

# Intermediation by Superstars: Evidence from the Online Freelancing Market in Pakistan

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October 22, 2025

Online freelancing is becoming a popular source of employment in developing countries, where freelancers perform and deliver services to consumers via online platforms. However, the online freelancing market is highly concentrated among top freelancers. I document the phenomenon of top freelancers engaging in intermediation on online platforms by hiring off-platform workers to complete tasks received through their individual profiles. This project collects original data on intermediaries managed by top freelancers to understand why these intermediaries arise and how they perform relative to individual freelancers. By combining the original data with administrative data from a leading platform, I will be able to extrapolate the extent of intermediation and assess whether it improves or hinders matching efficiency on the platform.

## Key Findings

**Finding 1: Intermediation by freelancers is highly prevalent on online platforms, constituting a significant share of the market.**

Several studies have documented this phenomenon, where multiple workers operate under a single freelancing account. However, reliable observational data on the intermediaries is lacking due to the difficulty of distinguishing them from independent freelancers based on their profiles. In my ongoing pilot study, I identified intermediaries and collected original data by hiring Pakistani data entry freelancers on a leading platform. Combining data from the pilot study with profile information of Pakistani data entry freelancers from a representative sample, I estimate that 550 out of 4,887 profiles are managed by intermediaries, accounting for over 58% of all jobs completed by this population.

This phenomenon is not limited to data entry or Pakistani freelancers. My interviews with freelancers from other service categories and countries revealed that intermediation is prevalent across

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different sectors and regions.

**Finding 2: Intermediaries manage profiles that exhibit similar characteristics to those of top 10% of freelancers, yet their performance is comparable to that of less experienced individual freelancers.**

Intermediaries in the pilot sample resemble the top 10% of freelancer: they have longer tenure on the platform, more jobs completed, higher earnings, and are more likely to be recognized as Top Rated/Plus freelancers by the platform. Despite being more experienced, intermediaries in the pilot study perform similarly to individual freelancers in a data entry task in terms of accuracy, speed, following instructions, and communication.

**Finding 3: Intermediaries provide soft skills (e.g. English communication) that their workers lack and enable them to access demand through their reputation.**

In the interviews, intermediary owners indicated that their workers lack essential soft skills and established freelancer profiles needed to succeed on the platform independently. Therefore, within the intermediaries, workers focus on production while owners provide managerial and technical support, such as client management and solving complex tasks. Additionally, workers receive on-the-job training to help them overcome initial skill constraints.

## Next Steps

Given the “invisible” nature of the intermediation by top freelancers, we still know little about who they are, how they perform, how their businesses grow, and what the extent of intermediation is on the platform. To answer the first two questions, I plan to identify and survey an additional 150 intermediaries and 150 independent platform workers by hiring them for freelancing tasks on the studied platform. The survey will gather descriptive evidence on intermediaries’ organizational structure, workforce, earnings, and management practices to shed light on whether owners and workers can complement each other in delivering services and whether workers can accumulate skills to transition to the platform later.

# 1 Introduction

Online freelancing constitutes a growing part of the global labor market. The World Bank estimates that there are 154-435 million online freelancers and over half of them originate from South Asia. The emergence of online freelancing platforms such as Upwork and Fiverr enables direct trade of services across borders with low search and match costs. Yet, data from Pakistani freelancers suggests a high market concentration among few top freelancers, and that top freelancers act like intermediaries, hiring and managing workers off-platform to complete tasks received from the platform. Although several studies have documented this phenomenon where multiple workers operate under one profile, there is no reliable observational data on the intermediaries because they have similar profiles to solo freelancers.

In this project, I address this data challenge by identifying intermediaries through hiring freelancers for data entry tasks on a leading platform. By collecting original data on intermediaries and individual freelancers, this project seeks to understand why intermediaries arise and compare their performance to that of solo workers. I hypothesize that intermediaries managed by top freelancers serve two roles. First, by leveraging their reputation, top freelancers allow workers without established profiles on the platform to access demand for their services. Anecdotal evidence suggests that intermediaries may extract margins as high as 90% from their workers. Second, workers may lack key skills to serve consumers on the platform directly, so top freelancers provide complementary skills such as communication and problem-solving to their workers. Therefore, it is ambiguous whether intermediaries improve or worsen efficiency in this market. On the one hand, intermediaries may improve job matching between consumers and freelancers and help workers overcome initial skill constraints. On the other hand, intermediaries may have high market power and hinder market entry.

