RQ5: Do individual differences shape different workers' experiences? How do individual differences shape different behaviors and outcomes on platforms?

Similarly, as more than one type of platforms exist, workers can either select one, preferred platform, or subscribe and work on more platforms at the same time. For instance, on platforms like Upwork or Freelancer.com, freelancers can subscribe and apply for a huge variety of jobs, from logo design and database administration, to translations or software development. Other platforms, like 99design or RentACoder, are skill-specific, meaning that they mainly address either designers or IT developers. Through their analysis of job calls on Turk, Carignani and Negri (2015) discovered that the skills needed to deliver work there are quite generic and portable, or more likely to be learnt. On the contrary, through an examination of Upwork, Barnes and colleagues (2015) stressed workers' necessity to possess an adequate skillset to be sold on the platform. As result, gig workers can either decide to subscribe to skill-specific platforms rather than generalist platforms, or they can even decide to work for more than one platform at the same time. A possible driver of this choice is the owned skill set, as well as the desire to develop new skills. Thus, one may ask the following research question:

RQ6: Do owned skillsets drive platform's choice?

Or, more generally:

RQ7: How do workers choose the platforms to engage with?

In addition, given the short and precarious nature of jobs in the gig economy, one might even ask whether new (portable) skills can be developed on workplatforms, or whether workplatforms themselves can support new skills development. We have already mentioned there is a debate on these topics (see Kost et al., 2019), however, both critical and favorable arguments lack corroborating empirical evidence.

RQ8: Do platforms support new skills development in the gig economy? How do they do that?

Along with skills and individual traits, following the discussion on motivations to engage in online work, more research is needed to understand how gig workers approach platforms and what consequences these different approaches may trigger. For instance, when platforms represent the second instead of primary source of income, gig workers may manage their online work differently (Keith et al., 2019). Moreover, multiple career paths may arise for those who additionally hold an offline, traditional job, generating the need to harmonize what happens in the two realms (Caza et al., 2017).

These arguments can be broadly generalized in the next research questions:

RQ9: How do gig workers who hold a second job and gig workers who do not manage their experience on online platforms differently?

RQ10: How do gig workers shape their career on online labor markets?

RQ11: Do gig workers' career paths differ from one another? Are there multiple career paths in the gig economy?

As far as feelings and meaning of work are concerned, a line of research (e.g. Boons et al., 2015; Bucher, Fieseler, et al., 2019; Chandler & Kapelner, 2013) emerged from the idea that individuals working on online gig labor platforms are "cogs in a machine", "anonymous

numbers" (Bucher, Fieseler, et al., 2019), services rather than workers despite efforts to refer to them as entrepreneurs, freelancers, independent contractors or knowledge workers (Gandini, 2016a). Considering the different perspectives, surprisingly this literature has not dealt with identity issues yet. Investigating identity issues would not only be useful to understand more about gig workers, given their precarious and *liminal* conditions (Ashford et al., 2018; Ibarra & Obodaru, 2016), but it would also help scholars understand what happens to identity outside organizational boundaries. In fact, most of what we know about identity construction processes comes from traditional working conditions and organizational environments, where individuals have close relations with peers and make direct experience of organizational everyday activities. However, digital labor challenges these assumptions. Discontinuous relations with different organizations do not provide access to organizational tools supporting professional identity construction, which may lead freelancers looking at online platforms as resources for the construction process. Therefore, we propose the following research question:

RQ12: How do technological platforms influence gig workers' work identity construction and with what consequences?

Finally, as many types of platforms exist (Duggan et al., 2019; Howcroft & Bergvall-Kåreborn, 2019), we call for new research that investigates individual behavior on different platforms. Besides Jabagi and colleagues (2019), who wrote a conceptual piece, most studies chose as empirical setting Amazon Mechanical Turk. Despite the importance of findings, there are plenty of platforms to be explored in the next years. For instance, platforms like Freelancer.com, 99 Design, or TopTal not only host micro-tasks, but also more complex tasks (Howcroft & Bergvall-kåreborn, 2019). Differences in task complexity may change individual work and perhaps motivations to participate. Therefore, we propose to shift

scholarly attention to different platforms and call for studies comparing gig workers' diverse experiences, trying to find similarities and differences among platforms.

RQ13: Are there differences or similarities between the experience of gig workers on different platforms?

From Algorithmic Management to Managing Algorithms

To survive on platforms' markets, workers need to bring and effectively use their own competences and skills, along with being flexible, autonomous and adaptable (Barnes et al., 2015). There is also evidence that, on these markets, individuals do not totally lose their decision making power and work according to their needs and choices (Lehdonvirta, 2018). However, others emphasize the acquisition of a 'reputational capital' as essential to survive (Gandini, 2016) and claim that the feedback system is a way not only to constrain workers' action, but also to control their performance (Cheng & Foley, 2019; Irani, 2015; Lee et al., 2015). Similarly to what happens for skills development, the autonomy versus control debate still sticks to rhetorical discourses, suffering from the lack of empirical evidence supporting the positive or negative perspective. As exceptions we mention Lee and colleagues (2015) and Shapiro (2018), who empirically show the problematic relationship between algorithms and workers. Which elements are more under workers' control – e.g. task allocation, working hours, scheduling – is still largely unknown, although these are important dimensions of both autonomy and flexibility. Moreover, although important, most findings come from platforms like Uber and Lyft (Lee et al., 2015; Rosenblat & Stark, 2016; Shapiro, 2018; Veen et al., 2019), or AirBnb (Cheng & Foley, 2019), which has been categorized as a different type of platforms – i.e. platforms providing asset-based services (Howcroft & Bergvall-Kåreborn, 2019). How workers deal with these issues on online labor markets needs to be discovered. We thus propose two research questions:

RQ14: Which aspects of individual work are more under algorithms' control?

RQ15: How do dynamics of algorithmic control differ from platform to platform?

Along with algorithmic bosses, traditional clients should not also be neglected. Future studies should look more deeply into the relation between clients and workers. In fact, some studies hint at relations with clients as something that freelancers could use at their advantage to mitigate the effects of algorithms over their work (Bucher, Schou, et al., 2019; Hong et al., 2018). Although these markets, and consequently clients-workers relationships, have been mainly described as transactional (Gandini et al., 2016; Irani, 2015), these findings suggest to investigate also relational aspects to understand more about control and flexibility in the process. This could be generalized into the following research question:

RQ16: How do clients-gig workers relations look like?

We also build on findings from Veen and colleagues (2019), and Wood and colleagues (2019), who observed gig workers working unsocial and irregular hours, to open the discussion about work-life balance. The need to meet clients' demands and time differences lead workers to put extra-efforts in their work, especially when they are new to the platform. Moreover, as many freelancers work from home, the lack of a physical and temporal separation between the work-sphere and the family-sphere is likely to create tensions between work and family duties. These difficulties may be even stronger for those holding a second job, as they also need to manage transitions from their primary/offline and secondary/online job. To our best knowledge, these issues have not yet been tackled or hinted by any study in the gig work area.

RQ17: How do gig workers balance work and family?

RQ18: How do workers balance their offline and online jobs?

Finally, we mentioned the importance of developing an 'algorithmic competence' (Cheng & Foley, 2019) and acquiring a 'reputational capital' to survive on platforms (Gandini, 2016). Yet surprisingly, unless few very recent attempts (Bucher, Schou, et al., 2019; Cheng & Foley, 2019), how workers develop that 'algorithmic competence' and what is the meaning they assign to algorithmic reputation are still under-investigated issues. The literature shows that, to mitigate the effects of reputation, workers take actions against algorithms (Cheng & Foley, 2019). For instance, they initiate private conversations with clients, or over-deliver and under-bill (Bucher, Schou, et al., 2019; Hong et al., 2018). However, a clear and comprehensive explanation of circumstances and mechanisms leading workers to use certain strategies, as well as with what consequences, still needs to be done. We therefore propose the following research question:

> *RQ19:* How to gig workers deal with algorithmic calculated reputation and with what consequences for their work?

Individualism versus Collective Action and Relations

The popular debate on labor platforms is concerned with ethical aspects like gig workers' exploitation (Kuhn & Maleki, 2017), their marginalized condition (Deng *et al.*, 2016), and misleading platforms' attitudes (Fish & Srinivasan, 2012). Some authors studied legal aspects of this new class of workers' definition (Stewart & Stanford, 2017), sometimes wondering whether gig work is a misrepresentation of work itself (Van Doorn, 2017). Despite the sharp critiques, the online workforce is growing, meaning there are individuals succeeding in this new working environment. However, the uncertain working conditions related to the short-term nature of tasks and the temporary, on-call nature of contracts make workers more likely to experience feelings of job insecurity (Lam et al., 2015; Spreitzer et al., 2017) and should motivate them to improve their working conditions.

Despite these premises, evidence suggests that workers tend to act more as individual agents and to focus on their individual success (D'Cruz & Noronha, 2016; Wood et al., 2018) rather than building a sense of community (Lehdonvirta, 2016) and leveraging it to fight their battles. However, evidence also shows that they search for peers' support either on online communities or social networks' groups (Lehdonvirta, 2016; Wood et al., 2018). As the phenomenon continues to grow, workers may become conscious of being part of a larger collectivity and these groups may become the place to set collective actions. For instance, in a study of couriers' strike in Italy (Tassinari & Maccarrone, 2017), results suggest that couriers used the online dimension to organize an online campaign distrusting the platform.

To further understand issues related to collective actions, then, future studies may investigate more in depth what happens on this online communities, and, eventually, how workers use them to set collective actions or simply build a deeper sense of community. For instance, researchers could focus on the following research questions:

> *RQ20:* What types of support workers ask on online, social groups and under what circumstances?
>
> *RQ21:* How do workers mobilize action through online, social groups?

Among the diversity of research questions identified in this chapter, this dissertation focuses on answering *RQ12* and *RQ19*. In particular, chapter 4 provides an explanation of how online platforms, by supporting and constraining the activity of gig workers, end up helping gig workers building new meanings to be assigned to their selves, expanding their work identity and developing an entrepreneurial orientation. Chapter 5 explores instead how freelancers interpret their algorithmic reputation on the platform, explaining how they behave accordingly and with what emotional consequences. A two-steps model and different

interpretations emerged, suggesting that, although algorithms constrain and control workers' activities, workers' responses are still far from being uniform.

As those two chapters present empirical works, the next one first provides an overview of the methodology applied to answer both research questions.

Table 1. Articles' selection process.

	ARTICLE SELECTION PROCESS (reiterated 4 times, one for each key-term)
1	General search for articles containing one of the key-terms (i.e. 'crowdsourcing', 'online labor market', 'gig work', and 'algorithmic work') in their title, keywords or abstract
2	Filter for articles belonging to the "Business, Management and Accounting" area
3	Filter for articles in English
4	Selection of articles published in the journals and conference proceedings of Scopus, in the sub-subject areas of management, business and decision sciences (including information systems management)
5	Retention of articles whose text is available
6	Selection of articles describing individual gig workers' behaviors and experiences
7	Selection of relevant articles
8	Further inclusion of relevant papers from references of the first articles' sample

Table 2. Reviewed studies.

AUTHORS	YEAR	PLATFORM	METHODOLOGY	CONDITIONS (chapter 1)	WORKFORCE TRAITS			NATURE OF WORK		RELATIONS
					SKILLS	MEANING	MOTIVATIONS	CONTROL	REPUTATION	
Barnes et al.	2015	2 platforms in UK	Case study, interviews		X					
Blaising et al.	2018	Upwork	Interviews	X						
Boons et al.	2015	Turk	Survey			X				
Bucher et al.	2019	Turk	Survey			X				
Bucher et al.	2019	Upwork	Content Analysis						X	
Carignani & Negri	2015	Turk	Content Analysis		X					
Chandler & Kapelner	2013	Turk	Field experiment			X				
Chen & Horton	2016	Turk	Field experiment			X				
Cheng & Foley	2019	AirBnb	Content Analysis					X	X	
D'Cruz & Noronha	2016	Upwork	Interviews	X						X
Deng & Joshi	2016	Turk	Survey (qual)			X	X			
Deng et al.	2016	Turk	Survey (qual)	X		X				
Gandini et al.	2016	E-lance (now Upwork)	Empirical Test						X	
Graham et al.	2017	Upwork	Interviews (aggregation)	X						X
Hannak et al.	2017	TaskRabbit, Fiverr	Empirical Test	X						
Holthaus & Stock	2018	similar to Upwork, Freelancer.com	Empirical Test						X	
Hong et al.	2018	Freelancer.com	Empirical Test						X	
Horton et al.	2015	O'Desk	Empirical Test						X	
Irani	2015	Turk	Conceptual	X					X	
Jabagi et al.	2019		Conceptual				X			
Keith et al.	2019	Turk	Survey				X			
Kuhn & Maleki	2017		Conceptual					X		
Lee et al.	2015	Uber and Lyft	Interviews					X		
Lehdonvirta	2019	similar to Upwork, Freelancer.com	Empirical Test, Interviews						X	
Lehdonvirta	2018	Turk, MobileWorks, CloudFactory	Case study					X		
Lehdonvirta	2016	Turk, MobileWorks, CloudFactory	Case study							X
Lin et al.	2018	similar to Upwork, Freelancer.com	Empirical Test						X	
Newlands et al.	2018	Several, not mentioned	Cluster Analysis							X
Pee et al.	2018	Turk	Survey				X			
Pichault & McKeown	2019		Conceptual					X		
Pongratz	2018	Several, not mentioned	Content Analysis						X	
Rosenblat & Stark	2016	Uber	Content Analysis					X	X	
Shapiro	2018	Caviar	Ethnography					X		
Sodré & Brasileiro	2017	Turk	Survey				X			
Tassinari & Maccarone	2917	Foodora	Case study							X
Veen et al.	2019	Uber, Deliveroo in Australia	Case study					X		
Wood et al.	2019	similar to Upwork, Freelancer.com	Interviews	X						
Wood et al.	2018	similar to Upwork, Freelancer.com	Survey, Interviews							X
Yin et al.	2013	Turk	Experiment			X				

Figure 1. Factors influencing performance in OLM.

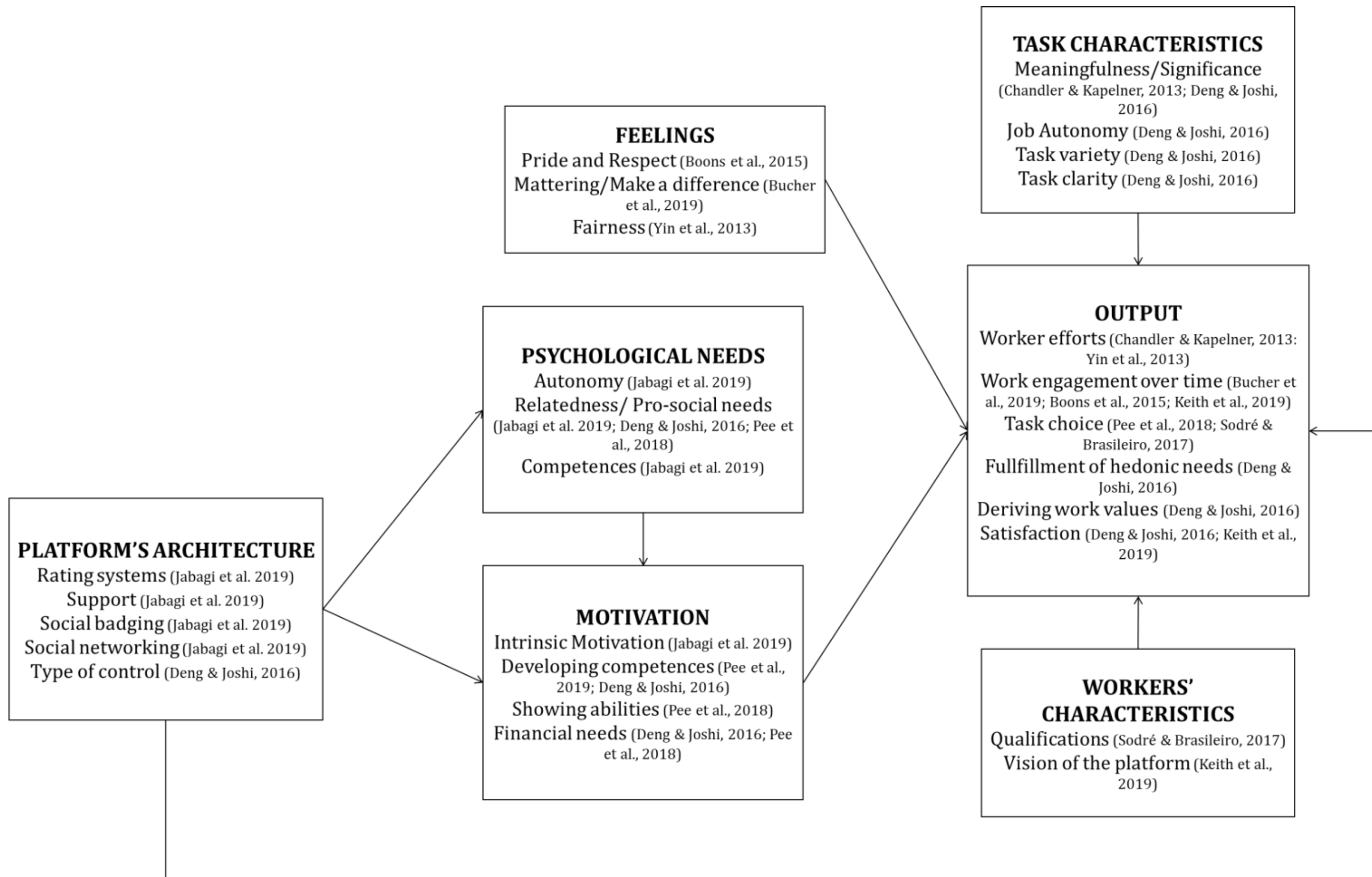
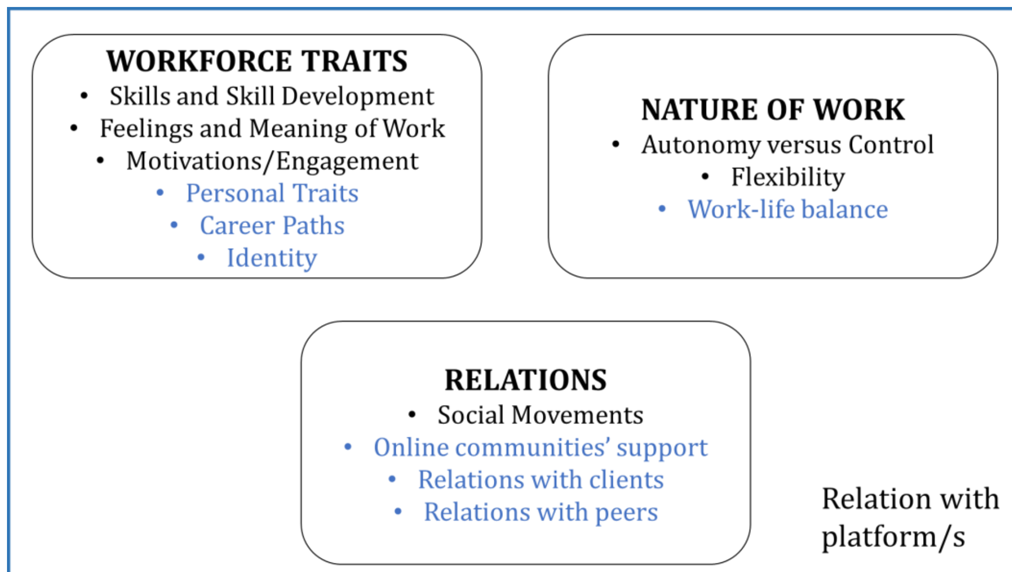


Figure 2. Graphical representation of gig work's main research areas.



Chapter 3

Methods

Aim of this dissertation is contributing to the emergent stream of literature on gig work and online labor markets as a new working environment by answering the following research questions:

> *RQ12:* How do technological platforms influence gig workers' work identity construction and with what consequences?
>
> *RQ19:* How to gig workers deal with algorithmic calculated reputation and with what consequences for their work?

The novelty of the phenomenon combined with the broad and complex questions call for an exploratory research approach. We conducted an exploratory field study and interviewed freelancers belonging to one of the most popular online labor market (OLM). The next sections provide rich descriptions of the chosen empirical setting and the general methodology used to collect and analyze data in subsequent empirical chapters. As overarching framework, we adopted the grounded theory approach (Strauss & Corbin, 1998).

Empirical Setting

This study focuses on gig workers on online labor markets (OLM). OLM are third party online platforms matching buyers and sellers of services and structures around the concept of distributed human computation (Carignani & Negri, 2015). On these platforms, organizations delegate pieces of work to geographically distributed individuals connected via the Internet (Quinn & Bederson, 2011). Examples are Freelancers.com, Upwork, 99design, Kaggle, Guru.com, Amazon Mech Turk, StarBytes, BestCreative, Fiverr.com. These platforms share specific elements. First, they provide a digital, algorithmic environment where organizations (or individuals) can post job requests and workers can navigate job offers. Requests can be public or targeted to specific individuals, who receive invitations to deliver jobs. Second,

OLM' tasks are typically short in time and very specific, modularized in nature. Depending on the platform, tasks may entail some degrees of creativity – i.e. logo designs -, they may address programmers and ask for software implementation, or they may generally address the workforce and search for general competences – e.g. micro-work on Amazon MTurk. The workforce is heterogeneous in terms of skills, expertise, professional backgrounds and motivation to join online markets. Furthermore, each platform provides review and reputation systems, usually based on stars. The higher the number of stars, the higher the level of clients' satisfaction for work delivered by gig workers. Finally, platform workers are usually asked to fill online profiles and provide general descriptions of themselves. Profiles also keep track of information about workers' careers on platforms, like the number of completed projects, aggregate reputation signals, and task histories.

