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# Is Quality of Employment Better in the Emerging Platform Economy? A Study of Digital Cab Services in Two Megacities of India

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**&**

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## Abstract

*The present study aims to examine whether the quality of employment in the emerging platform economy is better compared to the traditional system or not. To accomplish the objective of the study, we have chosen digital cab services as a representative of the digital platform economy and compared the digital ride-sharing platforms to the conventional taxi system in two megacities of India, Bengaluru and Kolkata, based on a primary survey of a total of 691 drivers. We have adopted ILO measures of the quality of employment index with some modifications of the indicators that are essential and suitable for the Indian economy. Subsequently, using regression analysis, we have identified the underlying factors influencing the quality of employment. The results show higher employment quality associated with OLA/Uber drivers in both cities. Our model shows the quality of employment is higher in Kolkata than in Bengaluru. This is possible due to the higher traffic density in Bengaluru, which makes drivers have fewer rides but end up spending more hours of work for an income. With the potential of digital cab services to create a better quality of employment, more drivers should be encouraged to move to these platforms, as they have more earning potential accompanied by better working conditions. However, the magnitude of these dimensions is found to be less, and any provision of fair work and remuneration through benefit programs can enhance the quality of employment for drivers in the digital sphere. At the same time, it is important to improve the employment quality generated in the conventional taxi system by providing fair competition between business models.*

**Key Words:** Digital platforms, Employment, Earnings, Taxi Drivers, Sharing Economy.

**JEL Classification:** O30, J31, L84, J22

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## 1. Introduction

The advent of the platform economy is seen as one of the potential sectors for generating employment for a vast number of youths in India. With the advent of new types of work, concern has been raised about the quality of employment generated by these platforms. One such platform is ride-sharing platforms, where employment is characterized by autonomy and flexible work arrangements, offering high earnings potential for the drivers. However, this comes with the inadequacy of any traditional employment benefits and limited legal protections rooted in uncertainty about the stability and security of the job. In India, more workers are moving towards ride-sharing platforms due to the lack of entry barriers into these jobs, with the majority being dominated by OLA and Uber. These companies are found to provide more returns than traditional cab services. However, in this new world of work, the quality of employment remains a question. Studies have often discussed the provision of decent work to drivers, as e-hailing platforms categorize drivers as freelancers, preventing drivers from receiving any kind of work protection (Giddy, 2021). Good-quality employment is a necessity and is considered one of the Sustainable Development Goals imparted by the UN. Several countries are far behind in achieving this decent work provision for the workforce, and it is found to be severe in new forms of employment that stay outside legal purview. This brings our aim for the study to examine the quality of employment generated by the Indian ride-sharing platforms. We explore how the quality of employment differs between traditional and digital cab services in two megacities with different political and economic setups.

The quality of employment is an important challenge faced by several developing nations. The post-1990 period, characterized by rapid globalization and urbanization, has created new types of work in multiple sectors. These are characterized by informal contracts assigning the status of work to freelancers or remote gig workers, preventing them from receiving any kind of work benefit. With this nature of work, we have operationalized the concept of quality of employment for the workers on ride-sharing platforms. The origins of the quality of employment lie with the work of the ILO, which defines a decent job as one that is productive, offering fair income, security, and social protection, with social integration and equal opportunities for all. In recent years, several international agencies have conceptualized the quality of employment into different components, given its multi-dimensional nature. This includes methodological additions by UNECE and OECD (UNECE Handbook of Quality of Employment, OECD Employment Outlook, 2014), where quality of employment is measured

across a set of dimensions consisting of a sheer volume of variables. Other individual studies include Sehnbruch (2006), Lugo (2007), Gonzalez et al. (2021), and Deguilhem (2019) that explored an index of employment quality. Surveying these reports and studies, Adequate earnings, Security and Stability of Employment, Work life-balance, Social Dialogue and Safety at work are considered as primary components explaining Quality of employment. Several sub-indicators mentioned in these studies are in some way related to the quality of employment generated by platform-based work models.

An attempt to provide a measure of decent work in the gig economy was made by Heeks et al. (2021). These include fair pay, conditions, contracts, management, and responsibility. Likewise, Swagan (2023) examined the job quality of food delivery platform workers in terms of psychological well-being, social satisfaction, safety, and economic stability using a semi-structured interview, where workers were found to be satisfied in their occupation due to the freedom and favorability of work-life balance despite the potential health and safety risks associated with the job. In another study by Wilczyńska (2016), it was found that job insecurity is the most influential factor that affects job satisfaction for employees. The study finds that its impact differs with different work arrangements, and flexible workers are found to be more vulnerable to the stability and security of their jobs. Likewise, Jones et al. (2014) measured job quality with respect to bus drivers, using a set of questions that indicate their job satisfaction with respect to the conditions of the job. However, these studies have only captured a part of the dimension of job quality. Myhill et al. (2021) stated that job quality for different gig workers is different and lacks comparison with the traditional concept of good work.