In this brief report, I explain how I identify intermediaries and collect data on their characteristics and performance in Section 2. I combine the original data with profile information of Pakistani data entry freelancers from a representative sample on the studied platform. I choose to focus on data entry because it is one of the most popular service categories among Pakistani freelancers and worker performance can be measured objectively. In Section 3, I report results on characteristics and performance of the intermediaries, predictions of the level of intermediation at the platform level, and qualitative evidence on their roles. Finally, in Section 4, I lay out the next steps of data collection to understand how intermediaries work, estimate how many intermediaries exist on the platform, and quantify the consequences on market efficiency.

## 2 Data and Methodology

I draw on data from (1) the pilot experiment and (2) Pakistani freelancer profiles on the studied platform.

**Data from pilot experiment** In the on-going pilot, I recruited 30 Pakistani freelancers from the studied platform to complete data entry tasks. The pilot generated data on freelancers’ work status, profile characteristics, task performance, and qualitative evidence on organization within intermediaries.

During the pre-task interview, I checked whether the freelancer managed a team or worked alone.<sup>1</sup> In my sample, 12 freelancers operate a team behind their individual profiles and 18 work independently. Henceforth, I refer to the former as intermediaries and the latter as independent platform worker. For each freelancer in the sample, I also collected their profile information such as job success rates and the number of jobs completed. Post task completion, I recorded objective measures of freelancer performance based on accuracy, communication, and whether instructions were followed. In addition, post-task interviews with owners of the intermediaries revealed details about their internal organization and worker characteristics.

**Observational Data from freelancer profiles** I collected public information from profiles of Pakistani freelancers specialized in data entry from a representative sample on the studied platform by June 2024. Two datasets were constructed. The first dataset is a roster of 4,887 freelancers with information on their earnings, the number of jobs completed, job success rates, freelancer badges, and agency association. The second dataset contains freelancer’s recent job history (up to the latest 190 jobs), covering around 61,000 jobs in total. For each job, it records the job duration, earnings, contract type, and ratings. In addition, I collected and analyzed the same profile information of freelancers specialized in data entry and graphic design from a representative sample in Bangladesh, India, and Pakistan for external validity.

## 3 Preliminary Findings

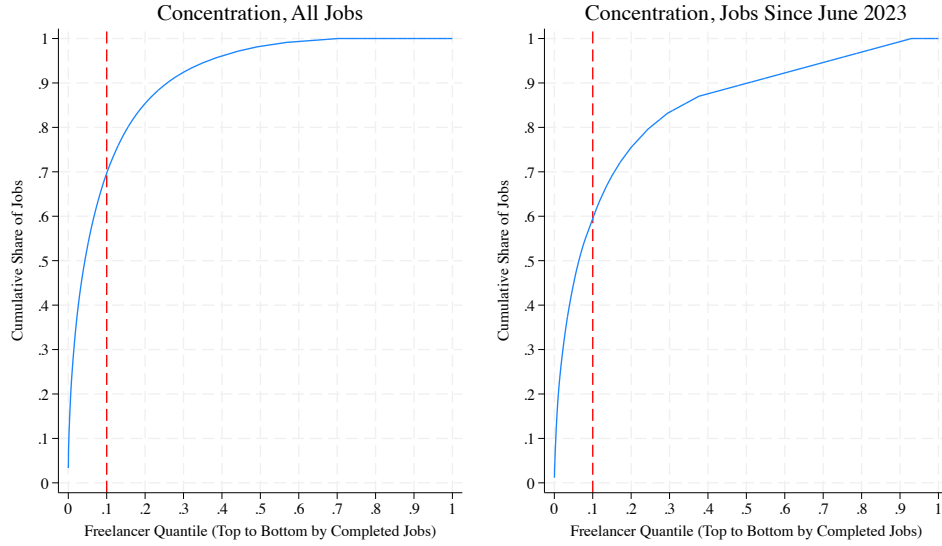
### 3.1 High Market Concentration among Top Freelancers

Job history data of all Pakistani data entry workers shows that the market is highly concentrated among top freelancers. In Figure 1, I rank freelancers by the number of jobs completed and plot the cumulative share of jobs by quantiles. The left panel suggests that around 70% of all jobs completed in my data was done by the top 10% of freelancers. Even when the sample is restricted to only jobs completed during the last year, the top 10% of freelancers account for 60% of total jobs, as shown in the right panel. This high level of market concentration is also observed among graphic designers as well as freelancers from India and Bangladesh, which suggests a similar market structure across countries and service types.