GigStars

As empirical setting, we chose one of the biggest, most famous existing online labor markets with over 13 million registered users in more than 100 countries. We fictitiously name this US-born platform with "GigStars". GigStars hosts both requests for small, fast jobs, and for more complex jobs. For instance, they host requests for logo designs, virtual assistance, software and mobile development, and translations. This market was designed to be a platform for qualified freelancers and jobs, thus differentiates from other well-known platforms like Amazon Mechanical Turk. Along these lines, monetary compensations cannot be lower than 5$. Clients can either offer fixed compensations or reward freelancers on an hourly basis. In the former case, tasks can be divided into milestones tracking work improvements. In the latter case, freelancers must agree on being tracked through screenshots while doing their activities.

Interactions take place at a distance and are mediated by technological tools, either provided by the platform or decided by parties. Freelancers can either apply for random jobs, or they can receive invitations from clients. After a few additional information are collected, contracts can start. Those information can be either provided through instant messages or video-interviews, or can be gathered from freelancers personal profiles, which track freelancers' task histories - e.g., total number of worked hours and reviews - and performance details - e.g., success rate or reputation score, other labels like 'Top Performer' or 'Rising Freelancer. Once clients decide who to hire, they send a job offer, which, if accepted, represents an official contract. GigStar also provides an escrow system for clients to deposit their money. Money are released once the transaction has ended successfully. Finally, GigStars helps parties successfully resolving disputes.

Once contracts end, parties access the feedback system and rate their working experience. Although there is no formal obligation, both clients and freelancers are strongly recommended to leave a feedback to the counterpart. If they want to, they have 14 days to provide a private and a public rate. They can also leave qualitative feedbacks. Both private and public feedbacks affect scores' computation. These are public percentages signaling past performance and reputation on GigStars. Clients and freelancers do not have full information about how computation algorithms work. Freelancers do not even have access to the private feedback left by clients, which is retained by the platform.

The Grounded Theory Approach as Framework

Given the complex nature of questions and the lack of theories explaining phenomena, we took an exploratory stance and conducted a qualitative study. We chose the *Grounded Theory* approach for data collection and analysis (Strauss & Corbin, 1998). The *Grounded Theory*

methodology aims at developing theoretical depth and a detailed understanding of phenomena, while reducing complexity and finding what is relevant and recurrent in the context being studied. The final purpose of this methodology is the development of a theory grounded in the context and emerging from the words of informants.

Although described separately in the next sections, under this framework data collection and data analysis are strictly intertwined (Gephart, 2004; Mattarelli et al., 2013; Strauss & Corbin, 1998). Consistently with the process of theoretical sampling (Glaser & Strauss, 1967), indeed, preliminary data analysis and fields notes have guided subsequent data collection, and, then, further data analyses have driven the process of categories' refinements. Rather than separated, the two stages – i.e. data collection and data analysis – should then be meant as simultaneous.

Data collection

We mainly drew from interviews with participants and active workers of GigStars. We integrated this data source with profiles, job applications, and archival data to reach a deeper understanding of phenomenon.

Semi-structured interviews

Semi-structured interviews are flexible investigative tools. Protocols are guides driving researchers through research topics and suggesting fundamental questions. They preserve their flexible nature and remain open-ended to allow informants telling their own story, while at the same time guiding them through questions. Questions are designed to obtain wide and descriptive perspectives on phenomena and their path is situation-adaptive (Fontana & Frey, 2003). In fact, protocols allow structural changes to foster the exploration of new emergent themes.

We conducted 65 semi-structured interviews with GigStars' freelancers of about 75 minutes each. Data collection started August 2017 and ended August 2019. We conducted interviews

at a distance using a video conference system and, in most cases, fully recorded and fully transcribed them depending on informants' permission. We also took field notes.

We posted different requests for interviews on GigStars offering a fixed monetary reward, usually between 8 and 12 US dollars. Other scholars conducting surveys on other platforms approached digital labor dynamics the same way (e.g. Deng *et al.*, 2016; see Behrend *et al.*, 2011; and Steelman *et al.*, 2014 for methodological issues in using M Turk for surveys). Consistently with Kapelner and Chandler (2010), who showed that monetary compensation is not a primary motivation to participate in online studies, our informants decided to participate because of their interest in results, their willingness to be part of a research project, or the desire to share and voice their experience. Many informants even suggested lower rewards or refused to be paid.

We chose respondents following theoretical sampling techniques. Each theoretical sampling strategy is better described in the next empirical chapters.

Our final sample is composed by 32 IT developers mainly from Asia and Europe, 28 designers mainly from Europe and US, and 5 virtual assistants (from pilot interviews). 40% of informants is represented by women. Table 3 provides more detailed information about respondents. In particular, it shows their job category, location, motivation to join the platform and previous working experience (if any), whether they work full or part time on the platform.

---- Insert Table 3 around here ----

During interviews, we first asked informants general questions about their working history and the motivations to join the platform (*Grand Tour* section). This helped interviewees relaxing and feeling comfortable with the interview. This also allowed starting collecting some insights. In subsequent sections, we addressed questions on identity issues, use of the

platform, and reputation, depending on the main investigated topics in each empirical paper. We just want to mention here that first we investigated identity issues, general uses of GigStars, and its impact on workers. Here, informants frequently mentioned both their entrepreneurial approach and reputation issues. We found the entrepreneurial approach to be strictly related to work identity, thus we derived a first grounded model on how freelancers develop this entrepreneurial intention through an identity construction process (see chapter 4). Then, we adjusted the protocol and addressed questions tailored to job scores, reviews, and reputation to understand how freelancers adjust to reputation signals in this kind of working environments (see chapter 5). This is consistent with our methodological choice, which suggests to follow issues considered relevant and important by informants to build emerging theory grounded in the context (Strauss & Corbin, 1998). More details about questions are provided in the following chapters. Final interview protocols are provided in Appendices 1 and 2. After tailored sections, a final set of questions was added to help summarize some final key aspects.

Our interviews continued until we realized that new data were not adding new pieces of information and were not helping us to further refine our model – i.e. theoretical saturation (Glaser & Strauss, 1967). Again, more details about data saturation for each paper are better described in the next chapters.

Online Profiles and Job Applications

When they decide to subscribe to GigStars, workers are asked to fill online profiles with personal and working descriptions, personal pictures, and previous working and educational experiences. They can also add work portfolios. Concurrently, profiles keep tracks of workers' experience on GigStars. This experience collects information about past completed jobs and associated reviews left by clients, either quantitative – i.e. number of stars – or

qualitative. At the top right of profiles clients can also find an algorithmic calculated number called 'Success Score', expressed in percentage. Additional information like hourly rates, total number of worked hours, number of jobs, and total amount of earnings are also displayed.

We analyzed our informants' public online profiles to grasp additional information about their working experiences and their identity, how they present themselves online, their status on GigStars, and their current success score. We started this examination immediately before interviews to be sure to address specific questions on information provided – e.g. on personal description. By doing this, we could understand how respondents strategically used their profiles in the online environment.

To grasp additional information, we also asked informants to share examples of past job applications. These data have been useful to see how workers tried to catch the attention of clients. Unfortunately, not all informants decided to share their job applications. However, fortunately, some of them shared more than one example, thus the total amount of proposals is 51 (an example of job application is provided in chapter 4, Figure 5).

Archival Data

Finally, we reviewed some articles and reports posted on GigStars' blog to further enrich our understanding of the context. These documents mainly provide information about GigStars and offer tips to freelancers, like how to organize their working day, how to be successful freelancers, new technologies for payments or other practical information. Surprisingly, these articles never mention algorithms and reputation.

Analysis

We built an integrated database with interviews, profiles, job applications, and documents. Data analysis followed the framework proposed by Strauss and Corbin (1998) for grounded

theory development and the three-step coding process inspired by the so-called “Gioia methodology” (Gioia et al., 2013). We thus adopted an iterative approach of constant comparison between the literature, emerging interpretation of data, and new data from the field.

We first open-coded to search for recurrent first order concepts. *Open Coding* process “fragments” phenomena and allows starting naming and categorizing episodes. In this phase, names are mainly derived from informants’ words. No restrictions are applied to concepts’ number and importance, data analysis is “spontaneous” and develops through a continuous process of comparing and questioning: What is happening? What is the problem? What does this situation suggest and how does it enrich our understanding?

First order concepts are then grouped to create categories and finally aggregated theoretical dimensions. Data are here examined through comparisons for similarities and differences. In case of similarities, that is, data belonging to the same phenomena, researchers group them into categories and name them through representative labels. Here, labels either come from retained informants’ words or from the literature.

Finally, connections between categories are identified. Here, researchers discover the nature of relations between categories, which must be recurrent. As result of this final step, the grounded model emerges from categories and relations between categories.

Table 3. List of informants.

	Fictitious name	Job category	Location	Country	Age	Sex	Engagement	Education	Motivation	Previous Experience
1	Linda	IT developer	Europe	Italy	30-40	F	part	Bachelor Degree	-	In a company
2	Mary	Virtual Assistant	Europe	Romania	20-30	F	part	HS Diploma	Needs money	In a company
3	Scott	IT developer	Europe	UK/Romania	<20	M	part	HS Diploma	Needs money	Student
4	Ronald	Virtual Assistant	Africa	Burkina Faso	30-40	M	part	Master Degree	Needs a job	In a company
5	Alec	Virtual Assistant	Asia	Pakistan	40-50	M	part	Degree	Wants an alternative working arrangement and Needs money	Professor
6	Faith	IT developer	Asia	Pakistan	20-30	F	part	Bachelor Degree	Wants experience	Student
7	Rachel	Virtual Assistant	Asia	Indonesia	20-30	F	part	Bachelor Degree	Wants new clients	Freelancer
8	Ken	Translator	Asia	Indonesia	30-40	M	part	Bachelor Degree	Wants flexibility	In a company
9	Paul	IT developer	Europe	Slovenia	20-30	M	part	HS Diploma	Needs money	-
10	Trevor	IT developer	Europe	Croatia	20-30	M	part	Bachelor Degree	Needs new challenges	In a company
11	Sean	IT developer	Europe	Portugal	30-40	M	full	Diploma	Wants an alternative working arrangement	In a company
12	Robert	IT developer	Europe	Italy	30	M	part	Getting a PhD	Needs money	PhD student
13	August	IT developer	Europe	Greece	20-30	M	part	Bachelor Degree	Wants secure payments from online clients	In a company
14	Benjamin	IT developer	Europe	Hungary	20	M	part	Bachelor Degree	Wants flexibility	Freelancer
15	Henry	IT developer	Europe	Russia	30-40	M	full	Master Degree	Wants flexibility	In a company
16	Xavier	IT developer	Europe	UK	40-50	M	full	Degree	Wants flexibility	In a company
17	Allison	IT developer	Europe	France	20-30	F	part	Bachelor Degree	Wants experience	Student
18	Neville	IT developer	Europe	Russia	20-30	M	full	Bachelor Degree	Wants flexibility	PhD student (drop)
19	Jordan	IT developer	Europe	Italy	20-30	M	part	HS Diploma	Wants experience	Freelancer/student
20	Justin	IT developer	Europe	Spain	30-40	M	full	Bachelor Degree	Needs a job	In a company
21	Heather	IT developer	Europe	Portugal	30-40	F	full	Bachelor Degree	Needs a job	In a company
22	Liam	IT developer	Asia	Pakistan	20-30	M	full	Master Degree	Needs money	Consultant
23	Charles	IT developer	Asia	India	20-30	M	part	Bachelor Degree	Wants experience	Freelancer/student
24	Nancy	IT developer	Asia	India	20-30	F	part	Bachelor Degree	Wants experience and needs money	In a company
25	Mark	IT developer	Asia	Bangladesh	20-30	M	part	Degree	Needs new challenges	Lawyer
26	Tommy	IT developer	Asia	India	30-40	M	full	Bachelor Degree	Wants flexibility	In a company
27	Celia	IT developer	Asia	India	40-50	F	part	Degree	Needs new challenges	In a company
28	Brian	IT developer	Asia	India	40-50	M	full	Degree	Wants flexibility	In a company
29	Jamey	IT developer	Asia	Pakistan	20-30	M	full	Bachelor Degree	Needs money	Freelancer/student
30	Marcus	Translator	Europe	Norway	40-50	M	full	Bachelor Degree	Needs a job	In a company
31	Brad	Designer	Europe	Serbia	20-30	M	full	Bachelor Degree	Needs money	In a company
32	Kate	Designer	Europe	Italy	30-40	F	full	Bachelor Degree	Needs a job	In a company
33	Megan	Designer	Europe	Spain	20	F	part	Bachelor Degree	Needs a job	Public Administration
34	Lily	Designer	Europe	Spain	30-40	F	part	Degree	Needs a job	Freelancer
35	Joe	Designer	Europe	Spain	30-40	M	part	HS Diploma	Needs money	In a company
36	Reece	Designer	Europe	Ukraine	20-30	M	full	Bachelor Degree	Needs a job	Public Administration
37	Susan	Designer	Europe	Ireland	30-40	F	part	Master Degree	Needs money	In a company
38	Malcom	Designer	Europe	Serbia	40-50	M	full	Degree	Personal reasons	Owner of a small company

Table 3. List of informants (continue).

39	Adam	Designer	Europe	Spain/Italy	40	M	full	Professional Specialization	Needs a job	Same, a bit successfull in l country for a while
40	Jane	Designer	US		30-40	F	full	Degree	Wants a job	In a company
41	Victoria	Designer	US		20-30	F	full	Bachelor Degree	Needs a job	Freelancer
42	Mia	Designer	US		30-40	F	full	Bachelor Degree	Needs a job	Waitress
43	Grace	Designer	US		40-50	F	full	Professional Specialization	Wants a job	Mom
44	Harry	Designer	US		40-50	M	full	First degree	Wants to be a freelancer	in a company
45	Roy	Designer	US		30-40	M	full	Bachelor Degree	Wants to be a freelancer	Educator, banker
46	Sophia	Designer	US		40	F	part	Bachelor Degree	Wants flexibility	In a company
47	Tracy	Designer	US		30-40	F	part	First Degree	Wants new clients and being more visible	In a company
48	Daniel	Designer	Europe	UK	40-50	M	full	Bachelor Degree	Wants new clients and being more visible	In a company
49	Kelly	Designer	Europe	Portugal	30-40	F	full	Bachelor Degree	Needs a job	In a company
50	Michael	Designer	Europe	Hungary	30	M	part	First degrre	Needs a job	Student
51	Helen	Designer	Europe	France	30	F	part	First degree	Need of a job, need of money	Product designer in a com
52	Cameron	Designer	Europe	Spain	30-40	M	full	Bachelor Degree	Needs a job	In a company
53	Jake	Designer	Europe	Italy	30-40	M	part	Bachelor Degree	Wants an alternative working arrangement	In a company
54	Olivia	Designer	Europe	Italy	30-40	F	full	Master Degree	Wants an alternative working arrangement	In a company
55	Kirsten	Designer	Europe	UK	40-50	F	full	Master Degree	Needs money	Freelancer
56	Amanda	Designer	Europe	Italy	20-30	F	part	Bachelor Degree	Needs a job	Student
57	Emily	Designer	Europe	Italy	30-40	F	full	HS Diploma	Wants new clients	Freelancer
58	Norman	IT developer	Europe	Ukraine	30-40	M	full	Online specialization	Wants experience	In a bank
59	William	IT developer	Asia	India	20-30	M	full	Bachelor Degree	Needs money	Freelancer
60	Christopher	IT developer	Europe	Germany	30-40	M	part	Getting a PhD	Needs money	At the university
61	Ethan	IT developer	Asia	India	30-40	F	full	Online specialization	Needs money	Freelancer
62	Amelia	Designer	Europe	Germany	30-40	F	full	HS Diploma	Wants an alternative working arrangement	Cook, Waitress
63	Emily	IT developer	Europe	Netherlands	30-40	M	full	Bachelor Degree	Needs money	In a company
64	Oliver	IT developer	Asia	Philippines	40	M	part	HS Diploma	Wants flexibility	In a company
65	Kyle	IT developer	Europe	Netherlands	30	M	part	HS Diploma	Wants experience	Student

Chapter 4

Work Identity and Platforms

Note: A shorter version of this chapter has been already published as a paper of the Special Issue "Work in the Gig Economy" at *Journal of Managerial Psychology*, and is co-authored with Elisa Mattarelli, Fabiola Bertolotti and Maurizio Sobrero

Reference: Bellesia F, Mattarelli E., Bertolotti F., and Sobrero M. (2019), "Platforms as entrepreneurial Incubators? How online labor markets shape work identity", *Journal of Managerial Psychology*, Vol. 34 No. 4, pp. 246-268

Individuals strive to define their identity, i.e. a clear sense of "who I am", in the different contexts of their lives and, in particular, in the workplace (Ashforth & Schinoff, 2016). Extant literature (e.g. Dutton et al., 2010; Gecas, 1982; Ibarra, 1999; Petriglieri et al., 2018; Petriglieri & Petriglieri, 2010; Pratt, 2000; Pratt et al., 2006) has paid significant attention to the processes through which individuals define and build their *work* identities – i.e. the values, beliefs, and attributes they use to define themselves in the workplace (Ibarra, 1999) – as work identities are closely related to how individuals behave and perform as workers (Alvesson *et al.*, 2008; Koppman *et al.*, 2016).

Until recently, researchers have studied the 'world of work' (Ashford *et al.*, 2018) mainly in terms of stable employment relationships and career transitions within or between organizations, in accordance with the times of job security and economic stability that have characterized many Western Countries for almost half a century. Consistently, existing identity literature has often explored organizational contexts (e.g., companies, NGOs, public organizations), showing that organizations offer their employees values, tools and resources to support the development of a coherent sense of self (Ashforth & Schinoff, 2016), and to foster organizational-coherent behaviors (Alvesson et al., 2008; Ashforth & Schinoff, 2016; Pratt, 2000). Nonetheless, over the past few decades, given extensive economic and technological changes, career trajectories have become less linear as individuals not only change jobs more frequently, but also engage more in independent or temporary work (Ashford *et al.* 2007; Connelly and Gallagher 2004; Hollister 2011; Stone *et al.* 2015). Consequently, scholars have started to question the validity and applicability of existing management theories to explain the behavior of workers in the new world of work (Ashford et al., 2018; Cappelli & Keller, 2013; Furnham, 2006; Sparrow, 2000; Spreitzer et al., 2017), where people often experience uncertainty and reside 'in between' organizations, occupations, and other communities (Carton & Ungureanu, 2018; Ibarra & Obodaru, 2016).

Since the uncertain conditions that workers experience in new labor markets are strongly intertwined with how they define and perceive themselves as professionals (Ibarra & Obodaru, 2016), in this paper we intend to address scholarly concerns on the applicability of existing identity theories, and understand how individuals from a growing, although underexplored, category of workers – i.e. gig workers – construct their work identity. The working condition of gig workers, who deliver short-term jobs on demand – i.e. "gigs" –, makes them more likely to experience feelings of job insecurity (Lam *et al.*, 2015; Spreitzer *et al.*, 2017), as they are neither employed by a single organization, nor experience a classic organizational setting, where exposure to social relations with colleagues and role expectations help to forge a coherent work identity.

The literature on temporary and contract workers suggests that, even in uncertain conditions, individuals still need a reference environment to nurture identities, like occupations (Barley & Kunda, 2006), personal holding environments (Petriglieri *et al.*, 2018), online communities (Langner & Seidel, 2015), or client organizations (George & Chattopadhyay, 2005). Gig workers are increasingly making use of digital platforms like Freelancer.com, Guru, or Upwork which regulate the relation between workers and employers in so called 'online labor markets' (Boudreau & Lakhani, 2013). To give an example, a single digital platform such as Freelancers.com counted more than 32 million registered users and more than 15 million posted 'gigs' in 2018. We argue that the online environment and the technological features offered by platforms may act as references in the process of workers' work identity construction. Workers need to learn how to navigate the platform's rules and procedures to get jobs, execute activities, and get paid for their work (Kuhn & Maleki, 2017). In addition, platforms increase the level of global distribution and competition that workers face (Boudreau *et al.*, 2015; Spreitzer *et al.*, 2017), further escalating the conditions of uncertainty that any freelancer experiences.

We thus propose that studying identities is relevant to learn gig workers' behavioral trajectories in online labor markets, with implications both for theoretical development as well as for practical implications. Concerning the latter, acknowledging the impact of technology on these trajectories may help in deriving implications to design appropriate platform's support mechanisms. We then formulate our research question as follows: How do technological platforms influence gig workers' work identity construction and with what consequences?