However, there are very few studies that explore the quality of employment offered in the platform sector in India. During the COVID-19 pandemic, workers in the platform economy were facing several vulnerabilities as they were declared part of the emergency service. Uma Rani et al. (2021) examined the role of platform labor during COVID-19 by exploring the demand and supply sides using the Online Labour Index. Demand for online labor was driven by software development and technology during the pandemic period, where it provided opportunities to workers who lost incomes due to layoffs and work situation insecurities. Another concern raised is related to the misclassification of platform workers as self-employed or independent contractors, which excludes them from any social security benefits. Despite creating new work opportunities, platform workers are found to face issues relating to low wages and the absence of welfare measures, leading to work precarization. In this context,

Parwez et al. (2023) used field data to explore the work precarity of platform-based food delivery workers before and during the pandemic period. The observations pointed to the to the precarity of the platform workers being strongly related to the contractual working system and a lack of social protection. Similar arguments were made by D'cruz and Noronha (2022) in their study, which covered extensive literature on the precarity of Indian gig workers, characterized by a decline in income, labor insecurity, and regulations on their identity. In addition, suppressed bargaining power of works with constant monitoring of their performance through algorithms, feedback, rating downgrades, and ID suspensions acts as a reason for this precarity. Precariousness and the work conditions in platform-based labor have significant social and ethical implications.

The latest Fair Work India rating[3] of platform-based labor, which is released annually to examine the work conditions of platform workers in India using five key parameters, finds that platform employees face several work-degrading conditions such as accidents and risks from bad weather during their course of work. Among the 12 companies analyzed, only 3 were found to provide fair pay despite workers demanding the importance of stable income. The study also revealed that platforms were reluctant to operationalize a minimum wage policy. Mohapatra et al. (2023) examined the regulatory framework and employment relations from the perspective of platform workers using focus-grouped discussions. The study reveals issues concerning exploitation by platforms and distorted employee-employer relations. With food delivery workers being more affected by the nature of their job, the study seeks the provision of proper regulation and the inclusion of social security for the platform work force. A comparative study between workers on mobility platforms and workers outside platforms by the OLA Mobility Institute reveals how platforms offer opportunities for livelihood to a larger share of the informal sector. By employing a large-scale survey in 12 cities, platform workers were found to be more satisfied than non-platform workers, particularly due to the high earnings and flexibility of work offered by platforms. Other findings reveal that platforms have raised digital proficiency and upskilling opportunities for all employed in the platform sector.

The existing literature shows the quality of employment is problematic in the new type of work arrangements. However, several studies find workers satisfied with these new types of work

[3] Fair work India Ratings presents a report on the work conditions of platform-based labor in India for 12 companies using five parameters: fair pay, fair conditions, fair management, a fair contract, and fair representation.

arrangements, given their earnings potential and flexibility in employment. However, for taxi models, workers on traditional platforms face a lack of the network and earnings potential enjoyed by workers on digital cab services. Given the debates on the quality of employment in the platform economy, it is essential to examine whether workers in the digital cab service enjoy better conditions compared to traditional cab drivers. Secondly, several studies have used subjective evaluations and used job satisfaction as an indicator alone for job quality. Subjective experience remains key in identifying individual differences. We consider an array of factors that capture both subjective and objective components of the quality of employment. Further, very little literature has explored what determines employment quality in the platform economy. We contribute to the literature by measuring the quality of employment in different dimensions and further estimating how it shapes the traditional and digital cab service models across two political regimes.

## 2. Data Source

The present study makes use of data collected through an exploratory research survey based on interviews with a total of 691 drivers pertaining to the OLA/Uber and traditional taxi systems. Here, we aim to make a comparative analysis of the quality of employment and the determinants of cab drivers, focusing on Kolkata and Bengaluru cities. Throughout our survey, we have asked the respondents about their experience, working hours, and the nature of the service being provided on the platform to establish the determinants of quality of employment from the perspective of the type of work and the job characteristics of drivers. Apart from that, the social and demographic backgrounds of the drivers were collected to uncover the characteristics of the group of drivers in our analysis. These include age, social group, religion, marital status, and educational attainment of the drivers. The frequency and percentage distributions of the sample drivers by different socio-economic and demographic characteristics are presented in Table 1.

**Table 1: distributions of the sample drivers by different socio-economic and demographic charateristics**

| **Variable** | Category | **OLA/Uber** | **Other Cabs** | **All Sample** |
|---|---|---|---|---|
| **Earnings** | Less than ₹1000 | 4(0.93) | 8(3.07) | 12 (1.74) |
| | ₹1000-2000 | 51(11.86) | 90(34.48) | 141 (20.41) |
| | ₹2000-3000 | 22(5.12) | 43(16.48) | 65 (9.41) |
| | ₹3000-4000 | 132(30.70) | 71(27.20) | 203 (29.38) |

