

Exploring the Rise of the Gig Economy in Nepal: Shifting Dynamics and Implications for the Future of Gig Work

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Abstract

Background: The gig economy is a labor market that facilitates opportunities for both employers and employees to engage in freelance work contracts instead of full-time, permanent work positions.

Objectives: The purpose of this study is to examine the likelihood of workers continuing their participation in Nepal's emerging gig platforms and to identify the determinants influencing labor supply across various gig sectors. Additionally, the research aims to explore key opportunities, challenges, and support measures necessary to enhance the well-being and sustainability of gig workers in Nepal.

Methods: A binary logit regression model was employed to analyze survey-based primary data collected from 386 gig workers in the Kathmandu Valley. The research encompasses five key sectors: ride-sharing platforms, online tutoring services, e-commerce delivery platforms, food delivery services, and freelance work. To ensure statistical robustness, the study incorporated tests for correlation matrices, goodness of fit, multicollinearity, as well as sensitivity and specificity assessments.

Results: Freelancing has the highest participation rate, but ride-sharing and e-commerce delivery reduce gig work continuation, with ride-sharing dominating. Employed individuals, driven by income, satisfaction, and household head status, are more likely to continue. Full-time work is common in ride-sharing and delivery, while part-time work is more frequent in freelancing and tutoring. Gig workers earn subsistence income, between 30-40k NPR, with income rising with age, education, transport costs, hours worked, and satisfaction.

Conclusion: Nepalese gig workers face substantial challenges. Women are disproportionately under represented. Addressing legal and regulatory challenges, social and health issues, and financial insecurities, Nepal can leverage its gig economy to provide a resilient and inclusive alternative to traditional employment to resolve unemployment across diverse socioeconomic groups.

Keywords: Delivery platforms, gig economy, gig worker, logit regression, ride-sharing

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Introduction

The gig economy refers to a part of the economic system that involves workers engaged in flexible (Montgomery & Baglioni, 2021), temporary (Huang et al., 2020), and freelance jobs (Kost et al., 2020). De Stefano (2016) discussed gig work linking it with work where online or mobile platforms match job opportunities with workers, offering flexible schedules to meet demand and supply. As discussed by Anwar and Graham (2021) and Malik (2021), these jobs are characterized by short-term or temporary contracts, or sometimes by the absence of any formal contracts between employers and employees. Broadly discussed, the gig economy is a labor market that facilitates opportunities for both employers and employees to engage in freelance work contracts instead of full-time, permanent work positions. Katz and Krueger (2019) analyzed the Contingent Worker Survey conducted by the RAND American Life Panel in late 2015 and found that there was a notable increase in the prevalence of alternative work arrangements in the U.S. economy, rising from 10.7 percent in February 2005 to 15.8 percent by late 2015. Later on, Farrell and Greig (2017) analyzed the JP Morgan Chase Institute Online Platform Economy dataset and highlighted transport, non-transport, selling, and leasing sectors as the major gig platforms, in which transportation platforms dominated in terms of both the number of participants and total transaction volume between 2013 and 2018. Similarly, Warren (2021) also studied gig work and suggested that flexibility is a major phenomenon of the gig economy, enabling individuals to optimize their productivity and work-life balance on their terms.

Gig work refers to task- or project-based work that is completed digitally and compensated upon delivery. This type of work is typically facilitated through online outsourcing platforms, which serve as digital marketplaces connecting employers with workers, allowing for flexible, short-term job opportunities across various industries. It comprises markets for several sectors, which include ride-sharing (Buchak, 2024), e-commerce delivery and food delivery (Dazzi, 2019), online tutorials (Wood et al., 2019), fixed-term projects, freelance (Altenried, 2024), and many more. Gig markets are beneficial in tackling the problems of unemployment and poverty as discussed by Huang et al. (2020) and Insebayeva and Beysembayev (2023) by providing flexible and diverse job opportunities that encompass a wide range of skills, whether individuals are highly skilled or have basic skills further discussed by Dey (2022) and Pereira (2022). The most important aspect of the gig economy is that it boosts productivity across all segments of the labor force, leading to an overall increase in the economy's income-generating capacity. And Roy and Shrivastava (2020) in their study have also discussed how this shift in the labor market has brought a fundamental shift in how the economy operates and has completely changed the way people engage at work. Besides this, the gig market has also offered women for flexible work options. As discussed by Kasliwal (2020), the gig market provides opportunities for women to start their businesses or work independently, which can be empowering and help them overcome traditional workplace barriers.