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<sup>1</sup>Freelancers were honest about whether they worked in a team because they wanted to demonstrate their capacity to take on larger projects.

**Figure 1: Market Concentration - Data Entry**



*Notes:* This figure represents the cumulative share of completed jobs by freelancer quantiles. The left panel includes jobs completed by all 4,887 Pakistani data entry workers. Freelancer quantiles are created based on the number of completed jobs. The right panel restricts the sample to 16,091 jobs completed since June 2023 and ranks freelancers accordingly.

### 3.2 Intermediaries Share Similar Profile Characteristics as Top Freelancers

Table 1 shows profile characteristics of freelancers from the pilot and the observational samples. Two findings are worth highlighting here. First, intermediaries in the pilot sample are much more experienced and have better reputation than independent platform workers. They have a longer tenure on the platform, more jobs completed, higher total earnings, and are more likely to be recognized as Top Rated/Plus by the platform. Second, intermediaries in the pilot sample look very similar to the top 10% of freelancers. This suggests that these intermediaries may be important players in this market and capture large shares of job opportunities.

### 3.3 Intermediaries and Independent Workers Have Similar Task Performance

Figure 2 shows the average performance by intermediaries and independent platform workers in the pilot sample and the average time spent on the task in a sub-sample. Although intermediaries appear more experienced than independent workers, there is little difference in their average performance as shown in the left panel. For a subset of 17 freelancers, I was able to measure hours spent on the task. The right panel shows that intermediaries took less time to complete the task on average, yet due to the small sample, the estimates are very noisy.

**Table 1:** Summary of Profile Characteristics

	Pilot Sample			Observational Sample	
	Intermediary (1)	Individual (2)	All (3)	Top 10% (4)	All (5)
Platform Tenure (in Months)	63.6 (41.1)	8.4 (7.5)	30.5 (37.8)	55.0 (31.6)	20.6 (25.5)
Number of Jobs Completed	134.8 (164.5)	3.4 (5.4)	56.0 (120.7)	106.9 (157.8)	15.3 (58.9)
Own a Badge	0.8 (0.5)	0.3 (0.5)	0.5 (0.5)	0.7 (0.4)	0.3 (0.4)
Badge: Rising Talent	0.0 (0.0)	0.3 (0.5)	0.2 (0.4)	0.0 (0.1)	0.1 (0.3)
Badge: Top Rated/Plus	0.8 (0.5)	0.0 (0.0)	0.3 (0.5)	0.7 (0.4)	0.2 (0.4)
Hourly Rate (in USD)	5.8 (2.5)	7.1 (7.2)	6.6 (5.8)	7.8 (5.4)	7.8 (5.4)
Total Earnings (in USD)	29833.3 (34408.9)	724.1 (1243.5)	12367.8 (25697.7)	33113.5 (50182.6)	4950.2 (20980.4)
Earnings from Largest Job (in USD)	3281.2 (4237.7)	321.5 (626.1)	1505.4 (3035.8)	3366.8 (5958.4)	1144.9 (3925.3)
Agency Affiliation	0.4 (0.5)	0.1 (0.3)	0.2 (0.4)	0.2 (0.4)	0.1 (0.3)
N	12	18	30	488	4887

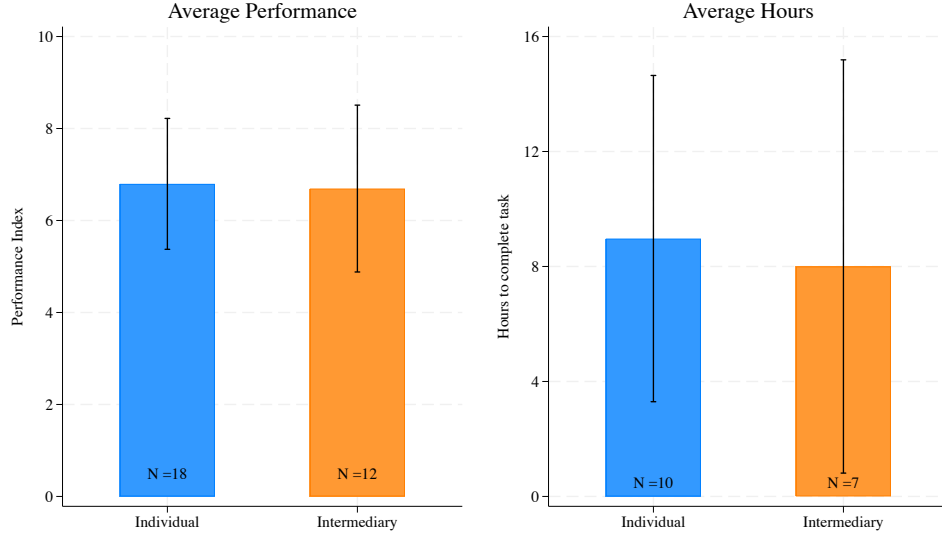
*Notes:* This table reports summary statistics on profile characteristics of freelancers in the pilot (columns 1-3) and the observational sample (columns 4-5). Platform tenure is measured as the duration between the earliest and the latest jobs completed by the freelancer. Agency affiliation is dummy variable that equals to 1 if the freelancer profile indicates association with an agency account.