To address our research question, we draw evidence from interviews and documents collected from workers using a major online labor market platform. We build a grounded model showing how work identity is empowered in response to a constraining online environment, by strategically using platform technological features. Specifically, we show how such processes lead individuals to build a new work identity characterized by an entrepreneurial orientation. Our study contributes to the current scholarly conversation on the relation between technology and identity construction and the antecedents of entrepreneurial orientation in online labor markets.

Theoretical Background

Work-Identity and Gig Workers

In this study, we are interested in that part of an individual identity concerning the enactment of a work-related role, that is, *work identity* (Ibarra, 1999). The identity literature has both developed rich theory and provided examples of individuals elaborating on their work identity during significant role transitions - i.e. newcomers in organizations or people taking up new positions after promotions (Ashforth and Schinoff, 2016; Ibarra 1999) - or in particularly demanding circumstances - e.g., when people perceive that what they do does not

match with who they are (Mattarelli & Tagliaventi, 2015; Pratt et al., 2006). In these cases, people experience uncertain conditions and existing identities are under threat, either because they need to adapt to new roles, or because they need to be socialized in a new organizational context. For instance, Ibarra (1999) shows that individuals adapt to new organizational roles by trying temporary solutions – i.e. provisional selves – to deal with the lack of alignment between their identity and expectations about a new organizational role. Other studies in the social identity theory tradition show that when individuals enter new organizations, organizations manage their identity through circles of sense-breaking – i.e. creating a sense of liminality and motivating individuals to search for new meanings – and sense-giving – i.e. attempts to influence the new meanings according to organizational preferences (Alvesson et al., 2008; Ashforth & Schinoff, 2016; Gioia & Chittipeddi, 1991; Pratt, 2000). Pratt and colleagues (2006) similarly show how medical residents derive meaning from school training and turn on organizational resources to define their role identity.

Organizations and professional communities have been then described as fundamental in the process of individual identity construction (Alvesson et al., 2008; Ashforth & Schinoff, 2016; Ibarra, 1999; Mattarelli & Tagliaventi, 2015; Pratt, 2000; Pratt et al., 2006; Walsh & Gordon, 2008), as they provide values, meanings and examples that individuals can use to build their work identities. Even in virtual contexts, research has shown that organizations take advantage of technological tools to support identity processes for virtual workers and, therefore, increase their level of commitment, and preserve control over their work (Thatcher & Zhu, 2006; Wiesenfeld et al., 1999, 2001).

Differently from these studies, gig workers operate in a distributed context and are only temporarily hired by organizations or individual clients. In distributed contexts, individuals face more difficulties in deriving cues to foster their work identities, as they lack the social environment they can use to derive ideal images of a possible or desirable self at work

(Ibarra, 1999). However, how non-traditional workers, such as contract workers, temporary workers, and gig workers answer the question “Who am I?” has received limited attention (Barley *et al.*, 2017; Barley and Kunda, 2006; George and Chattopadhyay, 2005; Petriglieri *et al.*, 2018). In their ethnographic study of technical contractors in a contingent labor market, Barley and Kunda (2006) define contractors as “itinerant professionals” (Barley & Kunda, 2006, p. 50) who mainly draw from personal skills to categorize themselves, making contracting a new form of professionalism. Thus, compared to workers in institutionalized occupations, the authors highlight the predominant role of agency in contract workers’ experience. More recently, Petriglieri and colleagues (2018) have emphasized the importance of agency through their study of independent workers in precarious working conditions. In particular, these authors argue that workers lacking a stable physical and social environment – e.g., organizations – tend to develop physical, social, and psychological spaces, i.e. personal “holding environments”, to sustain meaning and routines, and to deal with feelings of anxiety and fear (Petriglieri *et al.*, 2018). George and Chattopadhyay (2005) investigated the process of identification of contract workers employed by their work organization, but actually working inside their client organization. Results indicate that workers identify with their employer and their client, thereby developing a dual identification.

Although this research has generated theory and descriptions of what happens when individuals lack stable affilitations, it does not incorporate the complexities derived from the distribution of work and mediation of technology that gig workers experience. The nature of gig work lead workers to experience fragmented and unstable relations with clients and organizations, which makes deriving cues for building a coherent sense of self hard. As consequence, gig workers’ identity are likely to be rather personalized (Ashford et al., 2018). In addition, physical and social isolation (Wood et al., 2019) obstacle gig workers’ relations with colleagues, preventing the construction of identity from being influenced by social

relationships. Instead, workers in online labor markets work in technology-intensive contexts – i.e. the platform they subscribe to – which, we argue, may offer support to identity construction. For instance, platforms may provide access to online communities to foster workers' socialization, or they may provide narratives about best workers to influence individual images, ultimately influencing identity construction processes. Gig workers may therefore operate in a 'hybrid' workspace, where, on the one hand, they are alone and fully take risks associated to their job, and, on the other, they are influenced by the rules imposed by the platform.

Although previous studies on contract or independent work have not specifically addressed and explored technology-intensive contexts, especially the relation between technology and identity, research in the domain of information technology and information systems has more deeply addressed this relation (e.g. Carter & Grover, 2015; Lamb & Davidson, 2005; Stein et al., 2013). We therefore take a closer look at it to further inform our research question.

Identity and Platforms

In the last decade, there has been increasing attention towards the relation between identity and information technology in the information systems literature (see Carter and Grover, 2015, for a review). Among studies expanding theory at the individual level of analysis, some have focused on how features of a newly-introduced technology induced changes in work practices and affected professional identity construction or recovery (Van Akkeren & Rowlands, 2007; Boudreau et al., 2014; Lamb & Davidson, 2005; Stein et al., 2013). Van Akkeren and Rowlands (2007) showed that the introduction of a Healthcare Information System in a team of radiologists provoked anxiety and struggles to assimilate the new features of the technology into work practices, leading to a redefinition of role identities. Similarly, Lamb and Davidson (2005) found evidence that technology impacted the practices

for data collection and results dissemination of marine biologists, who took advantage of new technological features to improve their job and strengthen their work identity by creating new areas of expertise. In this case, technology features led to the empowerment of already existing professional identities. Other studies have shown that technology can foster the enactment of different selves instead of fueling existing identities. For instance, in the study by Stein and colleagues (2013) the material features of technology affect employees' identity enactment so that these features become part of a professional narrative of the self. The study also showed that technology may help workers to try out different preferred selves before allowing the enactment of a single preferred identity. Similarly, Boudreau and colleagues (2014) showed how technology was used to experiment with multiple provisional identities during the introduction of a new information system in a library. Siles (2012) showed how technological artifacts, i.e. web sites and blogs, sustain the emergence of a new identity anchored to the technological artifact itself, and, recently, information technology (IT) has been theorized as an integral part of the individual's sense of self (i.e., IT identity, Carter and Grover, 2015). Carter and Grover (2015) introduce IT identity by arguing that through the experience of technological features, individuals are likely to develop a closer than previously theorized relation with IT, that ultimately influences their technology use behavior. Their theorization suggests that technology is the 'endurance support' to identity construction, maintenance, and change.

These different findings interpret technology as an enabler for new work identities or look at specific features that lead to adaptation of existing identities. We argue that none of these perspectives alone can help us to fully understand the processes of identity construction for gig workers using online platforms. In the gig economy, online platforms may provide access to new work opportunities and new tools to freelancers to interact with their clients, but they may also be considered *vehicles* for completely new working arrangements, as gig workers

need to learn the rules of the game they are playing (e.g. rating systems, payment methods). As new working environments, platforms may provide the ground for people to experiment with multiple (Boudreau *et al.*, 2014), existing (Lamb & Davidson, 2005), or unforeseen work identities (Siles, 2012), supplanting and/or complementing the role played by organizations and professions.

Few authors speculating on the impact of an online environment suggest that an online environment creates identity struggles, since it is assumed that individuals need to show the same identity both online and offline (Lamb & Davidson, 2005). There has also been evidence that interactions in an online environment lead to the construction of a new type of identity associated with how individuals see and present themselves online – i.e. virtual identity (Moon *et al.*, 2006). Thus, we argue that interpreting platforms not only as tools composed of a set of features, but also as new working environments, requires us to think in new ways about the relationship between IT and identity construction processes. Although Carter and Grover's (2015) IT identity theorization goes in this direction, it still considers technology as a tool composed by features, and not as an environment that might constrain individual action. Consistently, the authors talk about a positive influence of technology on identity that manifests in enduring feelings of emotional attachment to the technology, i.e. *emotional energy*; reliance upon the technology, i.e. d*ependence*; and feelings of connectedness with the technology, i.e. *relatedness* (Carter & Grover, 2015, p. 945). Moreover, their theorization does not explain what happens when this IT-self interacts with the work-self. New insights are therefore needed to understand the relation between platforms and gig workers, as platforms are at the same time carriers of specific technological features and enablers of online work environments.

Methodology

Research Setting

The lack of knowledge and studies encapsulating platforms as online environments and as a set of features, and the questions about the applicability of existing identity theories in online labor markets, call for a research design that allows to develop theoretical depth and detailed understanding of new, unexplored phenomena. We then decided to conduct an exploratory field study on one of the most popular online labor market (OLM) platforms, following the grounded theory approach described by Strauss and Corbin (1998), which represents a suitable methodology for developing new theories grounded in the context and in the words of informants.

The OLM platform we studied matches buyers and sellers of services. Here, clients (i.e. individuals or entire organizations) delegate single projects or small jobs to geographically distributed individuals connected via the Internet. In particular, at the time of the study, the platform had over 13 million registered users in more than 100 countries. Clients can hire contractors to deliver complex, high-skilled jobs, from graphic design to virtual assistance, from software and mobile development to translations. Platforms offer a digital environment where organizations can post their requests and contractors can find jobs fitting their specific skills. Each worker has his/her online profile where he/she can provide both personal and work-related information. The profile also tracks freelancers' working history (e.g., total number of worked hours) and performance details (e.g., success rate). Once a client has found his/her freelancer, they sign a contract and start a working relationship. Interactions take place at a distance and are mediated by technological tools, either provided by the platform or decided by the parties. At the end of the contract, both parties access the feedback

system and rate their working experience, that is, clients provide a blind feedback to workers and vice-versa. Jobs can be rewarded on an hourly basis or through fixed contracts.

Data Sources

We rely on semi-structured interviews, archival documents downloaded from the platform, and the personal online profiles of our informants to support our theory building process.

Semi-structured interviews. We conducted, recorded, and transcribed 46 semi-structured interviews of about 75 minutes each, with freelancers subscribed to the platform. The first author subscribed to the platform and posted different requests for interviews, offering a fixed monetary reward, usually between 8 and 12 US dollars. A similar approach was used by other studies, which administered online surveys through OLM platforms for investigating digital labor dynamics (e.g. Deng *et al.*, 2016; see Behrend *et al.*, 2011; and Steelman *et al.*, 2014 for methodological issues in using M Turk for surveys). Consistently with Kapelner and Chandler (2010), who showed that monetary compensation is not a primary motivation to participate in online studies, our informants decided to participate because of their interest in the results, their willingness to be part of a research project, or the desire to share and voice their experience. This is why many informants suggested a lower reward or refused to be paid.

We chose respondents following theoretical sampling techniques. For instance, European IT developers guessed about different strategies that Asian developers used to manage competition and build job applications, as they talked about Asian IT developers as their main competitors. Therefore, we decided to contact Asian IT developers to further confirm or refine our categories associated to the strategic use of technological features. Similarly, we decided to extend our sample to designers to include a different job category and verify the solidity of our findings. Table 4 provides more information about our sample.

---- Insert Table 4 around here ----

During interviews, we first asked informants general questions about their working history and the motivations to join the platform. Then, we moved to identity-related issues and feelings about the job, drawing inspiration for questions from the work of Petriglieri and colleagues (2018). Examples of questions include: How do you organize your working day? Could you describe me the kind of work that you do on the platform? Could you please describe a positive experience that you had on the platform, and why you considered it as positive? Finally, we asked questions about their interpretation and use of the platform. After the first ten interviews, we realized that informants often mentioned how their experience on the platform stirred a desire to open their own business and be engaged in entrepreneurial activities. Given the centrality of this theme for identity construction, we then modified our protocol and explored such issues in all subsequent interviews.

Our interviews continued until we realized that new data were not adding new pieces of information and were not helping us further refine or develop our model – i.e. theoretical saturation (Glaser & Strauss, 1967). For instance, we ended our data collection once we realized that new data were not helping us refining our categories related to the construction of work identity (e.g., the aggregate dimension *Development of an Entrepreneurial Orientation*).

Online Profiles, Job Applications, and Archival Data. We also analyzed our informants' public online profiles to grasp additional information about their working experiences and their identity, how they present themselves online, and their status on the platform. We started this examination immediately before the interviews in order to address specific questions on the information provided in their profile. Through this approach we could understand how respondents strategically used their profiles in the online environment. To

grasp additional information on these issues, we also asked informants to share examples of past job applications, collecting 37 proposals. Finally, we reviewed some articles and reports posted on the platform's blog to further develop an enriched understanding of the context. These documents mainly reported information about the platform itself and offered tips to freelancers.

Analysis

We built an integrated database with interviews, profiles, job applications, and documents. Data analysis followed the framework proposed by Strauss and Corbin (1998) for grounded theory development and the three-step coding process inspired by the so-called "Gioia methodology" (Gioia *et al.*, 2013). Under these frameworks, data analysis went hand in hand with the data collection stage (Strauss & Corbin, 1998). We adopted an iterative approach of constant comparison among the literature, emerging interpretation of data, and new data from the field. We first open-coded to search for recurrent first order concepts. We then grouped them to create categories, and finally aggregated theoretical dimensions. As the last step of this procedure, we identified relationships between categories. For example, we ran a first step searching for regularities and patterns among data and found that freelancers mainly described job applications as useful tools to fit job calls, and profiles as useful to provide clients tangible proof of their abilities. We then recognized these behaviors as strategies to 'sell' individual skills and decided to group them together. Then, while going back and forth between theory and data, we interpreted them as technological features offered by the platform. Finally, we searched for relations between categories and further examined our data to identify which characteristics associated to the online environment and strategic use of technological features triggered work identity construction. We used the software NVivo to support the entire process. The final output of this procedure was the data structure and the grounded model provided in Figure 3 and Figure 4.

---- Insert Figure 3 about here ----

---- Insert Figure 4 about here ----

Findings

Our grounded model (see Figure 4) shows how constraints and features of the platform lead individuals to add new meanings to their work identity and, ultimately, how this new work identity was associated to an entrepreneurial orientation. The model starts with the motives pushing individuals towards online labor markets.

Motives

Our informants shared their motives to join online labor markets. In particular, they explained how online work helped them to fulfill needs related to monetary compensation, fun, work flexibility, learning, and stagnant local labor markets. For instance, many informants described online jobs as second sources of income and as a way to make use of their spare time, as in the following excerpt:

> "You can just tell that I am here for relaxation, because when I work here is a different thing, different people, and also I can make some money. My personal opinion is that if I am capable to do a lot of work, then I should do it. I don't waste time, if I have the opportunity I should work as much as possible". [Theodor, IT developer]

Some freelancers expressed the need to work from home for family or location reasons and referred to flexibility as one of the biggest advantages. Others desired to escape from the "boring" activities of their offline jobs. Finding ways to keep in touch with the latest technology developments and "remaining in the learning cycle" was also mentioned as one of the motives. We also talked with students joining the platform to test their knowledge and then sell their competencies in the traditional job market as professionals with an extensive

portfolio, despite being recent graduates without 'traditional' working experience. Finally, some informants lamented difficulties in finding jobs suitable to their skills in their countries and, therefore, joined global online labor markets for lack of local alternatives.

To fulfill these needs, individuals needed to make immediate sense of the platform's mechanisms and identify ways to succeed. Through experience, they acquired knowledge about the online environment and learned to use a given platform's features to circumvent perceived constraints. We proceed in the following pages by describing how individuals matched specific online constraints to specific uses of features of the platform. We then discuss the consequences of such matching processes for identity construction.

Global Competition, Acquiring Knowledge of the Market, and Becoming a Unique Online Worker

Global competition. Competition on the platform was often labelled as "hard" and perceived as a constraint to individual success. Whoever owns an Internet connection can sell individual skills on the platform; thus, workers face a global competition and deal with different working conditions and prices. For instance, freelancers from developed countries complained about the differences between living costs that allow freelancers from developing countries to offer lower prices. Similarly, freelancers from developing countries disliked clients expecting to pay only a few dollars for their services. Moreover, workers described the need to be "always online" checking for updates and trying to catch the best job opportunities. In this regard, given the number of applications received by clients, many freelancers told us they had to continuously write new proposals for clients and reply swiftly to their questions, being locked in a continuous commitment to the platform, as shown in the following excerpt:

"You have to *keep* applying for the jobs once they are posted, so you have to check *constantly* posts and job opportunities. You have to stay online, and once you are online you need to ensure that you are there *for a long time*. That is why we just work for four days in a week. You burn-out faster." [Brian, IT developer]

Acquiring knowledge of the market. Contrary to what happens in offline contexts, the online platform provides public information on the main actors of the market. We found that this platform's feature was positively valued by freelancers. Many informants strategically used this public information to acquire knowledge on both job demands and their competitors' behaviors. Many respondents told us that, especially at the beginning of their presence on the platform, they surfed other freelancers' public profiles and studied the characteristics of the offered services, the typical price for that service, and general competitors' strategies. This practice was useful to learn about prototypical services and skills sold on the platform.

Becoming a unique online worker. We found that dealing with competition by comparing oneself with other people on the platform was useful to align to market's requests. Many informants declared, indeed, that surviving on the platform would have been much harder without a clear understanding of how other people behaved on the platform. For instance, knowing competitors' strategies was useful to guess about clients' expectations and start to think about how to meet those expectations. However, in order to obtain jobs, individuals also needed to think and understand what made them different from other freelancers. The need to distinguish oneself from others made freelancers think deeply about the distinctive skills and traits that characterized themselves as professionals. For instance, in the following excerpt, one respondent from a developed country shared how he tried to distinguish himself from gig workers from emergent countries.

"There is really heavy competition from people from India, Philippines, Mexico, mostly these. And they work for really low prices, it is hard to compete with them. So I needed to think: what can I do that these guys cannot do? My first job was in translating between

> Portuguese and English, which is something I do well and they cannot do." [Sean, IT developer]

Short-term contracts, Trying to Sell Skills, and Becoming your own Sponsor

Short-term contracts. Gig workers needed to deal with the intrinsic uncertainty in their work related to the short-term nature of working relationships. For instance, translators and web site developers complained about the difficulty of establishing long-term relations with clients, and perceived this as a constraint. For instance, they explained that usually clients posted jobs to be delivered on a daily basis, making relations difficult to build. Thus, a crucial aspect was the need to constantly search for new jobs. Informants working exclusively online needed to allocate time to both the monitoring of new offers on the platform and the hiring process itself, which usually included one or more job interviews. Therefore, they needed to be "constantly prepared to answer clients' questions", as hiring procedures were constantly ongoing. Informants usually reported frustration and feelings of job insecurity and needed to rationalize uncertainty as an inherent characteristic of their job. The following excerpt shows one of our informants recognizing uncertainty in her job, and explaining that reducing uncertainty was her main goal on the platform:

> "My job is completely uncertain. The main objective is to get you into a point where is not uncertain anymore. I think it is right now my main goal. Because you get one job, and then you get different jobs, and you get one job again, you need to deal with the fact that you will need to get them." [Heather, IT developer]

Trying to sell skills. To manage the fast-paced hiring process, the platform provides technological features that can be used to present workers to clients, i.e. personal profiles and job proposals. Personal profiles can be filled with information on employment history, educational background, working history on the platform, and brief personal descriptions. Job proposals are letters sent to clients and usually represent the first interaction between

freelancers and clients. When asked to detail the strategies to win a job, respondents provided us with a description of job proposals and personal profiles, describing them as fundamental tools to sell their skills. In particular, we found profiles to be used to provide references, and job proposals to fit job calls. In the following excerpt, one informant described how clients looked at profiles and how having good reviews was essential at the beginning of his career:

> "I think that when clients look at your profile, they first see your grade, they don't really check anything else. And if they see that your grade is good, then they check your portfolio. So basically it's a few step thing, if you don't have good grade they will not even look at your portfolio." [Brad, Designer]

As exemplified in the quote, profiles were perceived as digital signals of reputation (grades) and digital proofs of experiences (portfolio). In addition, freelancers used proposals to show the fit between their portfolio and job calls, in order to convince clients about their capability to fulfill job requests. The following quote exemplifies this strategy and shows another recurrent best practice: when presenting one' skills, freelancers should try to sell also additional skills.

> "I try, in my proposal, to make it short enough as not to bore the person, and I try to answer the questions that the person is asking. By doing that, the person knows that I have read the offer. […] After reading the job offer, I explain how I can address his concerns. This gives who is hiring some extra pieces of mine and a bit of extra to what he asks". [Sean, IT developer]

Becoming your own sponsor. We found that dealing with the fast-paced hiring process and selling individual skills were capabilities that freelancers needed to learn. For instance, especially when first joining the platform, building a strong portfolio and a strong reputation were essential to getting jobs and surviving on the platform, as one of our informants described in the following excerpt:

> "At the beginning, I really wanted to get as much reviews as possible to be able to bid some other jobs that I couldn't get without reviews, so at first it wasn't really about the money, it was about catching the reviews." [Brad, Designer]

Freelancers described that they needed to experiment with different job proposals before finding the right strategy, and this usually entailed acquiring additional knowledge on how to deal with clients and promote their own individual skills. Some freelancers started to think about themselves as professionals who should also successfully promote their work, not just search for gigs.