South Asian economies possess possibilities for expansion of the gig economy. Ostoj (2021) in his study proved that the supply of online labor services in the global market is dominated by three Asian countries India, Pakistan, and Bangladesh. Islam et al. (2019) found that ride-sharing services are emerging rapidly in Bangladesh as an alternative to traditional transportation. Similarly, there has been a significant increase in the number of gig workers in India, but Aggarwal (2023) identified serious concerns about the availability of jobs and income security for gig workers, which pose challenges and hardships in emerging gig markets in India. In Nepal, the gig market emerged only after the COVID-19 pandemic. Not much work in the gig economy has been done in Nepal, but Paudel (2024) discussed that regulatory barriers hinder the gig economy's growth, underscoring the need for tailored policies to address worker rights and working conditions. Nepal, which has mostly relied on agriculture and more recently on services, is now seeing a big change toward a gig economy driven by new technology, urbanization, and digital advancements.

Nepal's gig economy is still developing, and there isn't reliable data yet available to the government on its exact size or scope. The Fourth Round of the Nepal Living Standard Survey (2022/23) and the Third Round of the Nepal Labor Force Survey (2017/18) also did not address the involvement of workers in gig platforms. Although gig platforms such as online tutoring, delivery services, and freelancing began in Nepal quite early, ride-sharing services emerged later in 2015. However, they quickly dominated the Nepalese gig market within the following years. Ride-sharing platforms, including taxis and motorbikes, have emerged as the dominant gig platforms in Nepal and are set to expand significantly in both transaction volume and reach. As this sector grows, it's becoming an increasingly important part of Nepal's economy, offering flexible work opportunities and contributing to economic growth. There's a growing awareness among people, but overall literacy about how gig economy platforms operate, their benefits, risks, and legal aspects are relatively low. Studying Nepal's gig economy is important because it provides valuable insights into a rapidly growing sector that is shaping the country's workforce and economy. Understanding this economy helps policymakers make informed decisions about labor laws, taxation, and worker protections. It also highlights the opportunities and challenges faced by gig workers, such as income instability, lack of benefits, and the need for better work safety and health concerns. Therefore, it is becoming increasingly important to study the emerging gig markets in Nepal to assess their current size and to regulate and systematize them in the context of the evolving labor market.

Review of Literature

Since the gig economy in emerging economies like Nepal is still in its nascent stages, there is a scarcity of comprehensive studies on the topic. However, several empirical studies have been carried out in developed economies, particularly, in Europe, North America, and a few Asian countries like China, India, etc. Friedman (2014) finds that more American workers are choosing to work independently rather than in traditional full-time jobs, taking on short-term projects or tasks with flexibility in their work arrangements. These arrangements offer flexibility, allowing workers to choose when and for whom they work, but they do not provide the security or benefits associated with traditional employment. Gig work is attractive to workers because it offers freedom and independence. Josserand and Kaine (2019) confirm this, showing that gig workers appreciate being able to control their schedules and select the jobs they take on. This aspect of gig work is seen as empowering and liberating, allowing individuals to balance work with other life commitments. Ride-sharing comprises a significant proportion of the gig economy. Drivers are attracted to Uber because they can choose their hours, earn good pay, and their hourly earnings stay steady no matter how much they work (Hall & Krueger, 2018). Work flexibility can be referred to as a determinant of driver participation in ride-sharing platforms like Uber in the US. The gig market works best in cities where technology and digital changes create many different job opportunities. Crowd work arrangements, despite offering the convenience of working from home, fail to offer satisfactory employment opportunities in both the U.S. and globally. Crowd work is a type of work performed remotely on online platforms (Berg, 2016). So, there is no clear evidence that the gig market would ever outrun the traditional labor market.