### 3.4 Prediction of Intermediaries on the Platform

To infer the extent of intermediation by freelancers on the platform, I first determine which profile characteristics are highly correlated with individual profiles operated by intermediaries. Table 2 shows that profile tenure, number of completed jobs, total earnings, and ownership of freelancer badges all together can explain almost 88% of variations in the intermediary status observed in the pilot sample.<sup>2</sup>

Then I take regression coefficients from Table 2 to predict the out-of-sample probability of being an intermediary for all freelancers profiles in the observational data. Out of 4,887 profiles, 550 profiles have over 80% likelihood of being operated by an intermediary. These 550 profiles account for over 58% of all jobs completed by this population, which implies significant intermediation by freelancers on the platform.

<sup>2</sup>Due to the small sample size, I am not able to apply PCA or machine learning methods to pick the most relevant variables.

**Figure 2: Task Performance and Speed**

*Notes:* The left panel of the figure represents the average performance as an index of 10 by individual workers and intermediaries, respectively. The performance measure incorporates whether freelancers followed task instructions, the accuracy of data entry, and whether freelancers were responsive and professional in their communication. The right panel represents the average time spent on the task for a sub-sample of the pilot.

**Table 2: Profile Characteristics and intermediary Status**

	Intermediary = 1				
	(1)	(2)	(3)	(4)	(5)
Platform Tenure (in Months)	0.010 (0.002)				0.004 (0.002)
log(Number of Jobs Completed)		0.211 (0.015)			0.054 (0.074)
log(Total Earnings (in USD))			0.165 (0.012)		0.010 (0.033)
Badge: Rising Talent				-0.187 (0.103)	-0.027 (0.043)
Badge: Top Rated/Plus				0.813 (0.103)	0.536 (0.178)
Observations	30	30	30	30	30
R-squared	0.529	0.738	0.723	0.661	0.877

*Notes:* This table reports the coefficients and R-squared from regressing different profile characteristics on the intermediary status in the pilot sample.

### 3.5 Qualitative Evidence on the Role of intermediaries

Post-task interviews with intermediary owners and independent platform workers shed light on how work is organized within these intermediaries and what roles intermediaries may play. First, there is a clear division of labor between intermediary owners and workers. While workers only

focus on production, owners provide managerial and technical supports necessary for completing the job. They are responsible for communication with clients, giving instruction to workers, solving complex issues, and checking output quality. In addition, owners indicated that they would train their workers on the job and some former workers transitioned to working on the platform. Several independent platform workers also reported having worked for this type of intermediaries before to gain experience. Taken together, these qualitative findings suggest that intermediaries may help novice freelancers overcome initial skill constraints.

Second, intermediary owners indicated that the main reasons for why their workers could not succeed on their own on the platform were 1) the difficulty of obtaining jobs without an established profile and 2) the lack of soft skills. These two reasons support the main hypotheses for why intermediaries emerge on the platform.

## 4 Next Steps

### 4.1 Additional Data Collection on Intermediaries

Given the “invisible” nature of the intermediation by top freelancers, we still know little about who they are, how they perform, and what their internal organization is like. To gather the information, I plan to recruit Pakistani freelancers on the studied platform for data entry tasks, and through the employment process, identify a sample of at least 150 intermediaries and 150 independent platform workers.<sup>3</sup> My local research team will conduct surveys with these intermediaries to collect data on their organizational structure, earnings, management practices, and worker turnover. Workers within the intermediaries will also be surveyed on their earnings, skills, tenure, and task-specific time-use. The descriptive evidence will shed light on whether owners and workers complement each other in producing services and whether workers can gain skills and transition to the platform.

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<sup>3</sup>Funding for data collection has been secured. I may expand the sample size once additional funding is received.