Many freelancers described how they started to focus more and more on empowering their communication and negotiating skills in addition to their technical skills. This, in turn, led them to think about themselves as good communicators or good negotiators, as shown by the quote below:

> "I found out that clients were interested not only in my professional skills as a designer, but also on my negotiating and communicating capabilities, on who I am as a negotiator and communicator." [Adam, Designer]

Lack of Support, Experimenting with Different Opportunities, and Becoming your own Boss

Lack of Support. We asked freelancers about the role played by the platform in supporting their daily activities. Answers revealed that they considered the platform as a third party, a service they used exclusively for finding jobs, delivering their work, and being paid. In the perspective of our informants, the platform environment did not provide the direct guidance or mentorship that is typical of traditional organizational contexts. We analyzed archival documents to assess the design of the platform environment with a special focus on the features intended to provide support to gig workers. We learned that the platform sends tips and advice to freelancers through reports or blog articles describing the experience or the

strategies to become a successful online freelancer. However, during interviews we found that only a few respondents read and tried to follow those tips. Many respondents replied that they lacked the time to read newsletters, while others admitted to searching for tips on other websites, or looking for advice from friends. One respondent even judged negatively the perceived lack of targeted advice and expressed the willingness to distinguish himself from those following the platform's general tips. We thus labeled the perception of the platform's guidance as superficial. The following excerpts exemplify these recurrent perceptions:

> "Apart from the platform itself they [the platform staff] do not offer any kind of training or tools, or something like that. [...] …there is no any tutorial that will help freelancer succeed." [Scott, database administrator]

> "... they already have help pages, support pages and all that...but, who reads that?! Like, who reads that?! I don't, because what they have done is very short, not very descriptive." [Nancy, IT developer]

Experimenting with different opportunities. If on the one hand freelancers lacked clear guidance, on the other hand the platform offered them a variety of job opportunities. Many freelancers subscribed to the platform for the purpose of reaching out to clients from other countries and finding more jobs related to their skills. For instance, a game developer lamented difficulties in finding game development-related jobs in the "traditional" job market. In addition, many Asian IT developers experienced difficulties in selling their specific knowledge in the local market, both for the lack of opportunities and the low payments. Thus, we noticed how freelancers were using the platform to sustain their learning experience and how some of them also started to use their profile to convey not only skill-related information, but also information on plans for the future and on the next jobs they would like to deliver. The following excerpt is drawn from one IT developer's profile description and illustrates the described behavior:

> "I now seek ongoing jobs that will help me shift from front-end to back-end, and from [programming language 1] to [programming language 2]." [Sean, IT developer, personal profile]

Moreover, informants explained that the huge number of job calls posted on the platform left them room for trial and error. In fact, thanks to plenty of opportunities, they could try to apply for different jobs while at the same time trying out different strategies to get a job, even strategies that later became unsuccessful. As they knew other desirable job opportunities would soon materialize, they felt they had the time to try to deal with clients and learn how to obtain jobs without the fear of making errors and missing desirable job opportunities.

Becoming your own boss. The lack of a boss deciding on their work and the availability of variegated opportunities gave gig workers, especially once they obtained a good reputation, the freedom to choose the jobs to be delivered. As shown in the following excerpt, IT developers strategically chose jobs to keep on learning, avoid getting bored by doing the same activities over and over, and stay updated with the latest technology.

> "I'm actually getting even greater experience, because in firms you do not get to deal with the client himself, obviously the boss deal with them. Here, I'm my own boss […] So, in the firm your boss sells the company, the products, and everything, you are just involved in the development of the product, you are not actually on the field, you are not actually dealing with the client, you are not actually knowing the client's requirements from the client. So, in here I get to talk to the client, I get to understand the requirements of the clients." [Nancy, IT developer]

Our informants talked more often about the managerial skills they needed to learn to deal with the platform environment, negotiate payments, and organize their working day, than the technical skills required to deliver clients' jobs. They explained how they unexpectedly found themselves occupied in managing their business, as described in the following excerpt.

> "I like having my own office, I am my own boss. It is better than working for someone else, you can organize finances, you can discuss about payments with your clients directly, there's no one in-between" [Trevor, IT developer]

Development of an Entrepreneurial Orientation

We found that freelancers' experiences on the platform ultimately influenced their way of thinking about themselves in the workplace. After some time spent on the platform, respondents generally described themselves as more conscious about what was needed to be successful online freelancers. The following excerpts report a respondent's feelings:

> "You go there with your skills, with what you are doing, and the platform gives you the opportunity to sell them. But I realized that, in the end, it is your own responsibility, you have the responsibility of how to do that [selling the skills]. I feel like I have built a real job there" [Kate, Designer]

As shown in the quote, we found that online behaviors ultimately influenced an individual's job-related sense of self, desires for the future, and perceptions regarding the platform itself. More generally, we found that the process of work identity construction, influenced by the constraints of the environment and the strategic use of technological features, led individuals to distance themselves from both traditional organizations and online labor markets. We noticed then that respondents were talking about their online experience as an evolution that led many of them to the *development of an entrepreneurial orientation,* i.e. to develop practices, processes and decision making behaviors aimed at building a new entrepreneurial 'entity' (e.g. a new group or a new organization, Lumpkin and Dess, 1996). This evolution is well shown by an informant's job applications, provided in Figure 5. Kate, one of our informants, shared with us three different job applications written at different stages of her experience on the platform. As is shown in the figure, in job application 1 she only describes her distinctive characteristics, then, in job application 2, she adds details to sponsor her work,

like her personal web site, and in job application 3 she finally describes herself as the head of a team.

---- Insert Figure 5 about here ----

We linked emergent freelancers' behaviors to three of the five entrepreneurial orientation's dimensions identified by Lumpkin and Dess (1996). In particular, we recognized the dimensions of competitive aggressiveness, autonomy, and proactiveness in the way freelancers positioned themselves in the market, distanced themselves from the platform, and created their own businesses.

Aggressively competing to position oneself on the market. As the competition becomes global, freelancers need to find their own way to stand out and convince clients they can fit their needs. If, on the one hand, the availability of information on the platform was useful to align to market requests, at the same time, it helped freelancers to set their own services and their own prices on the market, according to what they thought were their distinctive traits. This not only allowed freelancers to set their competitive strategy, but also to try to catch the attention of a particular subset of clients interested in some services rather than others, in some standards of quality rather than others. In other words, freelancers worked hard to win a particular segment of the online labor market. For instance, in the quote below, Harry describes his willingness to be perceived as a valuable worker, and the decision to set higher prices on the market to communicate this information to clients.

> "I am not cheap, I am sorry. I am a valuable worker, I am a valuable freelancer. I am not like many other freelancers that decide to work at low prices." [Harry, designer]

Strengthening the Importance of Autonomy. We found that managing themselves on the platform strengthened freelancers' attitudes towards autonomy. Those searching for more freedom in their job valued autonomy as a positive and essential element in their work.

However, surprisingly, we noticed that even freelancers who initially thought about the platform as a playground to test their skills, strengthen their curriculum, and then go back to traditional work, struggled to think about themselves as merely employees within a company. In particular, they positively valued the opportunity to learn and choose exciting jobs for themselves, opportunities they could barely see when employed in a company. Freelancers who joined the platform to gain extra money showed similar feelings. We thus noticed a tendency to value and retain autonomy from the online experience and then to change the perceptions of traditional working environments. As shown in the following excerpt, informants rarely told us they would prefer to go back to a traditional job after their experience on the platform:

> "Right now, I wouldn't really want to go back to a traditional job, you know? Because I would very much prefer other things and build things myself." [Denise, IT developer]

We noticed that being independent from a traditional organization gradually grew into the idea of becoming independent from the platform too. Informants described the platform as an "intermediate land" useful to acquire competencies, experiment and test skills, and quickly get in touch with multiple clients and job opportunities. However, many freelancers did not describe it as the place to be for a long time. On the contrary, they seemed to interpret their time on the platform as a transitional period in their career. In other words, instead of identifying with the platform, they rather seemed to feel disaffected from it over time. Interestingly, one of our informants described the platform as an "incubator", thus as an entity accelerating the growth process of a nascent company.

> "I don't anticipate staying on [name of platform] forever, [name of the platform] is kind of an *incubator* where I am gaining competencies, I am dealing with people, and building up my portfolio." [Grace, designer]

Proactively creating one's own business. After some time spent on the platform, instead of thinking about themselves just as freelancers, many informants expressed their desire to build their own company or a new business within or outside of the online environment. Their objective was to leverage their experience on the platform for building a local team and starting to work with local clients. For instance, in the following excerpt, one informant explained how being successful on the platform led him to switch to an entrepreneurial role:

> "I took the option of the freelancer, and I am happy with this decision and it is going well. During the last six months of my career in 2010, I ended up deciding my role. I could have been an entrepreneur instead of only a single freelancer. So, I have decided and I took the option of creating a local team. Then, I created a team profile on [platform], whose name is *The Helper*, that is also the nature of our job. [...] I have constructed myself a successful freelancer, that is why I have created a team, I have worked on that for years. Those things made me a successful freelancer entrepreneur." [Alec, virtual assistant]

Similarly, other informants described their willingness to shift into managerial roles, and their willingness to possibly hire either local or online employees:

> "We are a group of friends who were also freelancers and we are actually sharing our resources to create a small start-up, so you can say we are moving to a managerial part and then hiring developers locally who will handle the work for us, and we will be mostly the managers." [Jamey, IT developer]

> "I am a contractor now, but I want to become a client next year. I am trying to turn myself a client, this means more personal satisfaction and more income. I would like to be an entrepreneur in the next 3 or 4 years, I see myself as an entrepreneur". [Ken, Translator]

Finally, others reported their desire to leverage their experience on the platform to build companies, either related to online work or not.

> "Even though we just communicate with clients through online platforms, it really helps us grow more, even though we are at home. [...] Actually, my goal is to start a company for

helping other companies to implement online work, because I think this is going to be a really great opportunity in the next 5 years." [Rachel, virtual assistant]

Discussion

The purpose of this study was to explore the experience of gig workers in technology-mediated working domains – i.e. online labor markets – to shed light on how technology is related to their work identity. Our model shows how workers' work identity underwent a process of construction in response to a constraining online environment, by strategically using platform resources. Freelancers joined online labor markets to fulfill different needs, from the necessity to work remotely to the desire to gain extra money. Once on the platform, they needed to face the difficulties of working online (i.e. global competition, short-term contracts, lack of guidance) and thus learn how to leverage technological resources offered by the platform (i.e. public information on competitors' actions, profiles and job proposals, multiple job opportunities). We showed that each constraint of the platform environment, overcome by a strategic use of technological features, led freelancers to work on their own skills and on their individual work identity. In particular, they needed to focus on their unique personal characteristics to become distinctive and stand out as online workers. They also had to learn how to sell their skills and competencies to clients, thus thinking about themselves as sponsors of their own work. Finally, they had to shift to a managerial mindset and self-envision as boss of themselves, that is, they needed to switch from considering themselves as freelancers or contractors (e.g. Barley and Kunda, 2006) to seeing themselves as the head of their own business. This led to the development of an entrepreneurial orientation, characterized by competitive aggressiveness, autonomy, and proactivity. This shift can be illustrated by their decision to offer new services, by their desire to be independent both from the platform and from traditional labor markers, and by their willingness to create and

supervise teams, to open ‘agency profiles’ on the platform, or to envision a future outside the platform as start-ups.

Technology and Work Identity Expansion

Our research was motivated by an interest in the process of work identity construction for gig workers. While traditionally organizations and professions contribute to work identity construction, people working in uncertain conditions are likely to search for different sources of stability influencing identity construction (Petriglieri *et al.*, 2018). The paper theorizes about the fundamental role of technology in such a process. In particular, we noticed that the technology, i.e. the platform, triggered an experiential process of work identity construction instead of breaking meanings and influencing subsequent new definitions (Alvesson et al., 2008; Ashforth & Schinoff, 2016; Pratt, 2000). Through experimenting with the platform, freelancers develop an entrepreneurial mindset by integrating into their work identities pieces of self as unique workers, sponsors, and bosses. This process differs substantially from the current understanding we have about how freelancers or contractors work on their identities. While current studies (e.g. George & Chattopadhyay, 2005; Petriglieri et al., 2018) suggest that these workers will look for substitutes for organizational environments by developing other types of holding environments that sustain *current* meaning and identities, our research underlines that in a technology–mediated context that provides sharp constraints but also some resources, workers may end up developing *new* components of the self that they did not envision when they first joined the online environment. This idea is supported by the efforts put in place by freelancers in developing meanings of themselves not as professionals in a technical domain (i.e. reinforcing their identity as designers or IT developers), but as professionals who also need to sponsor their work, communicate with clients, and run their business, therefore acting as entrepreneurs.

Thus, we propose to expand the sources available for crafting work identity by including online work environments, such as platforms for online labor markets. Given the increasing prevalence of online resources, communities, and collaborative technologies that professionals use, it is important to consider the different technological environments individuals experience at work if we want to fully comprehend their individual work identity and consequently how they may behave in online, as well traditional, workplaces.

In addition, we extend the current scholarly conversation on the relation between identity and technology that until now has primarily looked at technology (in our study online platform) as a set of features that impact work identity (e.g. Van Akkeren & Rowlands, 2007; Boudreau et al., 2014; Stein et al., 2013) and only secondarily as an enabler of different contexts embedding an online component (e.g. Moon *et al.*, 2006), which means new rules of the game for people who participate (here online labor markets). We combined, then, the perspective of technology as a set of features and technology as an online environment, and showed that the platform constrained individuals in an uncertain online environment, but also offered technological features to manage and rationalize uncertainty. We thus support the idea of a closer relation between technology and identity where, in the presence of technology, the self is expanded to include *capabilities* afforded by the IT (Carter & Grover, 2015). In particular, we see high levels of dependence and relatedness (Carter & Grover, 2015), especially in the first periods of engagement with the platform. However, differently from Carter and Grover's (2015) perspective, we do not see enduring feelings of attachment towards the technology, as in our case the technology-triggered work identity seems to lead individuals away from the technology itself. Indeed, our findings show that freelancers tend to distance instead of commit to the platform after some time spent there, as the development of an entrepreneurial orientation may take them back to more traditional and local labor markets. Building on the notion of IT identity (Carter & Grover, 2015), we thus propose that

a definition of self as dependent from technology might be temporal. As suggested by the metaphor of platforms as *incubators* provided by one of our informants, we propose technology as essential for growth and self-expansion, but whose benefits might be limited to workers' early stages of career or first periods of engagement with the technology itself.

Emergent Entrepreneurial Orientation

As an emergent contribution, we think our findings are consistent with a few recent studies showing accidental pathways towards entrepreneurial activities (Demetry, 2017; Garcia-Lorenzo *et al.*, 2018). Our model shows what initially motivated our informants to engage in online work. Specifically, these motives are related to monetary compensation, fun, work flexibility, learning, and stagnant local labor markets. These reasons have little to do with the desire to start up a company or become an entrepreneur. Indeed, none of our informants seemed to be initially focused on developing entrepreneurial skills, neither expressing the desire to build their own company, or even simply imagining themselves as entrepreneurs in the future. However, after experiencing and learning how to navigate the platform, we found that many of our freelancers developed entrepreneurial orientations.

According to Lumpkin and Dess (1996), entrepreneurial orientation "refers to the processes, practices, and decision-making activities that lead to new entry" (Lumpkin & Dess, 1996, p. 136) and "it involves the intentions and actions of key players functioning in a dynamic generative process aimed at new-venture creation" (Lumpkin & Dess, 1996, pp. 136–137). Entrepreneurial orientation consists of five dimensions: competitive aggressiveness, risk taking, innovativeness, autonomy, and proactiveness. Our evidence shows that, in the context of online labor markets, gig workers developed an entrepreneurial orientation as they started to define new services to capture a new market segment (competitive aggressiveness), valued their independence from any labor market (autonomy), and created agency profiles, local

teams, or start-ups (proactiveness). Consistent with the model proposed by Lumpkin and Dess (1996), which emphasizes that dimensions can vary independently in different contexts, we show that the platform triggers three out of the five dimensions of entrepreneurial orientation through the interplay between a constraining online environment and the freelancers' strategic use of technological features. Therefore, our theory extends that model by proposing that technology use should be considered within the set of drivers influencing entrepreneurial orientations and by identifying the online labor platform as a specific context that creates the conditions for entrepreneurial orientation to emerge. These reflections are also consistent with the study by Autio and colleagues (2013), who examined how the exposure to multiple information and interactions with peers on an online community supported the reduction of uncertainty embedded in the process of business creation and helped individuals to both discover new business opportunities and also to take entrepreneurial actions.

We further argue that our informants developed an entrepreneurial orientation in reaction to their experience and emerging behaviors on the platform, rather than as result of a pre-defined plan (e.g. Krueger, 1993; Krueger *et al.*, 2000). Our findings are coherent with the idea of entrepreneurship as an emergent process (Demetry, 2017) and business creation as the result of a series of actions, rather than a onetime act (Demetry, 2017; Reuf, 2010). Rather than intentional, pathways to entrepreneurship might be accidental (Demetry, 2017). Necessity and liminal conditions may trigger the emergence of entrepreneurship (Garcia-Lorenzo *et al.*, 2018).

To this regard, our findings build on and extend the work of Farmer and colleagues (2011), who described the emergence of entrepreneurial behaviors as influenced by entrepreneur identity aspiration. In accordance with their work, our data suggest that work identity can influence subsequent behaviors. For instance, many of our informants opened agencies or

started to manage teams on online labor markers. In addition, our evidence also shows that these actions can influence cognitions, as we found that the development of the entrepreneurial orientation was the result of entrepreneurial oriented behaviors practiced on the platform instead of a planned behavior. In other words, we argue that the work identity extended through the experience on the platform influences subsequent behaviors, and that these behaviors are ultimately associated to a more entrepreneurial mindset.

Implications for Practice

Our study contributes to a better understanding of how gig workers enact the working environment provided by a platform and, in particular, how this environment influences individual self-perceptions and identity. First, as we found that freelancers need to become unique online workers and position on the market, we suggest that platform providers could act as labor advisors by periodically sharing information on the new skills required on the market, as for example building analytics for IT developers. This practice would allow freelancers to easily understand what are the main skills required by the market, and help them target and conquer their market share, either by strengthening existing or developing new skills.

Second, as we found that freelancers need to become sponsors of their work, we encourage platform providers to develop feedback mechanisms for evaluating not only the quality of delivered work, but also the way freelancers present to clients and sponsor their work. This could be done, for instance, by asking the client to rate the job applications they receive or the profile of freelancers they are interested in hiring. Such information could allow freelancer to gather more knowledge about clients' expectations and help them lower the number of job applications' rejections, especially when they are new to the platform.

Finally, as freelancers become their own bosses, we suggest that platform providers begin to develop mechanisms for assisting in a new job search or for filtering the requests received by freelancers. For instance, platforms could create filters and criteria for helping them to automatically withdraw job requests they are not interested in. Similarly, we would encourage the creation of automated filters and mechanisms for suggesting freelancers job calls that respond to their specific needs, in order to lower the time spent in job searches and, eventually, replying more quickly to clients and increasing the likelihood of being hired, especially for newcomers. In addition, platforms could also build a freelancer's dashboard to help monitor their performance on the platform, such as jobs where they were particularly successful or not and why. This could allow them to focus and improve those dimensions in which they had been less successful, adjusting their behaviors according to client's needs.

By taking these (and perhaps other) actions, we believe the platform could improve the quality of workers' experiences on the platform, therefore incentivizing more workers to actually stay on the platform, especially those who might feel safer working in a helpful environment instead of being on their own or taking the risk associated with a company. Indeed, as we acknowledge the emergence of an entrepreneurial orientation, freelancers could also exploit it through the platform, for instance by starting to hire themselves contractors on the platform and collaborate with them to make their business grow. On the other hand, we also suggest that platform providers could extend their services to those willing to expand their business, for instance by creating networking systems that allow freelancers interested in working in a team or launching a start-up to meet people with different, complementary skills, and put in place mechanisms to help them collaborate at a distance. In this regard, platforms could offer their workers online front-end spaces for networking and back-end collaboration spaces to foster the emergence of teams (and perhaps companies). This would allow nascent entrepreneurs to collaborate in an international

environment, instead of only locally through personal networks. Furthermore, platforms could create customized fees for those who had worked on the platform for a long period of time and who finally decide to open an agency profile and continue to catch clients on the platform. This would allow the platform to act more as an incubator and, at the same time, support nascent entrepreneurs without completely losing earnings derived from fees. If these actions were taken, the platform itself could diversify the services offered to different types of workers, and workers could more easily choose what their relation with the platform should be.

Limitations and Future Research Directions

Our study is not of course without limitations. To explore how individuals build their identity, we sampled individuals who succeeded on the platform and did not address those who did not adapt well to the platform's mechanisms. In addition, we only sampled people from some professions and some nationalities. Therefore, to have a complete picture of gig workers' experiences, one should also include unsuccessful examples and understand if individuals in different professions may experience different identity work patterns.

Furthermore, we drew evidence from a single online platform, so our results may suffer from the influence of that platform's specific mechanisms. We thus encourage further investigation of different platform mechanisms to acknowledge whether they trigger similar or different identity processes.