The key concerns about gig workers are bargaining power, economic inclusion, intermediated value chains, and upgrading (Graham et al., 2017). There exist both benefits and risks for digital workers, and to improve conditions and livelihoods for gig workers, certification schemes, organizing digital workers, regulatory strategies, and democratic control of online labor platforms could be employed as strategies. Despite possibilities, it also has some challenges such as income instability, job insecurity, issues of work dignity, and the lack of benefits (Behl et al., 2022; Myhill et al., 2023). The traditional labor market, characterized by higher security, stability, and benefits, is not seen as a complete alternative to the gig economy (Kost et al., 2020). Workers often face issues such as inadequate pay, inconsistent job

availability, poor communication with employers, and platforms that are unresponsive to their needs. These challenges highlight significant shortcomings in the current structure of crowd work, impacting workers' overall job satisfaction and stability. And, these factors could limit the labor force participation in crowd work. Despite the flexibility typically associated with the gig market, Codagnone et al. (2016) suggest that many workers choose gig work as their main source of employment. People participate in online labor market activities primarily to earn money, with a significant number relying on this work as their main source of income. Similarly, Okunkova et al. (2023) identified the threats posed by the rapid growth of the gig economy. Additionally, the study found that high rates of self-employment are associated with underdeveloped labor relations and economic challenges, compounded by a relatively high level of education in the population. And, a study by Behl et al. (2022) highlights high competition, extended work hours, late-night deliveries, poor payment structures, and stringent incentive conditions as significant barriers in the gig economy, with expenses like internet costs and vehicle maintenance exerting comparatively less influence.

Meanwhile, Ostoj (2021) analyzes global literature to explore how technological foresight can address current challenges in the gig economy and proposes future scenarios within a post-platform economy framework. The study argues that while the gig economy has advanced significantly, it has also diminished work quality and may not fully satisfy modern worker needs, indicating an urgent call for transformation. Similarly, there are significant disparities in women's participation in the gig economy (Cook et al., 2021). Despite efforts to integrate gender sensitivity into platform design, there remains a stark reality, fewer women are actively engaged in these platforms. This discrepancy is compounded by concerns over women's safety in public transport, prompting platforms to adopt strategies that acknowledge women as a substantial market share while navigating conservative gender norms prevalent in Nepal. This is evident from the studies conducted by Hamal and Huijsmans (2022). Uchiyama et al. (2022) investigate the working conditions of e-hailing drivers and food delivery riders, highlighting their lack of social protection and proposing policies to address these issues and promote worker well-being in the gig economy. Gig work often emerges as a response to unemployment or underemployment, providing individuals with alternative sources of income. Similarly, Huang et al. (2020) find a compelling positive association between local (county) unemployment rates in the traditional offline labor market and the supply of online workers residing in the same county. Specifically, a 1% increase in county unemployment correlates with a significant 21.8% increase in the volume of county residents actively engaged in online work through the platform.

Materials and Methods

The purpose of research is to estimate the likelihood of workers participating in the gig economy, at least as a backup plan, if nothing else significant happens in the future. This study is based on survey data, employing a binary logit regression model. When dealing with a dependent variable with binary outcomes, the binary logit regression model is the optimal choice for accurate estimation.