| | | | | |
|---|---|---|---|---|
| | ₹4000-5000 | 117(27.21) | 21(8.05) | 138 (19.97) |
| | Above ₹5000 | 104(24.19 | 28(10.73) | 132 (19.10) |
| **Age** | 18 - 25 Years | 84(19.53) | 41(15.71) | 125 (18.09) |
| | 26 - 35 Years | 164(38.14) | 90(34.48) | 254 (36.76) |
| | 36 - 45 Years | 118(27.44) | 54(20.69) | 172 (24.89) |
| | 46 – 55 Years | 59(13.72) | 64(24.52) | 123 (17.80) |
| | Above 56 Years | 5(1.16) | 2(4.60) | 17 (2.46) |
| **Education Level** | Primary/Below | 173(40.23) | 104(39.85) | 277 (40.09) |
| | Secondary | 153(35.58) | 21(8.05) | 174 (25.18) |
| | Higher Secondary | 68(15.81) | 111(42.53) | 179 (25.90) |
| | Diploma | 16(3.72) | 9(3.45) | 25 (3.62) |
| | Graduate | 20(4.65) | 16(6.13) | 36 (5.21) |
| **Religion** | Hinduism | 372(86.51) | 244(93.49) | 616 (89.15) |
| | Others | 58(13.49) | 17(6.51) | 75 (10.85) |
| **Social Group** | Non - SC/ST | 361(83.95) | 207(79.31) | 568 (82.20) |
| | SC/ST | 69(16.05) | 54(20.69) | 123 (17.80) |
| **Marital Status** | Married | 343(79.77) | 174(66.67) | 517 (74.82) |
| | Others | 87(20.23) | 87(33.33) | 174 (25.18) |
| **City** | Kolkata | 211(49.07) | 129(49.43) | 340 (49.20) |
| | Bengaluru | 219(50.93) | 132(50.57) | 351 (50.80) |
| **Nature of Ownership** | Self - Owned | 337(78.37) | 109(41.76) | 446 (64.54) |
| | Borrowed on Rent | 83(19.30) | 59(22.61) | 142 (20.55) |
| | Hired as a driver | 10(2.33) | 93(35.63) | 103(14.91) |
| **Hours** | | | | |
| **Type of Ride** | Self Employed Driver | | 93(35.63) | 93 (13.46) |
| | Owner Cab Driver | | 86(32.95) | 86 (12.45) |
| | Driver Subscribing to Local Cab agency | | 82(31.42) | 82 (11.87) |
| | OLA/Uber | | - | 430 (62.23) |
| **Total Observations** | | 430 | 261 | 691 |

Note: Frequency is reported along with percentage in parentheses.
Source: Authors' estimation based on primary survey.

Table 1 reports the socio-demographic and job features of our sample pool of drivers working in OLA/Uber and conventional taxi models. We have a sample of 691 drivers, out of which 430 are associated with OLA/Uber and 261 relate to other cabs. It is evident from the table that about 50% of the drivers are less than 35 years of age, with the majority having an education level attainment up to higher secondary, whereas only less than 10% of the drivers hold either a graduate or certificate level of education. SC/ST is found to represent only 17.8% of our sample and is found to be more prevalent in conventional taxi driving. Of the Uber/OLA drivers, 78% are driving with their own vehicle, compared to 41.7% in the conventional taxi system. This means more than 50% of the drivers are driving either by borrowing on rent or being hired as drivers in the conventional taxi system.

## 3. Methodology

### *The Quality of Employment Index*

The quality of employment is characterized by different aspects of jobs that affect the well-being of a person. Earnings are considered to be a primary aspect of providing decent work. Despite earnings, employment quality in these new arrangements requires a multi-faceted approach that extends beyond the concept of income. This is characterized by the nature of working conditions, and the job security offered elevates the work quality of drivers on the platforms. Our approach to the study begins with examining an aggregate index with respect to different dimensions of employment quality.

1. Dimensions of Earnings

Earnings are considered one of the reasons drivers choose digital cab services over other traditional taxi models. Digital cab services such as OLA and Uber have better networking because customers demand more rides through these platforms. With the flexibility, workers tend to drive more given the earnings potential. In our analysis, earnings are measured categorically, as depicted in Table 2.

2. Dimensions of Employment Conditions.

Existing studies have noted working conditions as a major issue in the platform economy. Especially drivers who drive for longer hours often experience health risks. Additionally, it is important to note down how workers perceive their working conditions on the platform. We measure this subjectively with an ordered scale in our questionnaire that captures working conditions. Another important factor is the number of hours people spend driving cabs. Usually, digital cab owners were found to employ more hours compared to traditional taxi drivers, given their earnings potential. A recent guideline issued by the Transport Ministry says cab services must clock drivers working hours to see whether they get at least 10 hours of rest. Additionally, the report further says drivers working with both cab aggregators cannot work more than 12 hours. In our data, the mean hours of driving are around 12, with almost 56% of drivers working more than 12 hours. With these, we have added a decent working time of above and below 12 hours as one of the indicators for working conditions in our analysis. Additionally, training programs received at the time of induction and training received occasionally are considered factors that elevate work quality in both cab service models.

Additionally, efforts from platforms and agencies in the provision of rewards and assistance to mitigate occupational risk are considered factors that elevate employment conditions. We have created a composite index with all these variables to measure the dimensions of employment conditions for taxi drivers.

**3.** Dimensions of Security and Social Dialogue.

The taxi driver industry boasts a high rate of unionization and is found to be important for people in non-standard or precarious types of employment. The dimension of social dialogue has been considered an important component of decent work and employment quality by the ILO and UNECE. Unionization provides workers the right to organize and bargain collectively and is considered to improve the quality of employment outcomes. We have added membership in a union as an indicator in our analysis. Additionally, drivers who are associated with an agency or digital platforms are protected with stable employment compared to self-employed drivers. With status of employment being an important indicator of job quality, we have used this bifurcation in our dimension, indicating drivers associated with an agency or platform having better employment quality compared to their counterpart, who is self-employed, in our study.

With the dimensions above, we compute the quality of employment using a multivariate strategy with nine indicators across each dimension. Initially, we constructed separate indexes for three dimensions, where the index for each worker is calculated from the normalized value of a set of ordinal variables coming from the first factor of the polychoric PCA. Here, the index value ranges from 0 to 1, with 0 corresponding to the lowest employment quality and 1 corresponding to the highest job quality. In order to compute an aggregate index, we have used principal component analysis of the index generated for each dimension, taking the first principal component and later normalizing with max-min standardization, bringing back values to 0 and 1. The dimensions and sub-indicators are detailed in Table 2, where each variable is in ordinal form, with a higher value indicating better job quality.