Finally, we encourage future studies to develop a deeper understanding of how the unique context of online labor market platforms moderates the relationships between entrepreneurial intentions and behaviors. Specifically, with regard to proactiveness and the creation of a new business, our findings reveal that the online platforms triggers different behaviors, starting

from expressing the desire to build a new company or build a local team, to building an actual local team, hiring other freelancers online to deliver subsets of jobs, or creating a business. This suggests that the platform enables entrepreneurial actions, but this emergent issue has not been explored in detail in this study. A valuable extension of our research, that testifies how entrepreneurial orientation is reflected in a set of behaviors, could detail which contextual factors of the online labor markets or personal motives guide individuals towards the enactment of these different behaviors and why, contributing to the current debate on the role of social and contextual factors in translating entrepreneurial intentions into actions (e.g. Fini *et al.*, 2012; Meoli *et al.*, 2017). We also suggest that researchers interested in these topics should continue to follow the activities of emergent entrepreneurs to acknowledge whether the context of online labor markets triggers successful or unsuccessful entrepreneurial activities.

Table 4. Information about respondents.

General information about informants	
Total number of informants (and number of interviews)	46
Average years of engagement in online work	2,5 years
Average age	27 years
Number of Top Performers (labeled as Top performers by the platform)	23
Number of informants working exclusively on the platform	22
Informants performing offline activities related to online activities	17 (5 are students)
Informants performing offline activities not related to online activities	7 (1 is a student)

Informants by location and online job	
24 IT developers	15 informants from Europe (Italy, Spain, Portugal, UK, France, Russia) 9 informants from Asia (India, Pakistan, Bangladesh)
6 Virtual assistants and translators	3 informants from Europe (Norway, Romania) 3 informants from Asia (Pakistan, Indonesia)
16 Graphic designers	9 informants from Europe (Italy, Spain, Ukraine) 7 informants from US

Figure 3. Data structure.

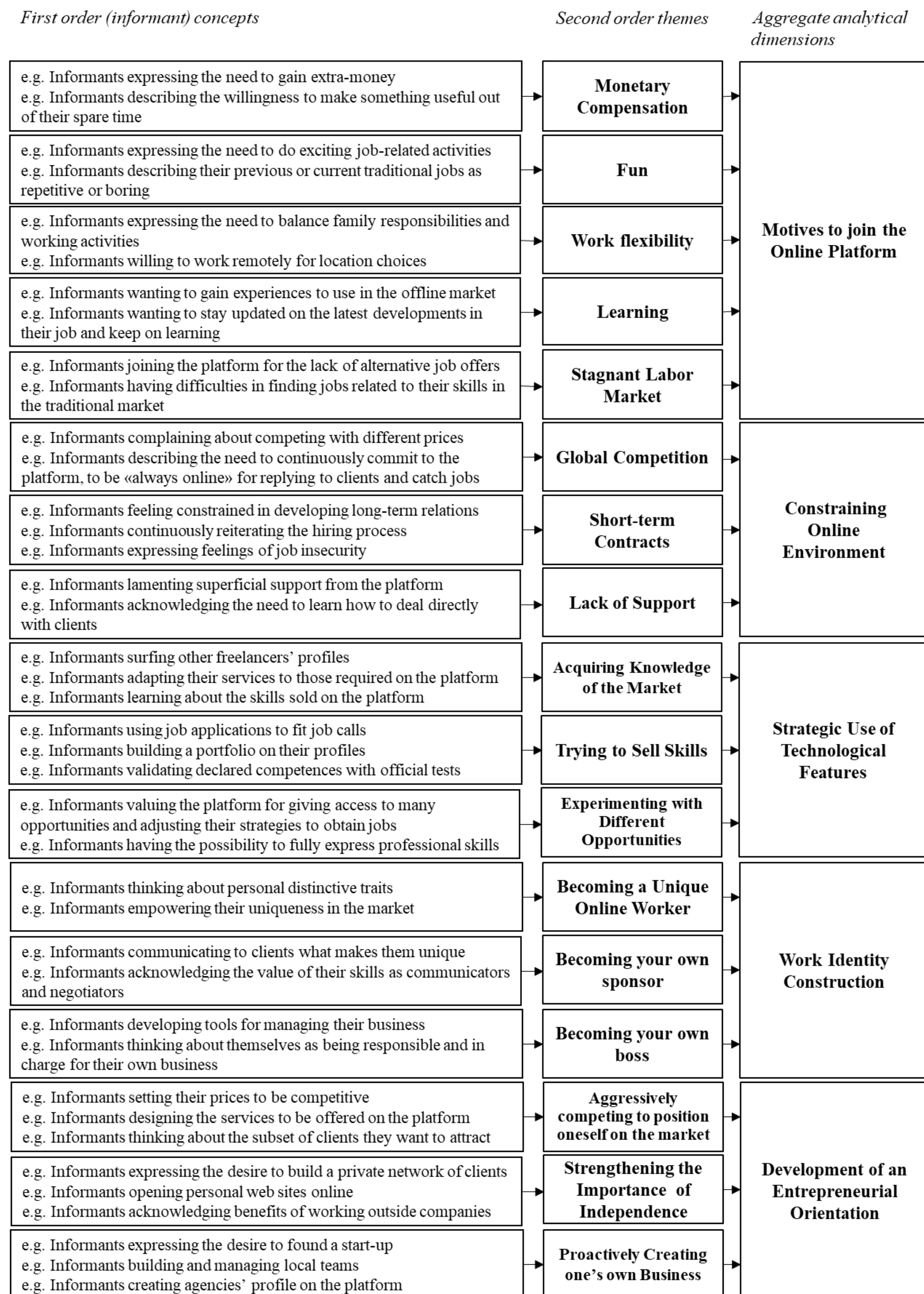


Figure 4. Grounded model.

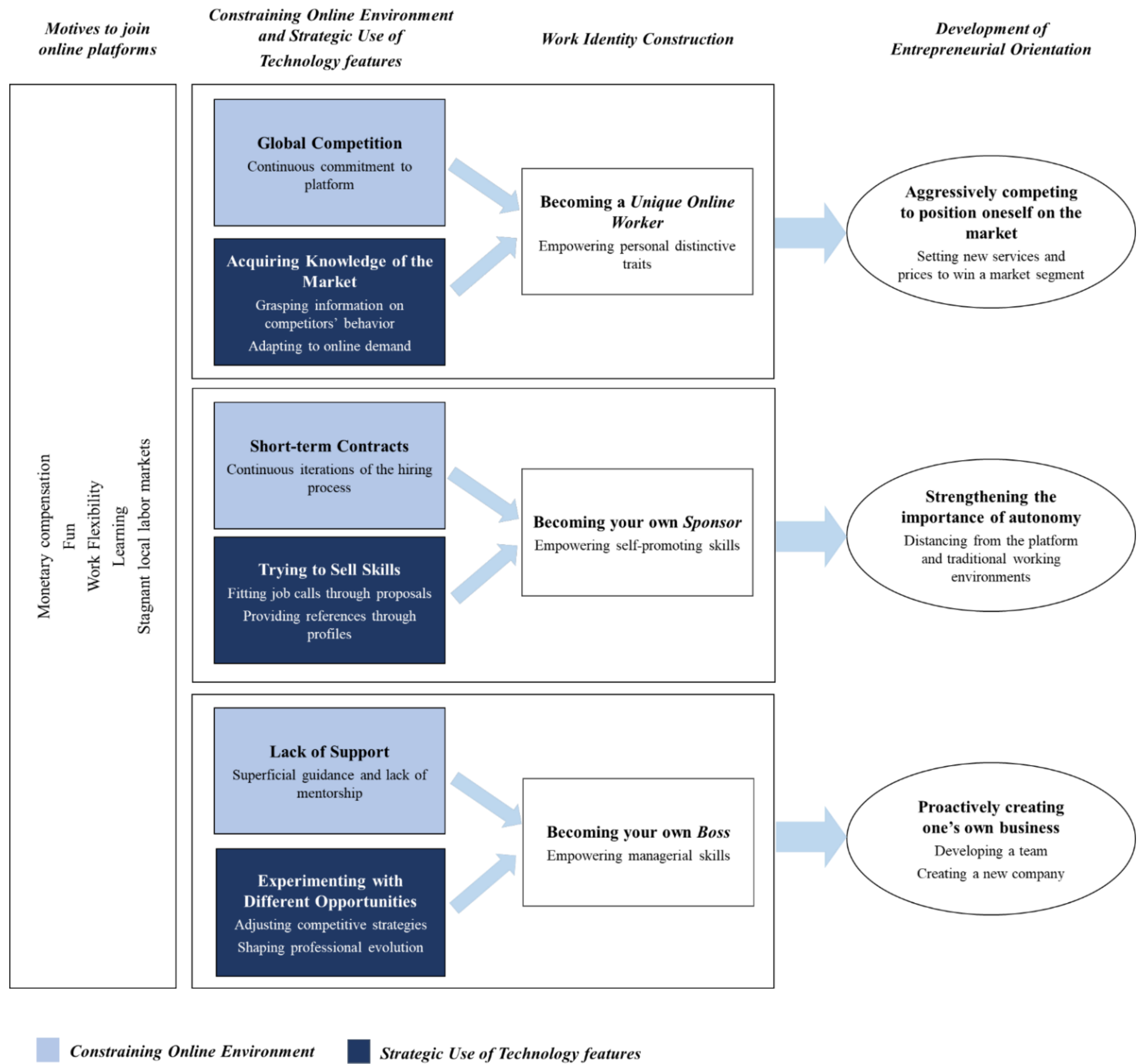


Figure 5. Example of Kate's job applications at different stages of her experience on the platform.

JOB APPLICATION 1 – *Describing distinctive traits*

Dear [client name],

Thank you for contacting me and inviting me to do the illustrations for [resume of job description].

I'm a graduate student from [country] and studied at [university]. During my studies I've learned from [description of experience]. I love experimenting with a variety of art styles and my work is always personalized to each specific project.

I have experience working as an illustrator for [previous experience] (right now I'm working on [current job]). I not only can draw your stories in the requested style, but I can also see them through to final layout for both digital and printed form.

If chosen for the project, I can guarantee:

[service 1] [service 2] [service 3]

I love the [example] you've included in the description and I hope to be part of your project, bringing beautiful illustrations to match [job description].

I look forward to hearing from you!

Best regards,

Kate

JOB APPLICATION 2 – *Sponsoring work through a personal web site*

Hello [client name],

I read your job posting yesterday and was immediately intrigued. When [name of platform] invited me to interview, I knew I had to reach out to you!

I'm a graduate student from [country] and studied at [university]. During my studies I've learned from [description of experience]. I love experimenting with a variety of art styles and my artwork is always personalized to each specific project.

My art varies from traditional to digital and from [another example]. **I have extensive knowledge on the know-hows to creating a graphic [job description], covering all aspects, including: XXXX.**

With any given project, I always guarantee:

[service 1] [service 2]

More samples of my artwork can be found at: [personal web site]

Please feel free to reach out to me with any questions. I look forward to hearing from you!

Best regards,

Kate

JOB APPLICATION 3 – *Presenting herself as the head of a team*

Dear [client name],

Thank you for the invitation to apply to your job!

I head a team of creative professionals that specialize in [specialization description]. We can take a project from initial conception and design through [service description].

Production steps:

[step 1]

[step 2]

[step 3]

[step 4]

We additionally offer [other services].

As I am also an Illustrator on our team, we take great pride in providing beautiful artwork that is always personalized to each specific project.

I will be available as the point of communication for all project related questions and needs. I have added you to [communication technology] and can be reached at [nickname].

I look forward to hearing more details about [job description]!

Best regards,

Kate

Chapter 5

Managing Reputation in the Workpla*tform*

Online labor markets are complex algorithmic structures connecting dispersed buyers and sellers of services. On platforms like Uber, for instance, algorithms create optimized rides matching customers' and drivers' destinations. While riding, Uber customers could also look for logo designers on platforms like Guru, and gather information about designers through algorithmically aggregated ratings and clients' feedbacks. At the end of the ride, they will also rate their experience with the Uber driver and, eventually, leave a feedback. Whether these algorithms control or constrain human action, and how much freedom is left to workers managed by 'algorithmic logics', is being extensively debated in the literature, especially in the fields of management (Bucher, Fieseler, et al., 2019; Bucher, Schou, et al., 2019; Kuhn & Maleki, 2017), sociology (Gandini, 2016b; Lehdonvirta, 2018; Newlands et al., 2018; Wood et al., 2018, 2019), and information systems (Cheng & Foley, 2019; Rosenblat & Stark, 2016).

Scholars agree that ratings, scores, and reputational algorithms create power asymmetries (Graham et al., 2017; Wood et al., 2019) and tensions between platform providers and workers, who live a paradoxical, in-between situation. If it is true that they are seen as 'self-employed' and autonomous in choosing where and what to work on, it is equally true they need to stick to platforms' rules to stay in the market and increase the likelihood of being hired (Lehdonvirta et al., 2019; Lin et al., 2010), becoming '*dependent* contractors' (Kuhn & Maleki, 2017; Veen et al., 2019). There is then a tension between autonomy and control, leading to question the way algorithms work and their positive impact on workers' behavior and well-being. For instance, studies exploring the experience of Uber drivers or freelancers on online labor markets revealed the way reputation algorithms work tends to be unknow and invisible to the workforce (e.g. Cheng & Foley, 2019; Veen et al., 2019). There is also evidence that, as consequence of biases in workers' evaluations, reputational mechanisms

tend to discriminate specific workers' categories – i.e. women and black people (Hannák et al., 2017).

Despite algorithmic biases, workers must develop an 'algorithmic competence' (Cheng & Foley, 2019) to acquire a 'reputational capital' (Gandini, 2016) and survive on platforms. Yet surprisingly, except for those investigating the dark side of online platforms (e.g. Wood et al., 2016, 2019), extant studies have largely neglected how workers actually deal with algorithms, and react to algorithmic control, explaining workers' behavioral responses and subsequent consequences. Drawing on signaling theory (Spence, 1973), we address this issue by focusing on algorithmically calculated reputation and clients' reviews, and by interpreting them as imposed signals of workers' quality (Connelly et al., 2011).

Through interviews with freelancers and data from their public online profiles, our findings describe the way workers interpret reputation and deal with it. Extending scholarly knowledge on algorithmic governance (e.g. Bucher, Schou, et al., 2019; Cheng & Foley, 2019), our model shows that, although reputation scores standardize the way information on quality is sent to clients, and, apparently, how freelancers can work, responses to algorithmic control can vary. Specifically, we identify four different strategies: *compliance, manipulation, nurturing relationships* and *living with it*. Our results explain what happens when individuals must deal with imposed quality signals rather than producing the signals themselves, boosting signaling theory's explanation power.

Theoretical Background

Reputation in Online Platforms

Online labor markets for tasks offer customers the opportunity to connect with a global supply of workers (Howe, 2006; Lehdonvirta, 2018). For organizations and individual

clients, drawing from a large network is an unquestionable advantage, although discerning the best job candidates in a *crowd* might be difficult. Geographical distance between parties, communication through technology, cultural differences, or simply workforce diversity prevent clients from finding the right match, and freelancers from communicating their capabilities. To overcome these obstacles, online labor platforms have built algorithmic scores to be assigned to workers. These scores resemble individual reputation as they are mainly calculated from past clients' reviews. Thus, from now on, we will consider them as proxies of workers' reputation on online platforms. For instance, when passengers ask for a ride on Uber or Lyft, they can see a few stars assigned to their drivers and access feedback on several performance dimensions (e.g. quality of the talk during the ride, cleanness of the car). Similarly, on platforms like Freelancer.com or Fiverr, clients can navigate workers' profiles and find evaluations of their past performance on the platform. Ratings are essential for workers' survival and can affect their ability to win contracts (Lin et al., 2010), as they remind to workers' quality and ability to accomplish tasks (Lehdonvirta et al., 2019).

A few studies have recently enriched our understanding of ratings' effects on workers' outcomes. For instance, Holthaus and Stock (2018) tested the relation between signals on freelancers' profiles and earnings, finding significant positive effects for price and number of tests instead of ratings. Gandini et al. (2016) show instead a positive correlation between platform's earnings and reputation scores. Lehdonvirta and colleagues (2019), who tested the impact of platform-verified and platform-generated signals on freelancers' pay rates, corroborate Gandini and colleagues' results.

The contradictory findings on ratings' effects resonate with other critical views and with those arguing that valuating workers with just few numerical parameters, like star systems, lead to their de-professionalization (Irani, 2015). Rather than evaluating work and workers' quality, those numbers simply measure proficiency on platforms (Irani, 2015; Pongratz,

2018) and do not account for human abilities, emotions, and motivation (Lee et al., 2015). In addition, reputation scores are subject to inflation, preventing clients' ability to discern freelancers (Horton et al., 2015). Criticism also comes from the lack of computation transparency creating unbalanced power structures and enhancing platforms' control over drivers (Rosenblat & Stark, 2016) and hosts (Cheng & Foley, 2019), who need to 'experiment' and make sense of algorithms to continue their work. In other words, they need to develop 'algorithmic competences' (Cheng & Foley, 2019). Despite few exceptions (Bucher, Schou, et al., 2019; Cheng & Foley, 2019; Lee et al., 2015), however, how workers try to overcome algorithmic obstacles, what is the meaning they assign to reputation, and how they develop that algorithmic competence, are still under-investigated issues. The literature shows that workers' design strategies to keep reputation under control and mitigate its effect on the likelihood of being hired (Bucher, Schou, et al., 2019; Cheng & Foley, 2019). For instance, effective strategies include initiating a private conversation with clients (Bucher, Schou, et al., 2019; Hong et al., 2018), over-delivering, and under-billing (Bucher, Schou, et al., 2019). What this literature lacks, however, is a clear explanation of what drives workers to adopt specific strategies instead of others, when, and with what consequences for their work on platforms.

Signaling theory may help discerning these issues, as it deals with quality signals' formulation to cover information asymmetries between parties. Signals *'do not exist apart from the behaviors through which they are enacted'* (Cristea & Leonardi, 2019, p. 569), thus, we want to explore this tight connection between signals and individual behavior and strategies.

Signaling Theory

To make decisions, people need information. In a relation, partners need information to validate reciprocal quality and claims. As part of information is kept private, partners may

encounter difficulties in making decisions about their relationships. When this kind of information asymmetries arise between parties (Connelly et al., 2011), relationships' survival get hampered. Signaling theory is essentially concerned with existing information asymmetries between two parties (Spence, 2002) and with subjects producing specific signals to inform partners about their value. For instance, when employers lack information about job candidates' quality, job candidates use education to reduce information asymmetry and communicate their potential capabilities (see the seminal study by Spence, 1973). Senders create signals to communicate specific qualities, trying to influence receivers' evaluation and behavior (Mavlanova et al., 2012).

Management scholars have applied signaling theory to a variety of contexts. As far as our current research is concerned, the most relevant is that of human resource management (Celani & Singh, 2011; Ehrhart et al., 2012; Ehrhart & Ziegert, 2005; Highhouse et al., 2007; Ryan et al., 2000). These studies mainly take the perspective of organizations and explain how they attract talents, e.g. by working on their web-sites' style and contents (Ehrhart et al., 2012) to enhance perceived fit with the organization (Ehrhart & Ziegert, 2005). Extant research recurrently focuses on contexts in which signals are *produced* by signalers. For example, potential employees craft their CVs neglecting biasing information while stressing favorable ones. However, when workers in online labor markets are subjected to algorithmically calculated measures of quality, they lose the opportunity to craft signals the way they want and potentially experience misfits between the unobservable, wanted-to-be-communicated qualities and the signal itself. This resembles the aforementioned criticism of those arguing that, instead of valuing professionalization, reputation is confined to measure proficiency according to platforms' rules (Irani, 2015; Lee et al., 2015). This also poses an interesting theoretical puzzle because, we argue, senders cannot be considered as pure signal producers, as they are under specific constrains on how to signal their quality, which in turn

affects their activities (Wood, 2019) and controls their behavior (Cheng & Foley, 2019; Veen et al., 2019).

More investigation is therefore needed to better understand the effects of signals on senders in a 'controlled signaling environment'. We address this issue through the investigation of how public reputation influence workers in online labor platforms, what is the meaning they assigned to reputation, and with what consequences for their behaviors.

Data and Methods

The complex nature of the phenomenon and the lack of an existing theory explaining what happens when individuals are subjected to public, imposed signals of quality, drove towards an exploratory qualitative field study and interviews with freelancers subscribed to one of the most popular online labor market (OLM), which from now on will be referred to as 'GigStars'.

Research Setting

GigStars is one of the biggest online labor markets, counting more than 13 million registered users in more than 100 countries. GigStars host both requests for short and more complex jobs, like graphic design, virtual assistance, software and mobile development, and translations. In GigStars' digital environment, organizations can post job requests that contractors can navigate and apply for. Interactions take place at a distance and are mediated by technological tools, either provided by the platform or decided by parties. A typical interaction is either started by clients, who invite freelancers to apply for their jobs, or by freelancers, who find interesting job requests and spontaneously decide to apply. Then, clients review freelancers' information and can decide to continue with the hiring process, either by asking additional information and video-interviews, or by directly hiring freelancers.