Econometric Model

The probability of the occurrence of the event is determined by the function:

$$p_i = F(Z) = \frac{1}{1 + e^{-z_i}} \dots\dots\dots (1)$$

As Z tends to infinity, e^{-z} tends to 0 and p has a limiting upper bound of 1. As Z tends to minus

infinity, e^{-z} tends to infinity and p has a limiting lower bound of 0. Hence, there is no possibility of getting predictions of the probability being greater than 1 or less than 0. Similarly,

$$Z_i = \beta_1 + \beta_2 X_i \dots\dots\dots (2)$$

To model the binary outcomes into a linear model, log transformation is used as the function

$$\text{Log}\left[\frac{p(Z=1)}{1-p(Z=1)}\right] = \beta_1 + \beta_2 X_i \dots\dots\dots (3)$$

And, the marginal effect of Z on the probability, which is denoted by $f(Z)$, is given by the derivative of this function to Z .

$$f(Z) = \frac{dp}{dz} = \frac{e^{-z}}{(1 + e^{-z})^2} \dots\dots\dots (4)$$

In this study, the dependent variable is a binary outcome, representing Gig Participation (1) and Nonparticipation (0). The logit regression model in the linear form for the estimate of gig work participation takes the econometric model form:

$$\begin{aligned} \text{Gig_Part} = & \alpha + \beta_1 \text{AGE} + \beta_2 \text{GEN} + \beta_3 \text{EDU} + \beta_4 \text{MRT_STS} + \beta_5 \text{RES} + \beta_6 \text{STU_STS} + \\ & \beta_7 \text{TRN_ACC} + \beta_8 \text{EMP_STS} + \beta_9 \text{PAS_INC} + \beta_{10} \text{WRK_HOR} + \beta_{11} \text{AM_HD_INC} + \\ & \beta_{12} \text{AM_GIG_INC} + \beta_{13} \text{AM_HD_EXP} + \beta_{14} \text{WRK_STS} + \beta_{15} \text{ECOM_PFM} + \beta_{16} \text{FOD_PFM} \\ & + \beta_{17} \text{ONL_TUT_PFM} + \beta_{18} \text{RSR_PFM} + \omega \dots\dots\dots (5) \end{aligned}$$

α = intercept

β = regressor coefficients that can vary between (+ and -)

ω = disturbance term, whose expected value is zero

The labeling of variables is shown in Table 1.

Table 1

Label of variables incorporated in the equation

Variable	Label	Type	Value
Gig_Part	Participation in the gig work	Dummy variable	1 = Yes 0 = No
AGE	Age of the gig worker	Continuous variable	
GEN	Gender of gig worker	Dummy variable	
EDU	Education of gig worker	Order variable	1 = Male 0 = Female Ranging from 1 to 5

MRT_STS	Marital status of gig worker	Dummy variable	1 = Married 0 = Unmarried
RES	Residency of gig worker	Dummy variable	1 = Yes 0 = No
STU_STS	Student status of gig worker	Dummy variable	1 = Student 0 = Not student
TRN_ACC	Accessibility of transport	Dummy variable	1 = Having Access 0 = Otherwise
EMP_STS	Employment status of gig worker	Dummy variable	1 = Employed 0 = Unemployed
PAS_INC	Passive income of gig worker	Dummy variable	1 = Passive income 0 = Otherwise
WRK_HOR	Working hours of gig workers	Order variable	Ranging from 1 to 5
AM_HD_INC	Average monthly household income of gig worker	Order variable	Ranging from 1 to 5
AM_GIG_INC	Average monthly gig income of gig worker	Order variable	Ranging from 1 to 5
AM_HD_EXP	Average monthly household expenses of gig worker	Order variable	Ranging from 1 to 5
WRK_STS	Work satisfaction of gig worker	Dummy variable	1 = Satisfied 0 = Unsatisfied
ECOM_PFM	E-commerce delivery platform	Dummy variable	1 = E-commerce 0 = Otherwise
FOD_PFM	Food delivery platform	Dummy variable	1 = Food delivery 0 = Otherwise
ONL_TUT_PFM	Online tutorial platform	Dummy variable	1 = Online tutorial 0 = Otherwise
RSR_PFM	Ride-sharing platform	Dummy variable	1 = Ride-sharing 0 = Otherwise