**Table 2: Indicators of quality of employment index**

| Indicator | Ordered Category |
|---|---|
| **Earnings Dimension** | Less than- 1000-, 1000-2000-2, 2000-3000-3, 3000-4000-4, 4000-5000-5, Above 5000-6. |
| **Conditions of Employment & Training Received** | |

| | |
|---|---|
| How do you perceive Working Conditions in the platform/agency – Decent and Fair, Satisfactory, Need Improvement, Unfair, Others | Unfair-1 Need Improvement -2, Satisfactory -3, Decent and Fair -4 |
| No. of Hours (Decent working time) | Above 12 hours – 1, 12 hours or Below -2 |
| Does agency or Platform try to - Mitigate occupational risks | Yes – 2, No -1 |
| Does agency provide training programmes | Yes – 2, No -1 |
| Was there any training programmes at the time of induction | Yes – 2, No -1 |
| Does platform/Agency Provides additional rewards for more rides? | No -1, Yes-2 |
| **Employment Security and Social Dialogue** | |
| Self Employed- Or works under an aggregator / platform or agency | 1 Self Employed, 2- Others |
| Union Representation (Social Dialogue) | Yes – 2, No -1 |

Note: Distribution of these indicators across sample is given in Appendix Table 1A.
Source: Authors' description.

***Determinants of quality of employment***

Our analysis involves a comprehensive approach to run multiple estimations for different dimensions of the quality of employment for drivers in both cities and types of business models. For that, we have constructed four regression equations for each dimension and the aggregate quality of the employment index. The present study makes use of an empirical specification altered from Deguilhem et al. (2019), Van der Meulen Rodgers, and Menon (2013) that examines a set of quality of employment indicators for labor and work characteristics over time. Using this specification, the aim of this study is to analyze the impact of participation in the digital platform on dimensions of quality of employment by controlling for the socio-demographic characteristics of the individual. Our analysis of the quality of employment for individual workers is expressed in the form of the following equation:

$$QoE_i = \alpha + \beta_1 Platform_i + \beta_2 City_i + \beta'_3 X_i + \varepsilon_i \quad (1)$$

where 'i' denotes an individual. The dependent variable $QoE_i$ denotes the quality of employment for an individual 'i', and the variable $Platform_i$ represents the drivers working under the digital platform economy (1 if the driver is registered with digital cab services like

OLA or Uber, and 0 indicates otherwise). *City*$_i$ represents the city dummy (1 if Bengaluru city, and 0 indicates Kolkata city). The variable $X_i$ is a set of control variables consisting of individual characteristics taken into account in the study.

In addition to conducting regression analysis of the determinants of the aggregate quality of employment, we have performed three regressions considering each of the three dimensions: earnings, conditions of employment and training received, and employment security and social dialogue, separately. Since earnings are considered a category, we have employed an ordered probit regression for the said dimension. The earnings in the ordered probit model $Y_{i*}$ is the latent variable and fall into six categories:

$$Y_i^* = \alpha + \beta_1 Platform_i + \beta_2 City_i + \beta'_3 X_i + \varepsilon_i \quad (2)$$

In the ordered probit model (equation (2)), $Y_i^*$, earnings, is the latent variable, which has the following six categories:

$$Y_i = \begin{cases} 0, \text{if } Y_i^* < 1000 \\ 1, \text{if } 1000 \leq Y_i^* < 2000 \\ 2, \text{if } 2000 \leq Y_i^* < 3000 \\ 3, \text{if } 3000 \leq Y_i^* < 4000 \\ 4, \text{if } 4000 \leq Y_i^* < 5000 \\ 5, \text{if } Y_i^* \geq 5000 \end{cases} \quad (3)$$

All the explanatory variables remain the same in equations (1) and (2), and for the rest of the dimensions, equation (1) is used for identifying the determinants of them. Table 3 provides a description of the variables that are used in the regression analysis.

**Table 3: Description of variables used in the study**

| Variable | Description |
|---|---|
| Earnings Category | Driver earnings, less than ₹1000, ₹1000 -2000, ₹2000-3000, ₹3000-4000 ₹4000-5000 and above ₹5000 |
| Experience | Measured as Number of Years |
| City | Takes the value 1 if Bengaluru, 0 otherwise, Ref Category Kolkata |
| Marital Status | Takes the value 1 if Married, 0 others, Ref Category Others (Comprising Unmarried & Divorced) |
| Religion | Takes the value 1 if Hinduism, 0 Other Religion Ref. Category: Other Religion |
| Social Group | Takes the value 1 if SC/ST, 0 otherwise, Ref Category : Non SC/ST |