In this context, personal online profiles tracking freelancers' working history (e.g., total number of worked hours and past jobs) and performance details (e.g., success rate or reputation score) are signals' examples. When contracts end, both parties access the feedback system and rate their working experience, that is, clients provide a blind feedback to workers and vice-versa. Although platforms strongly recommend leaving feedback, there is no formal obligation, and parties can decide to leave the working experience unrated. They have 14 days to decide and provide both a private and a public rate. The public rate is then shown on freelancers' profiles. This way GigStars' users can access profiles and see job histories and job-associated star rates – i.e. from one to five stars. The private rate, instead, is inaccessible and follows different evaluation's criteria.

Both private and public feedback contribute to the aggregate percentage score resembling past performance and reputation on the platform. However, how algorithms calculate the score is not fully clear to freelancer as only partial information in given by GigStars. For instance, GigStars tells freelancers that multiple, simultaneous, long open contracts negatively affect reputation. Similarly, multiple jobs without feedback in the job history decreases the score. However, freelancers do not know and cannot estimate how much these instances can impact the score. Similarly, they do not have access to private feedback, thus, they lack information about potential unhappy clients or negative feedback magnitudes.

Along with the reputation score, freelancers can also gain the 'top performer' or 'rising star' statuses, which further indicate they are among the best talents on GigStars. Nonetheless, they have only partial information on how to get these labels also in this case.

Data Collection

Extant empirical literature on reputation in online labor markets has drawn evidence from secondary data, i.e. online discussion forums where workers share experiences and ask for

peer advices (Lee et al., 2015). Secondary data do not allow to fully understand whether and under what circumstances workers use different strategies of reputation management and with what consequences for their survival on platforms. To overcome this methodological issue, we collected interviews as main data sources. We also used archival documents downloaded from GigStars and our informants' online profiles to support the theory building process.

Semi-structured interviews. We conducted, recorded, and transcribed 65 semi-structured interviews of about 75 minutes each, with freelancers subscribed to the platform. We chose respondents following theoretical sampling techniques. Specifically, we started from IT developers, who confirmed the importance of reputation for survival. Then, as some hinted at their knowledge of algorithms and how much it could impact their work, we decided to include (graphic) designers, who usually have limited knowledge on how algorithms work. In our final sample we have 32 IT developers mainly from Asia and Europe, 28 designers mainly from Europe and US, and 5 virtual assistants from Asia and Europe.

To reach respondents, we posted different requests for interviews on GigStars, offering a fixed monetary reward between 8 and 12 US dollars. Other scholars administering online surveys on digital labor dynamics used similar approaches (e.g. Deng *et al.*, 2016; see Behrend *et al.*, 2011; and Steelman *et al.*, 2014 for methodological issues in using M Turk for surveys). Consistently with those who proved that monetary compensation is just a secondary motivation to participate in online studies (Kapelner & Chandler, 2010), our informants mainly participated because of their interest in results, their willingness to contribute to a research project, or the desire to share and voice their experience. In some cases, they even lowered the reward or refused to be paid. We kept on collecting interviews until we realized that new data were not helpful in further refining our model – i.e. theoretical saturation (Glaser & Strauss, 1967). For instance, we got very soon clear that freelancers' strategies to deal with reputation changed over time and we identified two different phases, i.e. *Reputation*

Building and *Reputation Management*. Instead, we need additional rounds of data collection to identify behaviors in the *Reputation Management* phase – i.e. *Manipulation, Nurturing Relationships,* and *Living with it*. We ended our data collection once these strategies got clearly distinct.

Online Profiles. We also analyzed our informants' public online profiles to grasp additional information about their working experiences and their identity, about how they present themselves online, and their status on the platform. We also addressed specific questions on profile's information during interviews. By doing that, we could understand how respondents strategically used their profiles in the online environment and gather specific information about current reputation score and reviews.

Archival Data. Finally, we reviewed selected articles and reports from GigStars' blog to develop and enrich understanding of the context. These documents mainly show information about GigStars and tips for freelancers.

Data Analysis

We built an integrated database with interviews, profiles, and documents. Data analysis followed the framework proposed by Strauss and Corbin (1998) for grounded theory development and the three-step coding process inspired by the so-called "Gioia methodology" (Gioia et al., 2013). Under these frameworks, data analysis went hand in hand with the data collection stage (Strauss & Corbin, 1998). We adopted an iterative approach of constant comparison among literature, emerging interpretation of data, and new data from the field. We first open-coded to search for recurrent first order concepts. We then grouped them to create categories, and finally aggregated theoretical dimensions. For instance, first we searched for regularities and patterns among data and found that freelancers described their relation with reviews has 'hard' and talked about the need to lower prices to compete with

other freelancers. We then grouped them together to create the '*Compliance'* category. Later, we grouped *'Compliance'* with similar categories on freelancers' attempts to understand the way algorithms work - i.e. manipulation, nurturing relationships and living with it - into the higher level aggregate theoretical dimension *'Adopted Behavior and Strategies'*. Finally, we searched for 'the arrow' in our model and further examined data to understand relations between interpretations of reputation, behavioral strategies, and emotional consequences.

The data structure in Figure 6 describes first open coded concepts, categories, and aggregate theoretical dimensions, while Figure 7 represent the ground model that links categories and dimensions together.

------ Insert Figure 6 about here ------

------ Insert Figure 7 about here ------

Findings

Figure 7 anticipates our grounded model, which shows freelancers' interpretation of reputation, subsequent behaviors and strategies to deal with it, and the effects in terms of feelings and working experiences. During interviews, freelancers clearly talked about two different stages of their experience: the initial period, when they needed to acquire reputation and get the score displayed on their profile, and the subsequent one, when the score is displayed and, thus, they were able to increase hourly rates and start getting invitations from clients. The model shows the two different phases, named *Reputation Building* and *Reputation Management*.

Phase 1: Reputation Building

Freelancers' relation with reputation signals starts as soon as they enter the online labor market. Many respondents acknowledged the importance of getting reputation scores, reviews, and working histories to win jobs on GigStars.

Reputation Signal as a Barrier. While telling stories about their first steps on GigStars, many freelancers described the first job searches as '*hard*', '*challenging*' and '*difficult*'. This diffused perception, we noted, was due to the lack of previous working experiences and signals on workers' performance. Jane's words tell this information is extremely important for clients, as it shows freelancers' reliability and trustworthiness on the platform.

> "When you subscribe to this platform, none hires you if you don't have any review, if you hadn't worked on the platform before. [Clients] will clearly give more importance to someone who already has some experience, because they can see whether they can respect deadlines, deliver quality jobs etc." [Jane, designer]

The lack of physical proximity and face-to-face conversations explain clients' need to gather information on freelancers and obstacle their credibility as professionals. Working online, informants said, put them in a weak power position, as online work is perceived as cheap and online workforce as deskilled. Amanda and Mary (see also Figure 6) further talked about clients' needs for knowing freelancers' abilities and honesty, whose description is synthetized in past reviews.

> "Well, I always have the impression that they don't take me seriously, they think about me as 'the fresh whip working online'. I thought this could be an issue when working with clients from my country only, but I found out this is a more widespread kind of thought." [Amanda, designer]

> "Working online is something very difficult because, as you can see, you didn't know me until today when we talked, it's only your option to trust me or not, but the only

> way I can make you trust me if you want to hire me is giving you a proof that I'm that person that I'm telling you I am. If I want to be hired, I have to prove you that I'm a really quality person and that I'm not a liar." [Mary, virtual assistant]

Reviews-catching focus. As consequence, we found freelancers' attention in the first period being totally on reviews' collection. Rather than being on skills and competences, competition's focus was on reviews and number of reviews. As Michael says, starting out is a matter of catching projects to get reviews, to acquire visibility and, potentially, to be at rankings' top.

> "First, I took some really small jobs, a couple of dollars once, because, you know, there is a learning curve to get started on the platform. So, if you have no experience nobody will hire you for the project. So, you need to make some compromises, where you invest your time for a future gain. So, at the time, in 6 months I managed to pick up so many projects that if you searched the [activity] term on [name of the platform], then I was one of the first people to came in by the search bar who is suggested for [activity]." [Michael, designer]

Described conditions clearly set reputation as a *barrier* to enter and stay on platforms' market. *Good* score and reviews being absent, being considered by clients is the first difficult task to be accomplish.

Compliance. As consequence, complying to GigStars' rules seemed the way to go to stay on the market. In the last quote, Michael already hinted at freelancers' need to compromise to catch reviews and build reputation. Informants then started to experiment with algorithms and learnt how to deal with clients. We thus found different strategies used to adjust to platform rules, as described below.

Experimenting with algorithms and alternative signals. To overcome threats from the lack of reviews, freelancers enacted strategies to 'play' with matching algorithms and make

their profile more attractive. For instance, we found informants playing with keyworks and skills' descriptions to get the attention both of clients and algorithms. In this regard, Heather described the experience of her friend, Rita, whom she helped to scale algorithms up.

> "So basically the way we did is we work a lot with the title. […] In my title I state that I do several things, and she [Rita] is more specific. And basically she started getting a lot of invitations on this particular field of work, and now we have found out that if you search on google for [activity], [name of the platform] gives her one of the top ten [activity], and she was on position 5. And then we changed the title and she went to position 3 like the next day. So, every change at the title, you get a better position." [Heather, IT developer]

Freelancers also searched for the help of peers on online communities and forums when they were not able to find effective tactics by themselves.

> "I read that it's a good way to make the client feel like that you know what you are talking about and also it helps to start a conversation. […] I read that in some advice in one of those [name of forum] forums online. That if you can find a way to start a conversation you are more likely to get a job with somebody." [Roy, designer]

Freelancers also identified their profiles, job application letters, and skill tests as substitutive signals of quality in the initial stage. They specifically talked about these tools as important to make a first good impression and communicate not only capabilities, but also enthusiasm.

> "In terms of building my profile I did research trying to figure out like: Ok, what do people say is the best way to put your profile together? Because initially I just had: 'Oh, here is the description of myself and what I do', and rather than just being like 'I do this, this and this', I think I put a lot of work into letting people know that I'd be excited and interested to work on what they want me to work on." [Tracy, designer]

Under-billing and choosing smaller projects. Freelancers also decided to keep very low prices to compete with those with higher reputational capital and prices. The need to under-

bill was also described as a sort of unwritten rule of the game, as clients seemed to expect lower prices from new entrants. In more than one case, clients also asked to reduce payments in exchange for good reviews, something new freelancers crave for.

> "At the beginning I had to accept very low payments. […] Yes, I can say I was paid starvation rates. […] My first job was actually with a guy who even wrote in the job description: 'I am not paying much for this job because I live in a country where dollars' power is less than in the US. So you'll get less money. But you'll get reviews and a working experience." [Jane, designer]

In addition, to speed up this first stage, freelancers tactically applied to several small, easy jobs to increase the number of good reviews.

Loneliness in time of bad experiences. When freelancers need to under-bill, their work is fragmented, and they lack experience on how to deal with clients, they are also exposed to potential bad working episodes. Some freelancers reframed negative experiences with clients as learning opportunities to define idiosyncratic working rules and strengthen their negotiating skills. Nonetheless, they also described those episodes as stressful moments, especially since they felt alone in facing difficulties.

Doing 'customer service'. The initial period was described as the most demanding in terms of satisfying clients' requests. The fear of getting a negative instead of good reputation pushed them towards pleasing clients' whims and trying to avoid disputes.

> "If they're satisfied with the job, you get a qualification in stars. 'Five stars' means that the job has gone nice. That's what I mean by getting the stars, drop prize, do a nice job, don't complain. So the client doesn't get upset, and luckily he will give you five stars. And then so your competition builds up." [Cameron, designer]

Absence of regulatory protection. Freelancers lamented lack of regulations against exploitation. Many informants complained about the dispute resolution system and reported it

tend to favor clients rather than workers. Others also complained about being subscribed to something that was not taking care of them, they felt. Grace's experience provides an example.

> "I can tell the client upfront: 'This is what I'm willing to do for that price', but they can still ask me to do more and give a bad feedback if I don't do it, right? Like, I can go to GigStars and say: 'Look, this is what I promised to do for this price and now they are asking me to do more.' GigStars doesn't care." [Grace, designer]

Phase 2: Reputation Management

Once got their first score, freelancers clearly claimed their experience on GigStars started to change. They mentioned they started receiving invitation from clients and increasing their pay rates and negotiating power. However, they also described the need to either maintain their good or improve their unsatisfying reputation to continue their work this way.

> "Well at the beginning I basically was capturing reviews, it was caption jobs actually at the beginning. Because I really wanted to bid some other jobs that I couldn't get without reviews, so at first it wasn't really about the money, it was about the reviews. Now it's about the money because I can bid on some better jobs than before." [Brad, designer]

In this second phase, we noticed a shift in the way freelancers interpreted and approach reputation. Specifically, we identified three different interpretations which we then linked to three different behavioral responses. First, we found some freelancers using reputation as an *asset*, i.e. as useful tool to show their abilities. Second, we noticed other freelancers *emotionally attaching* to the signal and, therefore, interpreting it as an identity statement. Finally, we also discovered a few freelancers trying to resist to this *rule* of the system, focusing on accomplishing their tasks rather than being worried about reputation. We describe these interpretations and their consequences in detail below.

Phase 2: Instrumental Response

Reputation as an Asset. A first group of informants interpreted reputation as an asset of their business. In other words, they perceived reputation as useful to get more jobs, as a proof of their credibility against those who do not deliver quality tasks instead. Reputation was then perceived here as something improving freelancers' competitiveness in the market. Adam clearly describes this tendency.

> "If I send clients an example of my work, that is not enough to make them understand that then I will respect deadlines, that I am someone who carefully reads the request, who tries to contribute with his own ideas, open to critiques. These are things clients are searching for. But you can't explain these things, they have all rights to think you're lying, so I would prefer to use something other clients said when they worked with me. […] So, I've taken a pragmatic stance towards this rating system. I have asked myself: What these reviews are useful for? I think if someone delivers a good work, and thus deserves a high score, he has all rights to show that to future clients. I personally believe this is a useful tool for both clients searching for freelancers in this jungle, among hundreds of proposals, and for freelancers trying to build their business." [Adam, designer]

Using reputation as a promoting tool. When analyzing freelancers' profiles, we corroborated Adam's words and found reputation used as tool to sponsor freelancers' work. Many informants decided to fill their personal description on profiles with past feedback and scores. Figure 8 provides an example. This tendency was also clear when informants described how they imagined clients reading their profiles. For instance, even if he held additional personal websites to show his work, Xavier told he prefers GigStars' profile to present to clients, as it collects useful feedback describing his abilities. Sean further explained the importance of public reputation as endless advertisement of his value as a worker.

"I prefer my platform's profile to present to clients. Because they come from [name of the platform] and my feedbacks come from [name of the platform], and they can see what I have done and that I am a really good worker." [Xavier, IT developer]

"I let my profile speak for itself, because I have a good reputation there, there is a lot of hours in there, and I have feedback from people who have worked with me. And this kind of setting why people are willing to pay this 39$ per hour." [Sean, IT developer]

Manipulation. As reputation is an asset to be spent and is important for being legitimized on the platform, freelancers acknowledged the need to keep it under control.

"It's competitive, it's very competitive, because I'm not the only Top Freelancer over there. It's like hundreds and thousands of freelancers. So, that badge is like... Okay, it's a badge, you are Top Freelancer. But you have to maintain it, you have to enhance it, time to time. […] You have to take care about it time to time." [Nancy, IT developer]

As consequence of the need to care about reputation, freelancers designed *manipulation* strategies to take control over how platform's algorithms work. These strategies include reacting to negative feedback to preserve image on the platform and adopting a transactional style while dealing with clients.

Preserving platform's image. Among the criteria of algorithmic score's calculation, freelancers learnt the need to show commitment to GigStars. Specifically, they payed attention to open contracts and tried to limit the time of opening, as explained by Harry in the next quote.

"But there are clients out of there that will talk with you for a while and then stop talking to you and keep your contract open and then 40 months later write: 'Hey, I got more work for you!'. Having that project opened for so long does hurt our reputation because every two weeks [name of the platform] calculate your score, contracts that don't move, that are closing or opening and closing within a time period, kind of go

> against your score. So, my score went from 96 to 94 because of that one project. So, I closed that out, I just don't want to waste my time worrying about a client that was not going to respond to me." [Harry, designer]

Those willing to build more long-term relationships with clients must then regularly win random, smaller projects, in order to prove to be continuously active and avoid score drops. Along with showing commitment to GigStars, informants also described how they reacted to negative feedback causing score losses. As explained by Helen (see Figure 6), winning smaller jobs in the short term helps to rapidly increase reputation.

Finally, some freelancers bluntly asked clients avoiding leaving feedback in case unsatisfying working relationships, as they noted missing feedbacks hurt the score less than negative ones.

> "I even asked some clients not leaving a feedback when things didn't go well. My fault, his fault. It can happen. I have won so many projects… The relation with clients can't always resolve the best way possible and sometimes I happen to ask: 'Please, do not leave a feedback'. Because I noticed that, if I had all 5 stars, the reputation stayed 5 stars. If I just happened to get a 4, then the score mean dropped. Instead, if clients left no feedbacks, then the work is listed as a completed job that doesn't count for the mean." [Adam, designer]

Transactional perspective of working relationship. Not only freelancers interpreted their score as an asset, they also interpreted clients' scores as assets of their own business. Along with Harry's complains, other freelancers talked about clients who disappeared, kept contracts open, ignored freelancers and finally (indirectly) hurt their reputation. To avoid similar episodes, freelancers adopted a transactional style when dealing with clients. Specifically, they leveraged the rating system to gather information about clients and avoid those with bad reviews. They also decided to clearly define contracts' boundaries ahead of actual delivering in order to avoid negative surprises.

> "We need to learn how to build a defensive weapon, an armor, to avoid scams. For instance, setting limits with clients. How many times they can change the output, for instance. […] I don't like dealing like this with clients, because there are clients that could potentially be your friends or siblings. But I have to do that." [Adam, designer]

Emotion Regulation. Taking control over reputation through manipulation strategies helped freelancers taking control over their emotions, too. We found freelancers focusing on their competences and qualities, and reinforce them "against" clients, and being tolerant towards low scores and bad experiences.

Competence self-reinforcement. Informants interpreting reputation as an asset were particularly interested in communicating their qualities and their professionalism. In their storytelling, they often used words like *professional*, *serious*, *reliable*, and we interpreted this attitude as a self-reinforcement, coping strategy and as a way to manage bad experience. In particular, they seemed to use this strategy to keep their emotions under control against score losses. While talking about sudden changes in her score, for instance, Kirsten showed disappointment and perceived a threat to her professional image. Concurrently, she also explained that a score drop did not reflect her professionalism, as she was convinced about her qualities.

> "I'm at a loss for how they're figuring out that percentage, because it doesn't seem like that one worked. It doesn't seem like it's averaging out to me. I don't know, I'm a very hard worker, and I'm very talented. Clients are missing out then on. To me, that's just a bit a disadvantage to many potential clients." [Kirsten, designer]

Tolerance for lower scores. Along with keeping emotions under control, freelancers also showed higher tolerance for lower-than-100% scores. Although they recognized the need to stay on the market, thus, to maintain the score over clients' bar to get jobs, they did not

appear obsessed by perfection. Rather, they designed corrective strategies to preserve the score against market exit, as Helen describes.

> "Never mind, because it's going maybe to 98 or 97, maybe, it's not going to be down quickly. It's ok, never mind, I will increase after. It's still good so it never gets really low. […] I mean 90% it's still good, it's still fine to find jobs." [Helen, designer]

Phase 2: Relational Response

Reputation as an Identity Statement. As opposed to those taking a pragmatic stance towards reputation, we found other freelancers being really concerned about it. This concern was driven by their interpretation of reputation, which was perceived as a material proof of their quality and as their identity as workers. Reputation sort of measured their behavior on GigStars, and interpreted as a wake-up call when something went wrong with clients. Mary's words perfectly exemplify this attitude.

> "On GigStars I have a link with my profile, so if I want to give someone some kind of my CV to see my skills and my abilities I'm using my CV on GigStars because I have the advantage that I am top freelancer, and this means I have very good quotations, I'm treated like a very serious person, a very correct person. So, I'm using this cv link because it's very important for me, it's somehow like my second identity, it's my proof that I'm a really honest person and a fair person." [Mary, virtual assistant]

The way freelancers present on their profiles corroborates this interpretation. Personal descriptions are here identity statements where skills' presentations are enriched by historical nuances, personal distinctive traits, and emotions. Figure 8 provides some relevant examples from profiles.

------ Insert Figure 8 about here ------

Emotional Attachment. Informants used words like *pride*, *enjoy*, *love*, *passio*n in their profiles and during interviews. When talking about reputation, they often used also the term 'personal', triggering an emotional attachment to reputation. As Emily's and Jake's quotes show (see also Figure 6), for instance, score drops do not necessarily negatively influence job opportunities. Rather, they personally impact on freelancers, as they are material signals of something going wrong despite all their efforts.