The area of the study is Kathmandu Valley, given that the gig market is a nascent and rapidly growing sector where most gig activities are concentrated. The study population comprises workers actively engaged in the gig market, comprising ride-sharing, food delivery, e-commerce delivery, online tutoring, and freelance platforms. Since the actual size of the gig economy is unknown, the population size remains uncertain, mandating the calculation of a sample size suitable for an infinite population. To calculate the sample size, it is necessary to specify both the confidence level and the margin of error. Using a 95% confidence level and a 5% margin of error, researchers determine the required sample size using a prescribed formula.

$$N = \frac{Z^2 * p * (1-p)}{E^2} \dots\dots\dots (6)$$

Where,

N = Sample size, Z = Z score to the desired confidence level (Z 1.96),

P = Standard of deviation (0.5)

E = margin of error (0.05 for 5% error of margin).

The recommended sample size would be approximately 385 individuals. This sample size should provide a reasonable representation of the population for the study.

The questionnaire comprises 23 closed-ended questions. Data was collected using the Kobo Toolbox, both online and offline, across various geographical regions of the Kathmandu Valley by using purposive sampling. Purposive sampling is appropriate for this study because it allows researchers to specifically target individuals who are actively engaged in the gig platforms being analyzed in this study. The questionnaire was distributed via email and social media to reach respondents involved in the gig economy from diverse backgrounds who are actively participating in the gig platforms.

Results and Discussion

The results and discussion section deals with descriptive statistics, correlation analysis, diagnostic tests, regression analysis, and discussing results in the specific context of Nepal.

Descriptive Statistics

Descriptive statistics provide a distribution of variables. We analyze the distribution in terms of workers’ decision to continue or discontinue in gig markets at least as a backup plan, if nothing else significant happens in the future. It is illustrated in Table 2.

Table 2

Descriptive statistics of the data in the survey

Variable	Continue Gig Participation						Total
	Yes		No		Freq	Percent	
	Freq	Percent	Freq	Percent			
GEN	Male	270	74.79%	91	25.21%	361	100%
	Female	19	76.00%	6	24.00%	25	100%
Total		289	75.39%	97	24.60%	386	100%
AGE	18-23	20	57.14%	15	42.86%	35	100%
	24-29	105	71.92%	41	28.08%	146	100%
	30-35	65	75.58%	21	24.42%	86	100%
	36-41	62	86.11%	10	13.89%	72	100%
	42-48	37	78.72%	10	21.28%	47	100%
Total		289	73.89%	97	26.106%	386	100%
EDU	Below SLC	33	75.00%	11	25.00%	44	100%
	SLC	41	71.93%	16	28.07%	57	100%
	Intermedi-ate	104	67.97%	49	32.03%	153	100%
	Bachelor	63	79.75%	16	20.25%	79	100%
	Master	48	90.57%	5	9.43%	53	100%
Total		289	77.04%	97	22.95%	386	100%
SRH_EMP	Yes	121	67.98%	57	32.02%	178	100%
	No	168	80.77%	40	19.23%	208	100%
Total		289	74.37%	97	25.62%	386	100%
HOU_HD	Yes	147	82.58%	31	17.42%	178	100%
	No	142	68.27%	66	31.73%	208	100%