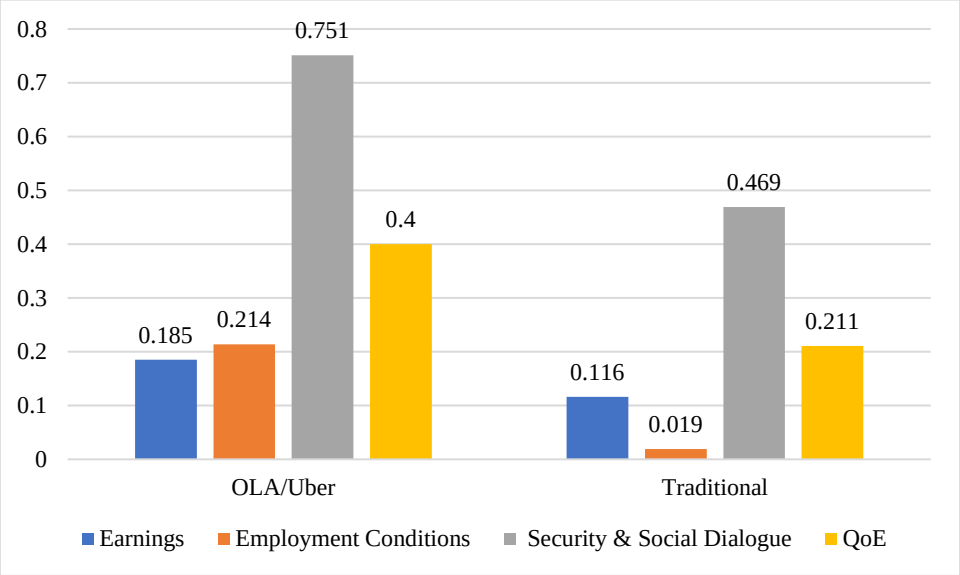
| | |
|---|---|
| Level of Education | Takes the value 5 for graduate, 4 for Diploma/Certificate, 3 Higher Secondary, 2 Secondary<br>Ref Cat: Primary/Below (Consist of Illiterates) |
| Age | Age has been measured categorically as 18-35 years-1, 35 years and above-0 |
| Nature of Ownership | Takes the value 1 for the dummies, Hired as a Driver, and Borrowed on Rent; Otherwise 0, Ref. Category: Self Owned |
| Type of Service | Takes the value 1 for the dummies, OLA/Uber, Owner Cab drivers, and Driver Subscribing to the service of Local Cab Agency, otherwise 0. Ref Category: Self-employed Driver |

Source: Authors' description.

## 4. Quality of employment by types of platform

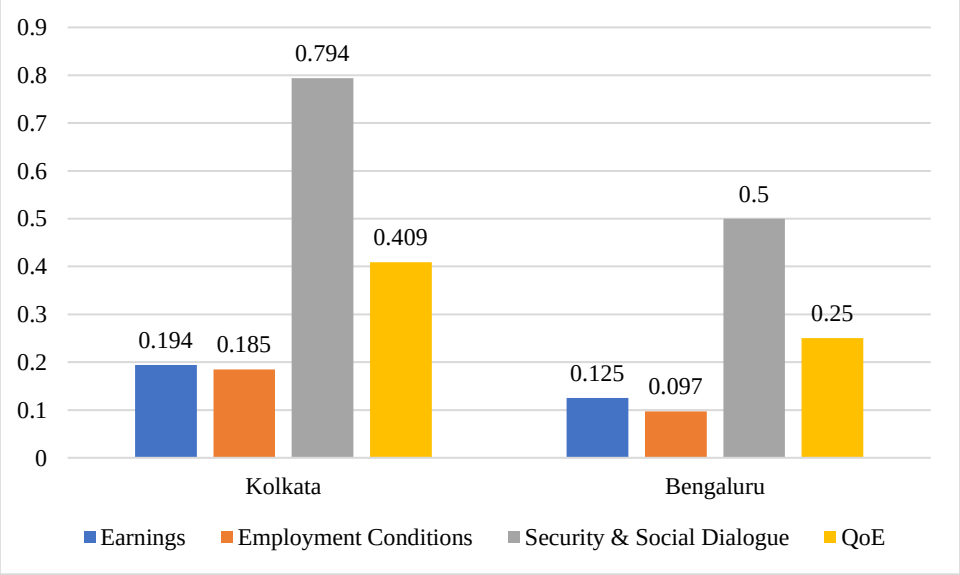
Overall, the quality of employment for drivers is found to be better in Kolkata than in Bengaluru. Between types of business models, OLA/Uber drivers scored significantly in the quality of employment index. Within dimensions, security and social dialogue have a higher score compared to earnings and conditions of employment. Being a union member helps workers in all types of negotiations and the simple exchange of information between employers and government, and this is found to be higher in Kolkata. Secondly, within business models, OLA/Uber drivers are found to be associated with a platform that offers more ride opportunities and benefits compared to traditional taxi drivers. The traditional business model consists of self-employed drivers who operate independently and use local transportation networks to find passengers. However, drivers associated with platforms or agencies are found to have a more stable income and a larger customer base compared to self-employed drivers. Additionally, Uber and OLA drivers are found to be better with earnings and employment conditions. Uber/OLA drivers receive several benefits and rewards for more rides, helping to raise earnings; second, several drivers receive training at the time of induction that elevates their quality of employment in terms of conditions of employment.

**Figure 1: Quality of employment by type of platform**




Source: Authors' estimation based on primary survey.