> "It disturbs you, you know, even though it doesn't dissuade people from using your services, it's still for you personally, it's not nice to see that for everything you do. You go through this to this extra mile and you try to do the best you can. And then you see this 4.6 rating on your page. It's more of a personal thing. I don't think people actually experience a drop in invitations or a drop in awarded projects because of a difference of like 2% job success score, I don't think that happens. But it's more of like a personal thing for freelancers, because it's their business. And it hurts when you know that you did everything. And then there's this number, that's saying that you're not perfect." [Emily, IT developer]

Nurturing Relationships. Given their strong emotional attachment to reputation signal, our informants experienced a tension between being authentic and trying to avoid threats to their professional identity. The strong associated meaning somehow prevented them from pure manipulation of algorithms, as this would have meant faking their identity as professional. For instance, once he had too much work to deliver, Michael thought about hiring other freelancers to deliver the job on his behalf, avoiding fights with clients. However, in order to preserve his profile integrity, he ended up deciding not to compromise on quality.

> "Most of the time I was doing this on my own. But once I wanted to hire a group of people, because I just had so many projects I could take on and I've really seen this opportunity, like open up some kind of a freelancer agency, maybe hire some people from India and teach them how to work my way and so on. So I held a couple of interviews but in the end it didn't really work out because I've seen it is such an extra challenge. And I just didn't feel ok. I didn't want to compromise my profile's integrity

> and deliver standards for quality." [Michael, designer]

Furthermore, freelancers perceived evaluation process' uncertainties as threats to their efforts. They then decided to *"humanize themselves"* [Michael, designer] and work on relations with clients to prevent negative feedbacks. In other words, freelancers tried to take control over working relationships instead of algorithms.

Investing time in the initial approach with clients. First, till the very first contacts with clients, we found freelancers investing a lot of efforts in building good relationships. This mainly meant trying to understand clients' reliability through the lines of job calls and setting up the informants-called "two-way interviews". These were meant to not only allow freelancers getting cues on clients, but also explain the way freelancers approached their work, eventually ruling out clients who did not seem to value or understand their work.

> "I'm trying to tell my clients to understand that when they have a job saying that I have to translate something from Chinese to 20 different languages, the first thing to do is to translate from Chinese to English. You can obtain a really high-quality translator to make the second generation as good as possible, but English has to be mostly perfect and then I can translate from English to the other languages. But what they do is they choose the cheapest and the first one is giving them an offer. […] I know my profession, I know that I don't want to deliver bad work, I don't want to read my name on a translation that is bad. So, that way I feel safer when actually I say no to a job, or I feel safer if some clients are saying that I don't have fit with that job." [Marcus, translator]

> "I vet my clients carefully before I even start working with them. I usually have long conversations over Skype, like maybe half an hour or an hour conversation before I even accept the job. And if I'm sure that this sounds like a good relationship, only then I actually proceed with the contract." [Emily, IT developer]

Maintaining good relationship with clients. Building positive initial contacts with clients was not enough. Freelancers also needed to make sure to preserve a good climate over time. Informants told us they tried to keep open communications with clients and to continuously get feedback on their work. They described this practice as useful to 'cuddle' clients and make them feel they are being taking care of.

> "I think touching base is really important, but it is tricky because you can't touch base too often, because then you are annoying and they do not wanna deal with you, cause they have other things going on. So, you have to write just the right amount, so that they feel that you haven't abandoned them, that you are still worried about their project, that they feel that you are taking care of. That is really important to me, that my clients feel that they are taking care of." [Tracy, designer]

Furthermore, when talking about freelancer-client relations, they insistently mentioned the word 'trust' and talked about the importance of trusting the other party in a contract. They described a two-way trust relationship, where not only clients need to trust them, but they also need to trust clients over time.

> "Well, if I am doing a good job, they do not care. It is really important to me since I started my business that my clients trust that I know what I am doing, because I have done it for a really really long time. And so I do filter and I do not wanna work with people that seem like that they won't trust my experience and expertise. So, that is really important to me. And that puts me in a position where I do feel to be taken care, they need to feel confident in me and in what I am doing, that I am gonna handle things for them and it is not gonna be a headache, they are not gonna scramble at the last minute for something, that everything is good, they don't have to stress up. I got it!" [Tracy, designer]

Anxiety. Emotional attachment to reputational signal drove freelancers feeling stressed from it. Even if we cannot claim that they all negatively perceived the rating system, we can claim consequences emerged as unfavorable to their work. Specifically, we found freelancers

locked in an uncertain process, where the absence of punctual information about computational mechanisms kept them stressed and anxious about scores. This drove ultimately the need to preserve the highest score possible.

Stressful experience. Freelancers who strived to maintain good relationships with clients took it personally when something went wrong. For this reason, some informants hardly criticized the feedback system's structure and revealed being annoyed by potential asymmetries between the public, visible feedback and the private one, which both concur to the aggregate score's calculation.

> "It looks like a complicated thing and something that can favor clients, who have the bread and butter. Because when they close a contract, there are two types of reviews, a public and a private one. In the public review, one can say: 'Oh, it was wonderful', but in the private say: 'It was a disaster'. So this is complicated. Clients think that everyone sees the public review, but also the private one… The private one is the one that drops our score." [Jake, designer]

Not knowing what went wrong was also described as disconcerting (see Tracy's quote in Figure 6). Moreover, freelancers described the way clients interpret the rating system as idiosyncratic, creating rating fluctuations. Freelancers always run the risk of meeting dishonest clients who provide unrealistic feedback. These are threats to freelancers' life on GigStars and augment stressful experiences.

> "So because such things happen, the platform gives you this 100% success score that you're supposed to trust, and then it fails you, it just shows that it's a waste of time, you know, because obviously, it can still happen, that you're running into a person who's dishonest, maybe not even who they say they are, they're not going to do a great job, that they have this number that was automatically calculated based on who knows what. I feel like it's just a waste of time, and it's very stressful for freelancers." [Emily, IT developer]

Scarce Tolerance towards bad feedback. Emotional attachment to scores and feedback, and uncertainty when dealing with clients, led freelancers to fear score drops and to be stressed from being 'perfect' for GigStars. As Emily described in one of her previous quotes, lower scores say that *"you are not perfect"*, and lack of rating perfection hurts. Tracy shares similar thoughts.

> "Now, as far as the success score, it does seem really important. I worried even if I dropped mine to 99%. I don't know how that would affect things, but I have been 100% the whole time I have been on [name of platform] and that is really important to me to stay there." [Tracy, designer]

Phase 2: Indifferent Response

Reputation Signal as a Rule. As final reputation management path, we found some freelancers adopting an agnostic stance on reputational signals. Even if this group is not as crowded as the other two, a few informants talked about reputation algorithms as simple rules needed to make GigStars work. Thus, they described reputation as a peculiar aspect of their work that needs to be accepted, not understood. In this regard, Cameron told us:

> "They [algorithms] count the number of successful jobs that you have in the past, in the last three months, over the last 12 months, the earnings. But [name of platform] really doesn't tell you exactly how it works. So, in a way, that's the way it goes. It's not a matter of trust, if you have to work with it. It's how the platform works." [Cameron, designer]

Understanding reputation as consequence of behavior. Although none had perfect information on how algorithms work, freelancers know they draw from reviews and ratings. As reviews, feedback and ratings come from authentic experiences with clients, they were understood as consequence of freelancers' behavior on GigStars. Informants then decided to behave authentically and honestly with clients.

Living with it. We found this authentic and honest behavior being one form of resistance to the system. Instead of being worried about getting good scores, indeed, informants seemed to be more focused on their work and on what needed to be done to accomplish tasks. This way, as Brad tells, high scores simply happen while working on projects. They did not seem to search for high scores, in other words (see also Norman's quote in Figure 6).

> "And for the top rated, it's also something that I basically didn't... I mean of course is really good to have it, but I didn't really go for it, in terms of searching for the client and asking for the grade or something like that, it basically came along as an additional thing while I was working on the other part of it." [Brad, designer]

Focus on delivering the 'best work'. Those who showed indifference towards ratings declared to be more focused in delivering the best work for clients and in doing the best job they could. As Jane described, instead of devoting her attention to reputation, she preferred to focus on being professional and distinguishing themselves from other designers. Similarly, Norman acknowledged freelancer's inability to influence the score and, therefore, the need to simply find a personal, satisfying way of working.

> "You must be professional, not only professional, but even more, you have to be available, and you must deliver your work even before the deadline. You must work better, in other words. […] So what I did, I invested in being professional and, even more, on being available." [Jane, designer]

> "This scoring is something out of your control. You cannot influence this is scoring. So you should just find your way to work with this, to work in this environment successfully." [Norman, IT developer]

Frustration. Although focused on work and personal quality, informants knew they must keep high scores to stay on the market. We found that this extreme focus on tasks' accomplishment and the absence of feedback management exposed freelancers to bad

experiences and forced them to deliver more than promised in order to preserve over-the-bar scores or even be paid. As Jane expressed in her previous quote, freelancers need to simply "*work better"*, but this could also lead to deliver more than promised, without knowing exactly whether this would be beneficial or not.

Paradoxical overload for satisfying clients' requests. In other words, we found informants experiencing a sort of paradox. On the one hand, they seemed to be focused on their job, while on the other they revealed to be very client-oriented and afraid of disattending their expectations. As Brad told us while talking about his working practices, '*if the client says something you should really listen to what he said and try to basically not making any mistake so he has to pay you'*. Similarly, Cameron talked about the necessity to go on with over-demanding clients to avoid fights.

> "Well, sometimes you agree on the work, but then they kind of start to ask more and more things, which were not previously really agreed. Or if he doesn't see, he doesn't like the result. So, he keeps asking you more and more and more, and he doesn't want to pay more for it. So it gets to a point where it would be better to just jump on. […] Like, let's stop and find someone else, you can get someone else. And that's really hard to do. That depends on the clients. And sometimes I have done that. But with a client that I see it's nice and respectful. I said: 'Okay, we're not going anywhere, maybe someone else could do something better', and it worked out. But sometimes it doesn't work, you fear that they won't understand that. So, you just have to keep going."
> [Cameron, designer]

Despite their indifference towards algorithms, because of their strong client-orientation and the need to maintain a good reputation, freelancers did not seem to protect themselves enough from potential bad experiences. Although this approach to ratings seems to be positive and less stressful at first, it reveals negative consequences in terms of day-by-day activities and working practices.

Discussion

Scope of this research was investigating how freelancers react to algorithmic calculated, imposed reputational signals. Our grounded model (Figure 7) describes how freelancers on online labor markets interpret reputation signals and how this influences their subsequent strategies and behaviors. Finally, the model shows the effects in terms of emotional consequences. First, we found freelancers' experiences on online labor markets being divided into two different phases. The first phase is marked by the need to build a good reputation signal to start catching jobs and stay on the market. This specific need leads freelancers to comply to platform's rules and to perceive reputational signals as barriers to market entry. Here, experimenting with algorithms, using alternative signals, and under-billing have been identified as the most used survival strategies. Feelings of loneliness and fears due to the absence of regulatory protection made freelancers' first months very hard.

Once they get their first signals of reputation, freelancers enter a second phase, that we named *Reputation Management*. As maintaining a good reputation is essential to stay on GigStars, freelancers use three different behavioral strategies to manage algorithmic calculations and reputational signals. These are driven by three different signal's interpretations. When freelancers perceive reputational signal as an asset, i.e. as a promoting tool for their business, they try to take control over algorithms and put in place manipulation strategies. These are preserving their GigStars' image by asking clients to avoid negative feedbacks, for instance, and by dealing with them in a transactional manner. This way they keep emotions under control and better deal with negative experiences.

Informants in the second path, instead, interpret reputation signal as an identity statement and emotionally attach to the signal itself. They thus turn into their relations with clients to avoid negative experiences and design strategies like investing in and maintaining a good

relationship with clients over time. The model shows freelancers being stressed by their experience on GigStars.

Finally, the model shows freelancers embedded in a paradoxical situation. If, on the one hand, they look indifferent towards reputation signals and care more about delivering a high-quality job, on the other, this approach leads them to lose control over the working relationships and to be exposed to frustrating, demanding experiences.

Results allow us to contribute to both signaling theory and the emergent literature on online reputation and online labor markets.

Imposed Signals, Negative Consequences

This study shows how freelancers on online labor markets interpret a platform-constructed quality signal – i.e. reputation -, their behavioral responses and emotions. From a signaling theory perspective, the study explains what can happen when individuals must deal with imposed, perhaps not intended, created by a third party signals, an issue that has been largely neglected by signaling theory's research. Existing studies adopting a signaling theory perspective (Celani & Singh, 2011; Ehrhart et al., 2012; Ehrhart & Ziegert, 2005; Highhouse et al., 2007; Hochwarter et al., 2007; Ryan et al., 2000; Srivastava, 2001) are mainly concerned with how individuals *produce* specific signals to communicate their quality, but they do not explain what happens when signals are not produced by signalers. However, this is an increasingly common scenario, given the widespread popularity of online labor platforms and of rating systems to reduce information asymmetries between at-a-distance parties. More and more, workers operate in environments where evaluation and reputation systems are publicly visible and imposed by external parties. On online labor markets, for instance, quality signals depend on clients' opinions and are out of freelancers' control. What happens then when quality signals are (algorithmically) imposed urges an explanation.

Our findings allow us to argue that imposing signals generally lead to negative consequences. In the first phase of their career, freelancers interpret reputation as an obstacle to be overcome in order to start their work on GigStars. Thus, they are forced to comply to signals' rules if they want to survive and thrive in the working environment. This harms not only freelancers' ability to earn money, but also lead them to work extra-hours and live negative experiences with clients. We can formulate a similar argument also for the second phase. Although different, all paths describe negative situations. When freelancers see reputation as an asset, they try to manipulate the system at their own advantage, leading to potentially negative consequences for the system itself. When freelancers see the signal as an identity statement, they try to act on the relationship with clients, which turns out to be a stressful situation. Finally, when freelancers simply see the signal as a rule of the platform, they experience a paradoxical situation in which they appear indifferent, but at the same time they lose control over the working relationship and over-deliver.

Overall, although imposed signals can be useful to reduce information asymmetries, our results show there are costs to be paid, either in terms of stressful experiences for freelancers or risks of system manipulations for the platform. In addition, this study suggests that, when signals are imposed rather than produced, individuals engage in a process of signal re-appropriation which shift signals away from their initial purpose. Instead of being simple quality evaluation tools aimed at reducing information asymmetries, signals become either assets, identity statements, or rules of the game, triggering unexpected responses. This argument is further developed in the next section.

Same but Different Signals

Our results extend scholarly knowledge on gig work and contribute to the debate on algorithmic management by presenting how freelancers on one of the most popular online

labor markets adapt to algorithmically calculated reputation. Contrary to studies that first attempted to understand freelancers' behaviors and that generally talked about manipulation (Cheng & Foley, 2019) or preventing strategies (Bucher, Schou, et al., 2019) using secondary data, our grounded model describes how freelancers interpret reputation differently in the different stages of their career on platform, therefore implementing different strategies. In particular, the model identifies two different phases: the first one describes what happen when freelancers begin their work on platform, while the second one shows how they behave once they are more tenured workers. Already identified strategies, such as 'under-billing' (Bucher, Schou, et al., 2019), refer to a first step in freelancers' career and they are useful at the beginning to build freelancers' image and get good reviews. They tend to disappear gradually the longer freelancers stay on the platform and increase their professionalism.

Moreover, our grounded theory shows that, after a first phase in which freelancers see reputation as a barrier to enter the market, they then develop three different interpretations leading to distinct behaviors. Compared to other findings (Cheng & Foley, 2019), ours explain that different patterns of behavior may exist on the platform and that 'manipulation', 'nurturing relationships' or 'living with it' strategies are not used indistinctly by all freelancers on the platform. Although reputation scores have been designed to govern and standardize the way freelancers can work and be evaluated and, therefore, harmonize the way information on quality can be provided to clients, this study shows that different behaviors exist and that responses to algorithmic control can be diverse.

Finally, concerning reputation inflation on this type of markets (Horton et al., 2015), this research illustrates the micro-mechanisms leading to reputation inflation. By describing how freelancers comply, take control over the algorithm or over the relationship, or even unconsciously succumb to the system, the model describes a process of re-appropriation

driven by the necessity to maintain high scores. This process ultimately inflates ratings, hampering clients' ability to really understand freelancers' quality from reputation signals.

Limitations, future research directions, and practical implications

This study is not without limitations. First, evidence comes from a single online platform, therefore the way GigStars is structured and designed can influence results. We thus encourage further investigation of different platforms to compare new and different strategies. Moreover, the way we chose to reach respondents did not allow to reach freelancers who did not survive to GigStars' rules. In order to extend and further refine our model, future studies should also include unsuccessful examples to understand whether other, unsuccessful strategies exist. These potentially lead freelancers to abandon the gig economy or simply choose other platforms. Future studies should then try to think about alternative data collection techniques or alternative sources of data to include these missed informants, perhaps by using secondary data or by designing a longitudinal study to follow freelancers' work overtime.

Furthermore, the model does not clearly explain why freelancers give different interpretations to reputation, or what drives different assigned meanings. Although we searched for this piece of information in our data, especially in those quotes describing the *Reputation Building* phase, we still miss a proper explanation. Yet, we think these differences would be an important integration to our theory and, thus, we hope to see them in future researches. Such researches would probably benefit from a longitudinal research design, picking freelancers at the very beginning of their career on the platform. Alternatively, one could also investigate personal traits and attitudes through *ad-hoc* surveys. Finally, we would also mention we think there could be relevant feedback loops in our model. In other words, under

certain limit conditions, we believe freelancers may need to move a step back to the *Reputation Building* phase to preserve and adjust their career trajectory. Again, our research design does not allow to identify these conditions, although we encourage future studies to investigate these issues.

We would also mention here a couple of interesting, emerging insights that could guide studies on alternative issues. First, contrary to what Spence (1973) suggested about education as a quality signal, education does not seem to be an alternative, powerful quality signal on this type of markets. Therefore, we claim for studies investigating in depth the role of education in these markets, focusing specifically on its impact on freelancers' ability to catch jobs and deliver tasks. More attention should be paid on the meaning of skills and skills development on these markets. In addition, research on online social movements (e.g., Newlands et al., 2018) suggests freelancers need help to deal with platforms' issues, and shows they usually use online communities and forums to find support from peers. Future studies should then investigate in depth what happens on these online communities, which type of help is usually asked and given, or whether, through these online spaces, workers are able to build durable relationships with other colleagues.

Finally, this study shows that imposing signals of quality is very likely to produce deviant behaviors hampering either senders or the signaling system, leading freelancers and clients to distrust the signal itself. Although reputation signals on these platforms can be useful tools, they tend to be still ambiguous and subjective, despite designed to be objective. We thus suggest platform providers to either make criteria to calculate the signals visible, in order to sensitize clients on how the system could really impact or workers and make it fairer for freelancers, or changing the signals themselves and allow workers for a better personalization and design of their quality signals.

Figure 6. Data structure.

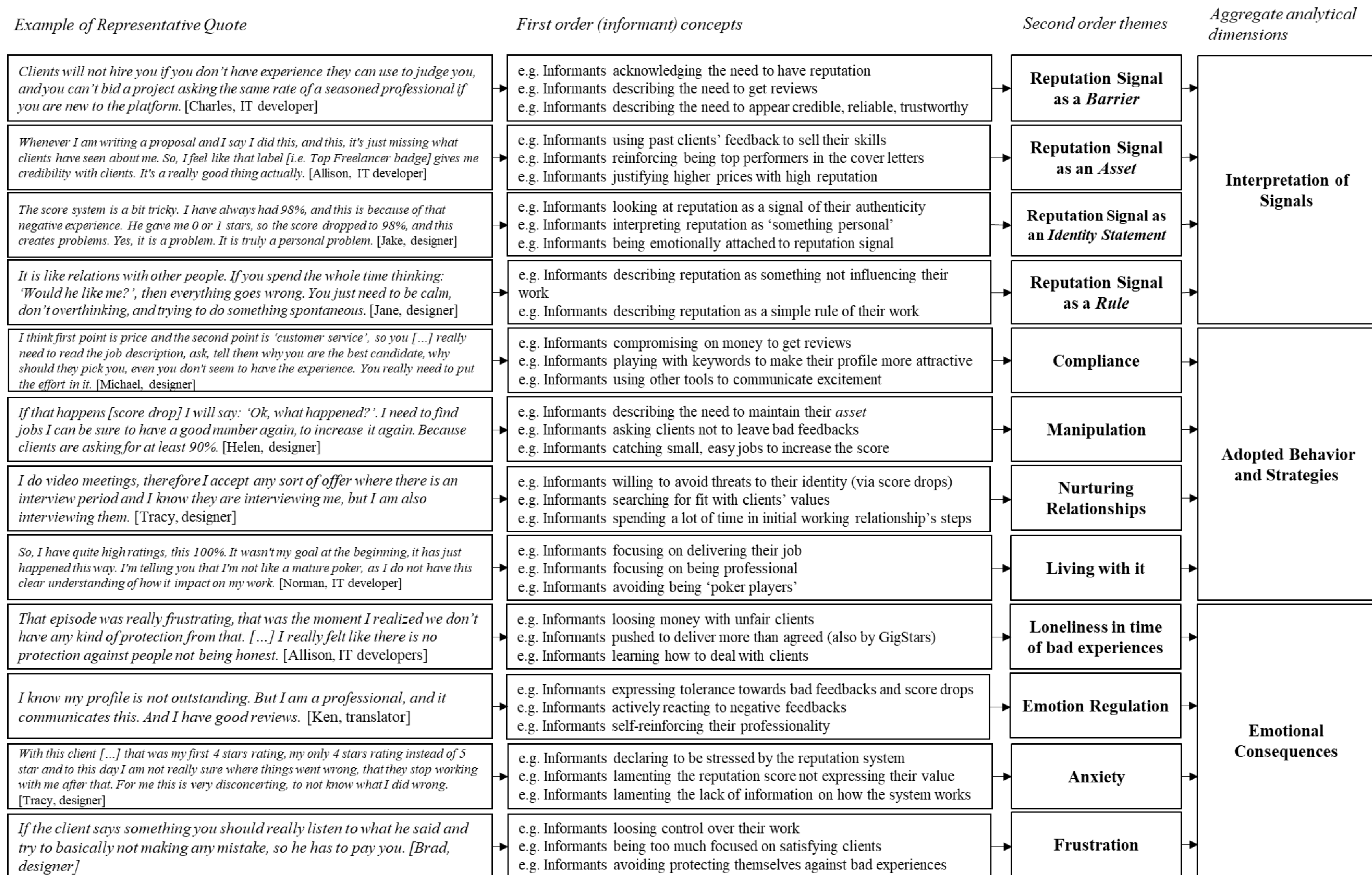


Figure 7. Grounded model.