Total		289	75.42%	97	24.57%	386	100%
WRK_	Less than 4	38	82.61%	8	17.39%	46	100%
HOR	hours						
	4 hours – 6	46	75.41%	15	24.59%	61	100%
	hours						
	6 hours – 8	80	68.97%	36	31.03%	116	100%
	hours						
	8 hours –	89	71.77%	35	28.23%	124	100%
	10 hours						
	Above 10	36	92.31%	3	7.69%	39	100%
	hours						
Total		289	78.214%	97	21.78%	386	100%
AM_	Less than	28	57.14%	21	42.86%	49	100%
GIG_	15,000						
INC	15,000 –	125	68.31%	58	31.69%	183	100%
	30,000						
	30,000 –	87	84.47%	16	15.53%	103	100%
	40,000						
	40,000 –	42	95.45%	2	4.55%	44	100%
	50,000						
	Above	7	100%	0	0.00%	7	100%
	50,000						
Total		289	81.07%	97	18.92%	386	100%
WRK_	Not very	4	40.00%	6	60.00%	10	100%
STS	satisfied						
	Not satis-	31	38.75%	49	61.25%	80	100%
	fied						
	Neutral	16	53.33%	14	46.67%	30	100%
	Satisfied	220	88.71%	28	11.29%	248	100%
	Very satis-	18	100.00%	0	0.00%	18	100%
	fied						
Total		289	64.15%	97	35.84%	386	100%
Gig_	ECOM_	46	74.19%	16	25.81%	62	100%
Plat-	PFM						
form	FOD_PFM	31	68.89%	14	31.11%	45	100%
	FRE_LNC	50	94.34%	3	5.66%	53	100%
	ONL_	37	86.05%	6	13.95%	43	100%
	TUT_						
	PFM						
	RSR_PFM	125	68.31%	58	31.69%	183	100%
Total		289	78.35%	97	21.64%	386	100%

Source: Author’s calculation based on the field survey, 2024.

Among 386 respondents, males and females showed comparable participation rates above 75%, but the females made only 6.42% engagement with almost no engagement in ride-sharing and food delivery platforms reflecting notable gender disparities, thus limiting the engagement of women in Nepal’s gig market. Women’s limited gig participation supports the previous findings of Cook et al. (2021) who

suggested that women are disproportionately represented in gig works. Although gig markets are expected to open new employment opportunities for women, they face barriers and hardships to entering the gig markets particularly due to a lack of technological access, work adaptability, awareness of gig benefits, or social stigma. Similarly, the continuation was highest among workers aged 36-41 with 86.11% and lowest in the youngest age group of 18 - 23 indicating the dominance of the young population in Nepal's gig markets. Regarding education and skills required for gig workers, Herrmann et al. (2023) and Mousa (2024) suggested that gig markets do not necessarily mandate higher education for gig workers, but education level positively correlated with continued participation in our study, with the highest rates among master's degree holders and the lowest among those with intermediate education. The increased participation of highly educated gig workers could be potentially due to the rapid expansion of gig work in Nepalese academic sectors, particularly through online tutorials, training, workshops and classes as discussed by Nelson et al. (2020) in their study. Similarly, this could be also due to the involvement of university graduates in online tutorials, and IT graduates working as programmers, and software outsourcing which provides flexibility in work and freedom in their work schedules.

Not surprisingly, but those not actively searching for employment and household heads were more likely to continue gig work. This could be attributed to the prevailing of unemployment, low income, or flexibility nature of gig works. It is also important to examine the roles of working hours in the continuation of gig work, because high working hours are associated with continuation of it as it generates additional income flow. We found that continuation was highest among those working over 10 hours daily with 92.31% and lowest for workers putting in 6 - 8 hours with 68.97%. Meanwhile, average gig income strongly influenced continuation, with 100% participation among earners above NPR 50,000 and only 57.14% among those earning less than NPR 15,000. The average gig income earned by gig workers is between NPR 30,000 to 40,000 which can resolve the problem of unemployment in Nepal. Job satisfaction emerged as a critical determinant in our survey because all very satisfied workers cited continued gig participation, compared to just 38.75% of those who were not satisfied. We also examined platform-wise gig work where we found that the freelancing sector has the highest rate of participation, while food delivery and ride-sharing platforms have the highest rate to discontinue the gig work. This could be potentially due to job insecurities, physical hardships, or people engaging in these sectors, particularly for the short run, or as a part-time.