**Figure 2: Quality of employment by type of city**

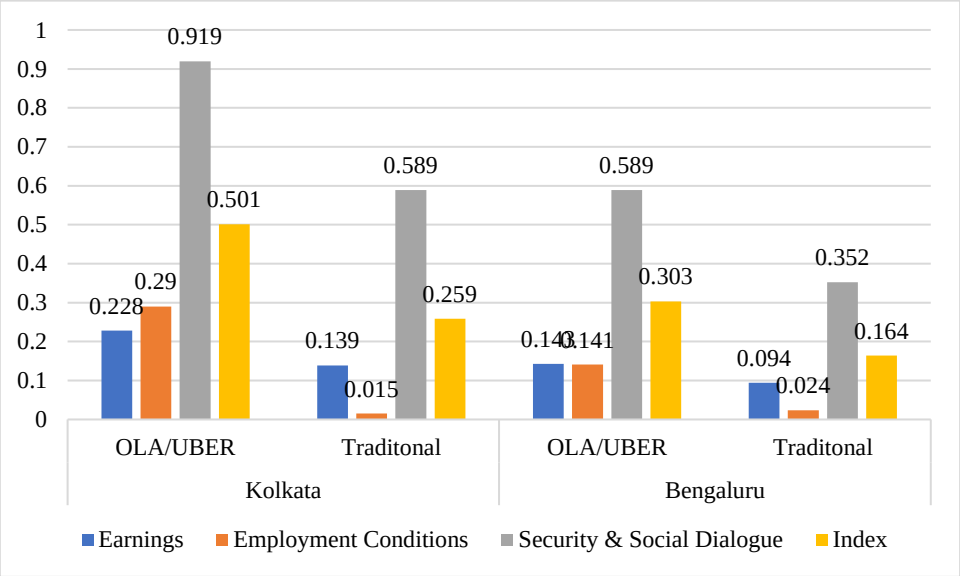



Source: Authors' estimation based on primary survey.

In order to examine how the quality of employment differs within the business model for two cities, we have plotted the index in Figure 3. Employment quality is found to be higher in Kolkata for OLA/Uber drivers compared to Bengaluru, and this holds true for traditional cab drivers. Within dimensions, the score for employment conditions is found to be very minimal for traditional cab drivers. The differences are greater in dimensions of security and social dialogue, showing the particular strength of Kolkata City. Within earnings, the differences

aren't much different; however, OLA/Uber drivers enjoy better earnings in both cities compared to traditional taxi drivers.

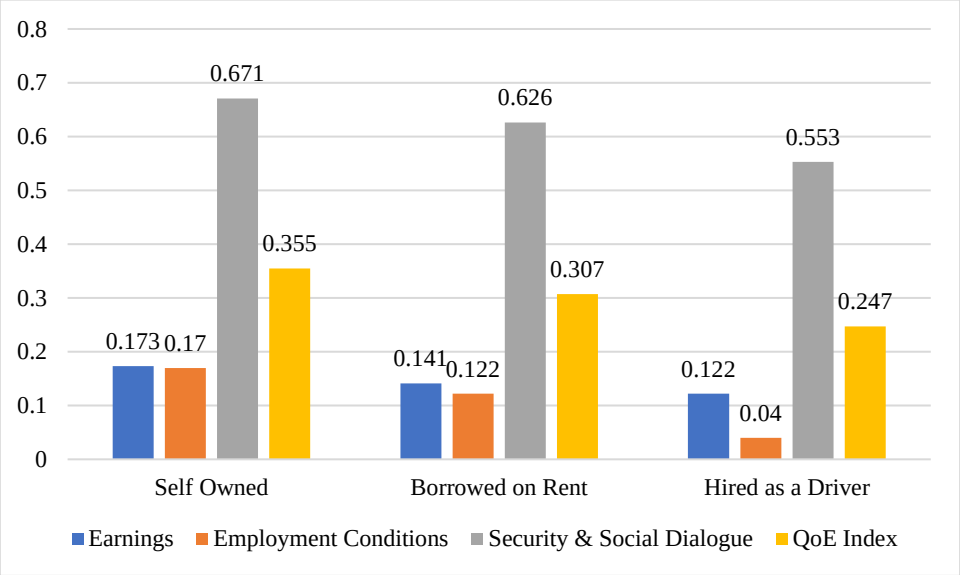
**Figure 3: Quality of employment between platforms across Kolkata and Bengaluru cities**




Source: Authors' estimation based on primary survey.

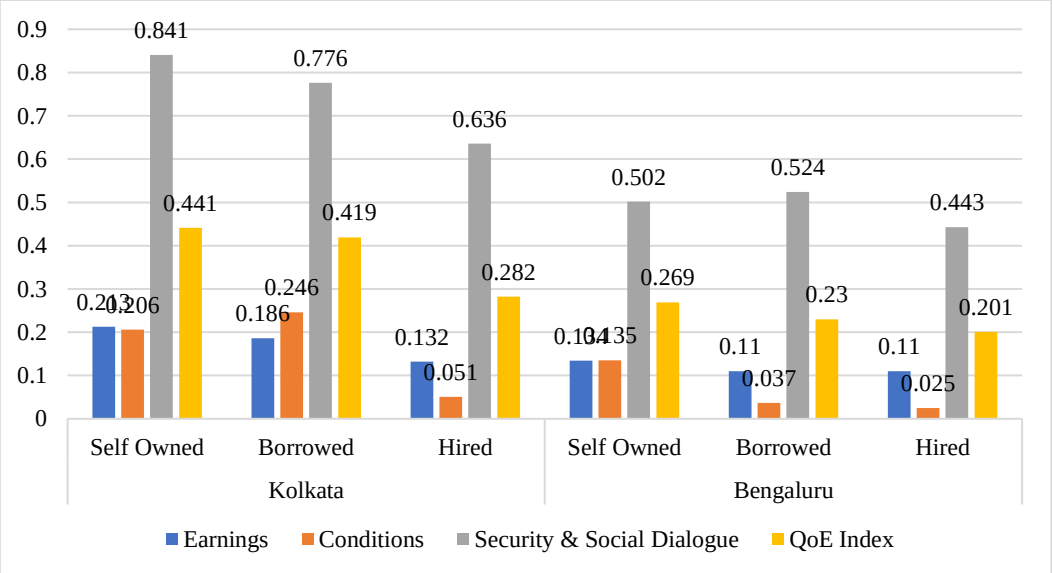
These results were further analyzed by the nature of the ownership of the cab. As Figure 4 shows, drivers with their own vehicles have higher employment quality compared to other categories of drivers. The discretion of having their own car helps them earn higher earnings than hired and rented drivers. Additionally, drivers hired as drivers have the lowest score in all three dimensions. A similar trend is visible for both Kolkata and Bengaluru (as shown in Figure 5), but Kolkata accounts for higher figures compared to Bengaluru.