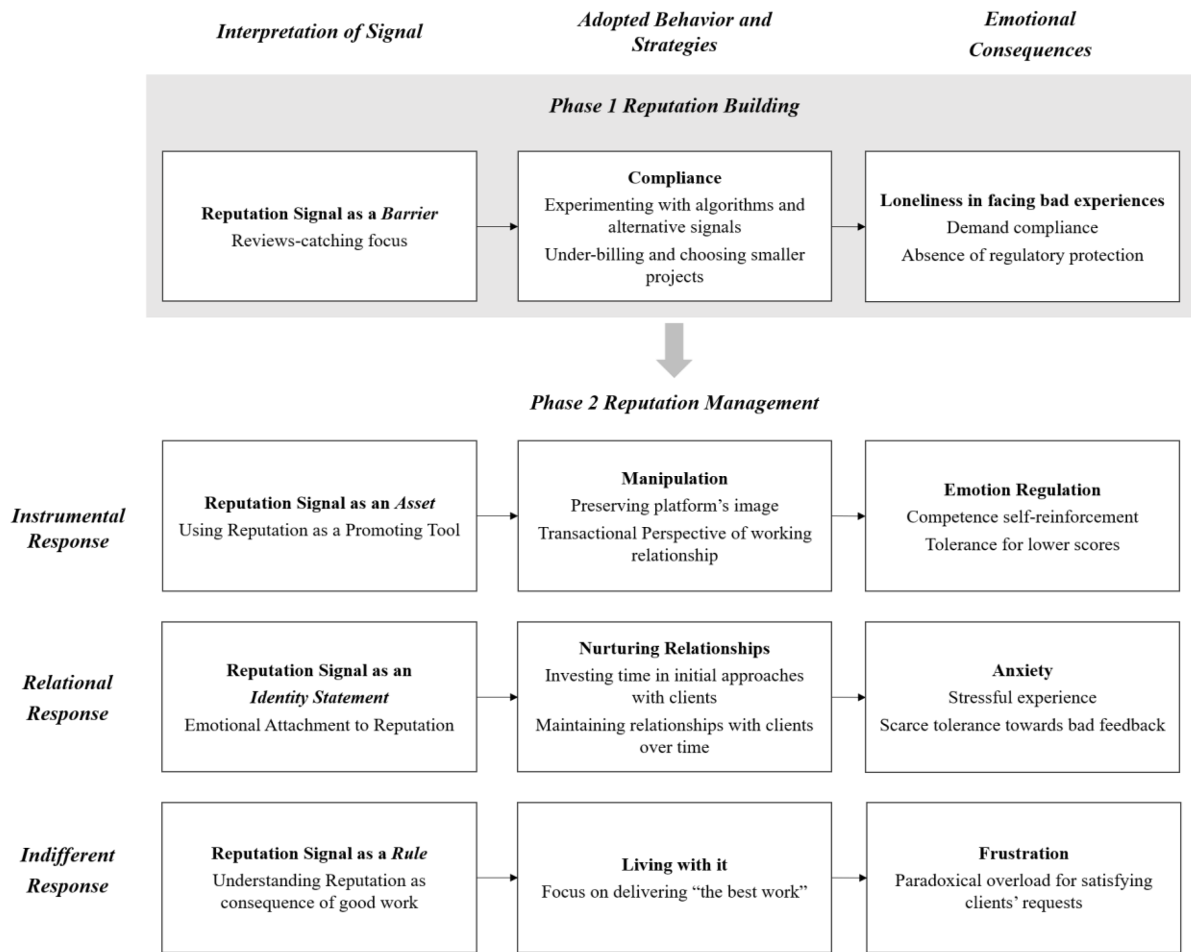


Figure 8. Examples of different interpretations of reputation from online profiles.

a) Reputation as an *Asset*. Example from Nancy's profile description.

```
Looking for quality work with a little spark of experience and freshness,
here I am at your service! Myself Nancy. I am a web developer with 3 years
experience in web development.
[brief past experience]

Recent Testimonials:
***************
Rating - 5.00 "Nancy was very prompt, professional & patient! Highly
recommended."
Rating - 5.00 "Extremely pleased with the job. Excellent communication.
Highly recommended."
Rating - 5.00 "Great communication, quick to begin work and easy to deal
with."
Rating -5.00 "She is a Wordpress expert. She solved an issue that I was
having. Thankyou!"
Rating - 5.00 "Nancy did amazing work!!! I will be hiring her again soon
for more projects :)"
***************
```

b) Reputation as an *Identity Statement*. Example from Marcus' profile description (after introduction).

```
Where did it all start you might wonder... Well.. It helps being told that
you can not do it. (Don't listen to that you parents out there. Acknowledge
the values of your children. Encourage them!) Apart from that, it does help
to be stubborn! and travel around a bit is not bad either. Being a software
developer is what I really want for my future. Challenges will come my way
and I will do whatever I can to meet those challenges in a professional
manner. Many old programmers or those taught a language at school see
problems and a box they are stuck in. In school, I was the one teaching my
teachers. I was the one thinking outside the box to get things done. I can
be stubborn sometimes, but in my mind, nothing is impossible. The
impossible only takes a little bit longer time. I wish to put my skills
into good use and I hope that will be something for you.
```

Chapter 6

Conclusions

The increasing fluidity of working environments, the smaller and shorter nature of tasks, and the diffusion of online platforms as intermediaries between workers and organizations give rise to complex questions about job design, workers' skills and competences, and the broader nature of work. As a phenomenon, labor digitization, granularization, modularization, and decontextualization is right on stage (Ashford et al., 2007; Colbert et al., 2016; Connelly & Gallagher, 2004; Irani, 2015; Spreitzer et al., 2017; Stone et al., 2015), and it is widespread opinion that a new generation of online temporary workers – i.e. gig workers – will continue to grow in the next years (Ashford et al., 2018; Carignani & Negri, 2015; Kuhn & Galloway, 2019; Spreitzer et al., 2017). However, studies addressing management- and organization-related issues on gig work are still scarce, even if scholarly attention is increasing (e.g. Bucher, Fieseler, et al., 2019; Cheng & Foley, 2019; Gandini et al., 2016; Kuhn & Galloway, 2019; Lehdonvirta et al., 2019).

The new, extreme, liminal working conditions of gig workers and the need to deal with online platforms makes it hard to apply traditional frames of contract or independent work. Many scholars have then called for new empirical studies and theoretical developments to understand dynamics at play (e.g. Ashford et al., 2018; Barley et al., 2017; Kuhn & Maleki, 2017). Aim of this dissertation was answering this call for new theories and empirical studies, and broadly contributing to understand the relation between platforms and workers.

The last two years have seen an increasing number of studies published on online workers, especially in the fields of information systems and sociology. To identify these studies, we navigated research published under the *crowdsourcing, online labor markets,* and *gig work* labels, and systemized findings in chapter 2. We also highlighted knowledge gaps and propose research questions and directions for future studies.

The next chapters presented two empirical papers answering two of the identified research questions. Specifically, in chapter 4, we explored how the process of work identity (Ibarra, 1999) construction unfolds for gig workers and investigated how digital platforms, intended both as providers of technological features and online environments, affect this process. This empirical investigation answers to *RQ12*. Findings revealed that the platform constrains workers' action and pushed them to take advantage of platform's technological features to succeed. This interplay led workers to add new characteristics to their work self and to end up developing an entrepreneurial orientation. This study expands our knowledge on work identity construction processes of gig workers, detailing the relationship between work identity and IT. To our best knowledge, this is also the first study exploring work identity processes in a new working environment where individuals lack support from traditional organizations in building their work identity. As an emergent contribution, this research also documents previously unexplored antecedents of entrepreneurial orientation in non-standard working contexts.

In chapter 5, we introduced a study exploring how freelancers working on online platforms interpret algorithmic calculated reputation and understanding consequences for their work. We adopted the framework of signaling theory (Spence, 1973) and interpret algorithmic calculated reputation as an imposed, perhaps unintended signal of workers' quality. this study answers to *RQ19*. First, results revealed that gig workers develop different interpretation of reputation, and that these are also influenced by the different stages of freelancers' career on the platform. Second, the model described different workers' behavioral strategies to manage algorithmic calculations, which are driven by three different interpretation of reputational signal. These were specifically, manipulation, nurturing relationships, or living with it, which in turn contributed to shape different workers' experience and feelings towards the platform. Although imposed signals can be useful to reduce information asymmetries, our results show

that imposing quality signals generally lead to negative consequences, either for signalers or the signaling system itself. Moreover, when signals are imposed rather than produced, individuals engage in a process of re-appropriation shifting signals away from the initial purpose of discerning the best job candidates. Finally, compared to other findings (Bucher, Schou, et al., 2019; Cheng & Foley, 2019), our model shows that compliance, manipulation, nurturing relationships, or living with it strategies are not likely to be used indistinctly by all freelancers on the platform. Although reputation scores standardize the way information on quality are sent to clients, and, apparently, how freelancers can work, this study shows instead responses to algorithmic control can be diverse.

Both studies have been conducted using the same methodology – i.e. grounded theory approach (Strauss & Corbin, 1998) – and empirical setting. An exploratory approach seemed appropriate given lack of previous studies and need for theories. However, methodological and research design's choices are not, of course, without limitations. First, evidence comes from a single online platform, therefore results may suffer from the influence of its specific mechanisms and specific technological choices. We thus encourage further investigation of different platforms to eventually compare additional evidence. Moreover, the way we chose to sample respondents did not allow reaching freelancers who did not survived to platforms' mechanisms. To have a complete picture of how reputation influence individuals' work or what happens to work identity when people do not thrive in the workpla*tform*, one should also include unsuccessful examples.

To provide additional suggestions on how to move research forward, we start from our data and identified research questions. We have frequently mentioned in this dissertation gig workers' feelings of social isolation and lack of support from platforms. However, despite platforms' attempts to build proprietary forums or communities where workers can share their experiences, we have also mentioned that workers prefer to move to other external

communities on social networks – e.g. Facebook groups. Along with *RQ20* and *RQ21*, it would be interesting to investigate what happens on this external groups, trying to map types of requested support and to value its impact on workers' well-being or performance. Furthermore, when asking about workers' relation with GigStars, we heard both negative and positive comments on the opportunity to balance life and work. Similarly, informants described ambivalent thoughts on the opportunity to do gig work as secondary source of income. Moreover, as many informants told they work from home, we would like to explore in depth how gig workers balance their work and family duties. On the one hand, crossing boundaries may be easier; on the other, keep them separate when need may be a challenge. Finally, our informants have very different backgrounds and, sometimes, they do not hold a formal, traditional education to deliver specific jobs. Rather, they are self-taught freelancers. Along with *RQ6*, *RQ7* and *RQ8*, we thus encourage future research to investigate skills- and skills-development-related issues and understand their impact on performance and employability on online labor markets.

As final remark, we believe the findings presented here reveal both negative and positive aspects of the gig economy. Chapter 4 shows that, despite difficulties, experiencing online work can offer new career opportunities, like opening an agency, building a novel business, creating a team of co-workers. One could then argue this study shows the positive side of gig work. Instead, chapter 5 shows that algorithmic mechanisms constrain workers and lead them to, first, constantly planning corrective actions in case of negative feedbacks, and, second, to live a potentially negative, stressful experience. As we acknowledged both light and dark sides, we offered practical implications aimed at improving the relationship between platforms and workers, building on perceived positive aspects. Although scholars argued that platforms are not interested in empowering the position of workers, and that they foster power asymmetries in favor of clients and platforms (Gandini et al., 2016; Kost et al., 2019;

Shibata, 2019), we believe instead platforms should be interested in reducing power asymmetries and enhance workers' conditions. As the interest in these new working domains increase, so does the number of platforms workers can subscribe to. Thus, platform companies themselves are likely to operate in an increasing competitive market, where offering the best conditions is needed to attract the best clients and talents. We then believe, despite being worker-oriented, our practical implications go in the direction of benefiting both gig workers and platforms.

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APPENDIX

Appendix 1. Interview Protocol Work Identity (final).

Protocollo intervista   WORK IDENTITY

Durata: ~ 1 ore

Istruzioni per l'intervistatore:

- L'intervista deve essere il più possibile "aperta". E' importante lasciare che l'intervistato racconti in modo libero la propria esperienza.
- L'intervista si apre con la presentazione dell'intervistatore, una breve spiegazione del progetto di ricerca e l'assicurazione che tutte le informazioni saranno trattate in maniera confidenziale, seguendo i seguenti punti:
  - Presentazione dell'intervistatore/i
  - Descrizione di come nasce il progetto e dei suoi obiettivi
  - Breve premessa all'intervista, ad esempio:
    - Questa prima intervista si propone di comprendere e conoscere la vostra esperienza di lavoratori online e come utilizzate la piattaforma e in generale tecnologie per il vostro lavoro. Vi chiederò quindi di parlare del vostro lavoro, della relazione con la piattaforma e coi clienti, le vostre percezioni rispetto a questo modo di lavorare
  - Chiedere il permesso per la registrazione e citare il Decreto Legislativo 30 giugno 2003, n. 196 - Codice in materia di protezione dei dati personali

- L'intervistatore raccoglie preliminarmente (o a valle dell'intervista) alcune informazioni:
  - Nome
  - Contatto
  - Altri contatti che potrebbe fornire
  - Chiedere se vuole conoscere i risultati della ricerca.
  - Chiedere esplicitamente il link ad altri personal sites usati dagli intervistati, così come esempi di cover letters.

Nota: Le domande da porre agli intervistati sono in grassetto. I punti sottostanti servono a indirizzare l'intervistatore a circoscrivere l'intervista ed entrare nel merito delle specifiche questioni che interessano (evidentemente, solo qualora l'intervistato non affronti autonomamente quegli argomenti).

A. Grand Tour: Preliminary Questions on OLM

- **Could you please introduce yourself briefly?**
  - ➢ Which are your previous working experiences?
  - ➢ What is your educational background?

- **WHY and HOW did you decide to work on online platforms?**

- **Are you involved in other offline working activities?**
  - ➢ What kind of job are you doing offline?

- **Do/Did you work for other online platforms?**
  - ➢ Why did you choose GigStars instead of other platforms?

B. Identity

- **Could you tell me more about the kind of work that you do on GigStars?**
  - **Had your activities changed during your time here?**
  - What kind of activities do you perform for clients?
  - Do you consider those activities aligned with your educational background or your previous working experiences (if any)?

- **How do you organize your working day? / Could you describe me a successful day?**
  - How much time do you spend on jobs you have found on the platform?

- **Could you make some examples about positive working experiences on the platforms?**
  - Why do you consider them positive?

- **Could you make some examples about negative working experiences on the platforms?**
  - Why do you consider them negative?

- **Could you tell me more about your general experience on GigStars? What do you like and what you DO NOT like?**
  - What does working on online platforms mean to you? What are your feelings about the job?
  - Could you compare this experience with the other jobs that you are currently doing? (if any)

- **In your opinion, which are the most important characteristics required by your profession?**
  - How would you define yourself in relation to your work?

C. Technology/Platform

Now I would like to talk more in depth on how you use the platform for your work, which characteristics of the platform are important for your work.

- **Could you make some examples on how you use the platform and its services for your work?**
  - e.g. your personal profile, the community, the chat rooms, the blog

- **What do you like about GigStars and what you DO NOT like about GigStars?**
  - To what extent you think the online platform influence your work?

- **What kind of practices did you develop to use GigStars? Have they changed over time?**
  - If one of your friends told you she/he wants to work on GigStars, what would suggest her/him as a best practice? Why?

- **To what extent working on online platforms helped you developing your professional skills?**
  - Do you perceive to be supported in your work?
  - How does the platform support you in your work?

- **How do you present yourself on your profile and/or in the cover letter?**

- **Together with the platform, do you use other technologies for presenting yourself at work or simply for your work (if any)?**
    - e.g. personal websites, linkedin pages
    - Why do you use them?
    - *Ask for some examples or make some examples*

D. Final Questions

- **Are you satisfied by working on GigStars?**
    - Would you prefer other forms of work?

- **Do you think you will work on GigStars for a long time?**
    - Do you see online work as a long life experience?

- **Do you think that what you do has to do with entrepreneurship?**
    - Why?

Appendix 2. Interview Protocol Reputation (final).

Protocollo intervista REPUTATION

Durata: ~ 1 ore

Istruzioni per l'intervistatore:

- L'intervista deve essere il più possibile "aperta". E' importante lasciare che l'intervistato racconti in modo libero la propria esperienza.
- L'intervista si apre con la presentazione dell'intervistatore, una breve spiegazione del progetto di ricerca e l'assicurazione che tutte le informazioni saranno trattate in maniera confidenziale, seguendo i seguenti punti:
  - Presentazione dell'intervistatore/i
  - Descrizione di come nasce il progetto e dei suoi obiettivi
  - Breve premessa all'intervista, ad esempio:
    - Questa prima intervista si propone di comprendere e conoscere la vostra esperienza di lavoratori online e come utilizzate la piattaforma e in generale tecnologie per il vostro lavoro. Vi chiederò quindi di parlare del vostro lavoro, della relazione con la piattaforma e coi clienti, le vostre percezioni rispetto a questo modo di lavorare
  - Chiedere il permesso per la registrazione e citare il Decreto Legislativo 30 giugno 2003, n. 196 - Codice in materia di protezione dei dati personali

- L'intervistatore raccoglie preliminarmente (o a valle dell'intervista) alcune informazioni:
  - Nome
  - Contatto
  - Altri contatti che potrebbe fornire
  - Chiedere se vuole conoscere i risultati della ricerca.
  - Chiedere esplicitamente il link ad altri personal sites usati dagli intervistati, così come esempi di cover letters.

Nota: Le domande da porre agli intervistati sono in grassetto. I punti sottostanti servono a indirizzare l'intervistatore a circoscrivere l'intervista ed entrare nel merito delle specifiche questioni che interessano (evidentemente, solo qualora l'intervistato non affronti autonomamente quegli argomenti).

A. Grand Tour

- **Could you please introduce yourself briefly?**
  - ➢ Previous working experiences, educational background…

- **WHY and WHEN did you decide to work on online platform?**

- **Are you involved in other offline working activities?**
  - ➢ Do you work on GigStars full-time?

- **Do/Did you work for other online platforms?**
  - ➢ Why did you choose GigStars instead of other platforms?

B. Relations with Clients

- **Could you tell me more about the activities that you perform for the client/s on GigStars?**

- **How do you choose the jobs to apply for?**

- **Could you make an example of a POSITIVE working experience that you had on the platform?**
    - Ask for more positive experiences

- **Could you make an example of a NEGATIVE working experience that you had on the platform?**
    - Ask for more negative experiences

- **How do you usually relate to clients? Could you make some examples about how did you relate with clients in the past?**
    - e.g. professionally, personally

- **How would you define trust on the platform? How do you decide whether to trust clients or not?**
    - Ask for examples

- **Do you usually filter clients to work for? How do you do this?**

- **In your opinion, what a freelancer should do for clients to trust him? What do you usually do to make clients trust you?**
    - Ask for examples

C. Rating/Reputation and Profile

- **How do you usually catch the attention of clients on the platform?**

- **How did you prepare your profile on GigStars?**
    - **How do you present yourself on your profile?**
    - Do you usually update your profile? Why?
    - In your opinion, what kind of information need to be clear in your personal profile?

- **Who do you imagine reading your profile?**

- **What won't you say about yourself on your profile?**

- **What do you think about the Job Success Score? What is your relation with the JSS?**
    - Do you trust the JSS?
    - Do you think clients care about the JSS?
    - Ask what they think about the number that they currently have

- **Do you remember how was starting out on GigStars?**

- **What did you do to build your JSS at the beginning?**

- **What do you do to maintain your JSS?**

- **What would you do if you had a bad reputation on the platform?**

- **How do you prepare cover letters? How do you use cover letters?**

- Ask for examples to share

- **Do you use other technologies for presenting yourself to clients? Why?**
  - e.g. personal websites, linkedin pages
  - *Ask for some examples or make some examples*

D. Final Questions

- **Are you satisfied by working on GigStars?**

- **Do you think you will work on GigStars for a long time/in the future?**

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