**Figure 4: Quality of employment by nature of ownership of cab**




Source: Authors' estimation based on primary survey.

**Figure 5: Quality of employment by nature of ownership in Kolkata and Bengaluru**




Source: Authors' estimation based on primary survey.

Table 4 identifies the quality of employment for different types of drivers. Traditional cab drivers consist of self-employed drivers, those who subscribe to a local cab agency, and owned cab drivers associated with a railway station, airport, or bus station with a prepaid counter. Of the four types of drivers in our total sample, self-employed drivers have the lowest quality of employment score, where they are deprived in every single dimension of the index. Significant

differences are not found between owned-cab drivers and drivers within a local cab agency. However, drivers associated with OLA/Uber platforms have higher employment quality across all dimensions compared to their counterparts. Checking the magnitude of each index, the dimension of employment conditions is found to be the least among other types of drivers.

**Table 4: Quality of employment by type of driver in Kolkata and Bengaluru**

| City | Type of Driver | Earnings | Employment Conditions | Security & Social Dialogue | QoE Index |
|---|---|---|---|---|---|
| **Kolkata** | Self Employed | 0.106 | 0.014 | 0.322 | 0.158 |
| | Owner Cab driver | 0.173 | 0.016 | 0.807 | 0.347 |
| | Driver- Local Cab agency | 0.14 | 0.015 | 0.65 | 0.279 |
| | UBER/OLA | 0.228 | 0.29 | 0.919 | 0.502 |
| **Bengaluru** | Self Employed | 0.091 | 0.021 | 0.083 | 0.077 |
| | Owner Cab driver | 0.077 | 0.022 | 0.512 | 0.203 |
| | Driver- Local Cab agency | 0.116 | 0.03 | 0.5 | 0.224 |
| | UBER/OLA | 0.144 | 0.142 | 0.589 | 0.303 |
| **Overall** | Self Employed | 0.098 | 0.017 | 0.198 | 0.116 |
| | Driver- Local Cab Agency | 0.126 | 0.018 | 0.662 | 0.276 |
| | Owner Cab driver | 0.127 | 0.022 | 0.573 | 0.250 |
| | UBER/OLA | 0.185 | 0.214 | 0.751 | 0.400 |

Source: Authors' estimation based on primary survey.

## 5. Determinants of quality of employment

Having examined how quality of employment differs between cities and by type of driver, it is imperative to further explore the determinants of quality of employment across all aspects. Table 5 provides estimation results for the determinants of quality of employment for each dimension across 691 samples. First, earnings were measured with an ordinal nature in our data, and we have employed an ordered probit model for this dimension alone. The results claim that OLA/uber drivers have a higher probability of earnings compared to other cab drivers and are found to be statistically significant. Additionally, drivers subscribed to a local cab agency have a higher probability of earning, and both of these results show that association with an agency or platform can result in a higher likelihood of earning compared to self-employed and other types of drivers. Our city dummy shows -0.34 and is found to be statistically significant at the 10 percent level, implying drivers in Kolkata have a higher likelihood of earning compared to Bengaluru city. This holds true for all dimensions of the

quality of employment. Furthermore, experience and higher education levels are associated with increased earnings.

**Table 5: Determinants of quality of employment**

| Variables | **Earnings** | **Conditions** | **Security & Social Dialogue** | **QoE Index** |
|---|---|---|---|---|
| | Ordered Probit | OLS | | |
| Type of Driver: Owner Cab driver | -0.011<br>(0.168) | -0.005<br>(0.036) | 0.455 ***<br>(0.029) | 0.151 ***<br>(0.019) |
| Driver subscribed to local cab agency | 0.617***<br>(0.206) | 0.018<br>(0.044) | 0.361 ***<br>(0.036) | 0.144 ***<br>(0.024) |
| Uber/OLA | 0.811***<br>(0.141) | 0.202 ***<br>(0.03) | 0.556 ***<br>(0.024) | 0.276 ***<br>(0.016) |
| City | -0.34 ***<br>(0.115) | -0.096 ***<br>(0.024) | -0.292 ***<br>(0.02) | -0.159 ***<br>(0.013) |
| Experience | 0.085***<br>(0.011) | -0.001<br>(0.002) | 0.003<br>(0.002) | 0.005 ***<br>(0.001) |
| Nature of ownership: Borrowed on Rent | -0.189*<br>(0.108) | -0.008<br>(0.023) | -0.013<br>(0.019) | -0.012<br>(0.012) |
| Hired as a Driver | -0.38**<br>(0.185) | -0.022<br>(0.04) | 0.02<br>(0.033) | -0.018<br>(0.021) |
| Age: 18-35 years | 0.065<br>(0.108) | 0.038 *<br>(0.023) | 0.023<br>(0.019) | 0.018<br>(0.012) |
| Religion | 0.13<br>(0.141) | 0.04<br>(0.029) | 0.066 ***<br>(0.024) | 0.047 ***<br>(0.016) |
| Social Group | -0.295 **<br>(0.121) | -0.004<br>(0.025) | 0.009<br>(0.021) | -0.006<br>(0.014) |
| Marital Status | 0.08<br>(0.113) | 0.036<br>(0.024) | 0.01<br>(0.02) | 0.014<br>(0.013) |
| Level of Education: Secondary | 0.161<br>(0.11) | -0.037<br>(0.023) | -0.002<br>(0.019) | -0.002<br>(0.012) |
| Higher Secondary/Diploma | 0.459 ***<br>(0.109) | 0.034<br>(0.023) | 0.054 ***<br>(0.019) | 0.058 ***<br>(0.012) |
| Graduate | 0.687 ***<br>(0.195) | -0.048<br>(0.041) | 0.156 ***<br>(0.034) | 0.07 ***<br>(0.022) |
| _cons | | 0.026<br>(0.041) | 0.274 ***<br>(0.034) | 0.124 ***<br>(0.022) |
| LR | 230.24*** | | | |
| Log Likelihood | -1000.73 | | | |
| F-Stat | | 11.64*** | 82.39*** | 61.27*** |
| R-Squared/ Psuedo | 0.103 | 0.194 | 0.630 | 0.559 |
| Root Mean Squared | | .226 | .186 | .121 |
| No. of Observations | 691 | 691 | 691 | 691 |

Source: Authors' estimation based on primary survey.
Note: ***, ** and ** indicated 1%, 5% and 10% significance respectively. Standard errors are reported in parentheses.

Moving on to the aggregate index, OLA/Uber drivers have a higher coefficient of 0.276 compared to other drivers, indicating a higher quality of employment. This is due to the prospects of higher earnings, with more flexibility and stable jobs provided by the aggregators

that are lacking in traditional taxi driving models. Drivers associated with a cab agency and a prepaid counter have a positive and statistically significant relationship with self-employed drivers, but to a lesser extent compared to Uber/OLA drivers. Additionally, experience is considered an important factor that determines the quality of employment. The magnitude of coefficients for education goes higher with higher levels of education, indicating drivers with higher education levels enjoy better employment quality compared to their counterparts. Overall, the likelihood ratio and F statistic are statistically significant, indicating the model fits the data well.

## 6. Conclusion

The aim of the current study was to assess the quality of employment index in Kolkata and Bengaluru for drivers pertaining to traditional and OLA/Uber taxi models. With a cohort of 691 samples, we have constructed the quality of employment in three dimensions. Significant differences in the dimensions of quality of employment by city and type of drivers were observed in the study. The difference illustrated is that OLA/Uber generates better quality of employment compared to traditional taxi models. This is particularly due to the earnings potential of these platforms. In light of published literature, results for earnings are consistent (Hall and Kruger, 2018). Additionally, employment conditions are found to be better in these digital cab aggregators. Platforms such as OLA and Uber offer occasional training programs that can enhance the quality of employment for their drivers. These platforms offer better rewards and benefits associated with a larger number of rides, which helps them elevate their working conditions. Second, the quality of employment varies significantly depending on the type of vehicle ownership. Drivers with their own vehicles have a higher quality of employment compared to other drivers in both cities.

As discussed throughout, we have estimated regression for each dimension and aggregate index to determine the quality of employment for drivers operating on these platforms in both cities. The results show higher employment quality associated with OLA/Uber drivers in both cities. Our model shows the quality of employment is higher in Kolkata than in Bengaluru. This is possible due to the higher traffic density in Bengaluru, which makes drivers have fewer rides but end up spending more hours of work for an income. Secondly, the Security and Social Dialogue index has a higher magnitude in Kolkata than in Bengaluru, indicating that Kolkata being a worker-supportive state with higher union representation helps drivers have more access to negotiated benefits and legal representation. With the potential of digital cab services

to create a better quality of employment, more drivers should be encouraged to move to these platforms, as they have more earning potential accompanied by better working conditions. However, the magnitude of these dimensions is found to be less, and any provision of fair work and remuneration through benefit programs can enhance the quality of employment for drivers in the digital sphere. At the same time, it is important to improve the employment quality generated in the conventional taxi system by providing fair competition between business models.

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## APPENDIX

### Table A1: Distrubiton of workers by Indiactors of Quality of Employment

| How do you perceive Working Conditions in the platform/agency | | |
|---|---|---|
| Unfair | 130 | 18.81 |
| Need Improvement | 217 | 31.4 |
| Satisfactory | 201 | 29.09 |
| Decent and Fair | 143 | 20.69 |
| No. of Hours (Decent working time) | | |
| Less than 12 | 439 | 63.53 |
| More than 12 hrs | 252 | 36.47 |
| Does agency or Platform try to - Mitigate occupational risks | | |
| Rewards : No | 627 | 90.74 |
| Yes | 64 | 9.26 |
| Was there any training programmes at the time of induction | | |

| | | |
|---|---|---|
| Training Induction –No | 561 | 81.19 |
| Yes | 130 | 18.81 |
| Does agency provide occasional training programmes | | |
| No | 622 | 90.01 |
| Yes | 69 | 9.99 |
| Does platform/Agency Provides additional rewards for more rides? | | |
| No | 577 | 83.50 |
| Yes | 114 | 16.50 |
| Self Employed Drivers : | 93 | 13.46 |
| Are you a member of Union | | |
| Yes | 293 | 42.40 |
| No | 398 | 57.60 |

Source: Authors' estimation based on primary survey.