Diagnostic Tests

A binary logit regression model has to satisfy several tests for the statistical validity of the model. The variance inflation factor analysis was employed for multicollinearity detection, which indicates no serious multicollinearity with a mean VIF of 1.737. And, for the goodness of fit test, the Hosmer-Lemeshow test revealed a Pearson chi-square statistic of 299.71 with a p-value of 0.9876, indicating no evidence to reject the model's fit to the data. Finally, sensitivity and specificity tests were used. Overall, the model correctly classified 81.61% of the cases, highlighting its robust performance in predicting the target variable.

Correlation Analysis

Table 3

Pairwise correlation analysis between independent variables

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) AGE	1.000							
(2) EDU	-0.055 (0.285)	1.000						

(3) EMP_STS	0.154*	0.393*	1.000					
	(0.002)	(0.000)						
(4) WRK_HOR	-0.020	-0.416*	-0.569	1.000				
	(0.699)	(0.000)	(0.000)					
(5) AM_HO_INC	0.165	0.548*	0.529	0.415*	1.000			
	(0.001)	(0.000)	(0.000)	(0.000)				
(6) AM_GIG_INC	0.218	0.184*	0.055	0.284*	0.396*	1.000		
	(0.000)	(0.000)	(0.282)	(0.000)	(0.000)			
(7) AM_HO_EXP	0.098	0.133*	0.213	0.120*	0.377*	0.238*	1.000	
	(0.054)	(0.009)	(0.000)	(0.018)	(0.000)	(0.000)		
(8) WRK_STS	0.124*	0.217*	0.247*	-0.087	0.345*	0.354*	0.162*	1.000
	(0.015)	(0.000)	(0.000)	(0.086)	(0.000)	(0.000)	(0.001)	

Note: * signifies statistically significant correlation

Source: Author’s calculation based on the field survey, 2024.

The correlation analysis reveals several statistically significant relationships between variables, providing insights into their interdependencies. Education level demonstrates a strong positive association with Employment status and average monthly household income. These findings suggest that individuals with higher education levels tend to have better employment status and higher household income. Employment status itself is significantly correlated with average monthly household income, indicating that improved employment status is associated with higher household income. Similarly, work hours are negatively correlated with education level and average monthly household income, suggesting that increased work hours are associated with lower education levels and reduced household income. Average monthly gig income shows significant positive correlations with education level, work hours, and average monthly household income, indicating that higher gig income is linked to greater education, more work hours, and increased household income. Average monthly household expenditure is positively correlated with education level, average monthly household income, and average monthly gig income, suggesting that higher education, household income, and gig income are associated with increased expenditure. Finally, Work satisfaction is significantly positively correlated with education level, employment status, average monthly household income, and average monthly gig income, indicating that higher work satisfaction is related to higher education, better employment status, and higher incomes.

Binary Logit Regression Analysis

We examined workers’ decisions to remain in gig work, particularly in three ways. First, we examined the overall gig economy to estimate the likelihood of gig work continuation. Second, we examined each gig platform as a dummy, and then we examined each gig platform independently to estimate the worker’s likelihood of gig work continuation.

Table 4

Estimating Workers’ Participation in Gig Labor Market

Gig_Part	Model-1		Model-2		Model-3	
	Log Odd	Dy/Dx	Log Odd	Dy/Dx	Log Odd	Dy/Dx
AGE	1.025 (0.037)	0.003 (0.005)	1.035 (0.036)	0.004 (0.004)	1.074*** (0.029)	0.009 (0.003)

GEN (MALE)	1.27 (0.901)	0.030 (0.088)				
EDU	1.117 (0.19)	0.014 (0.021)	1.035 (0.036)	0.014 (0.021)	1.143 (0.187)	0.017 (0.021)
STU_STS	0.88 (.383)	-0.016 (0.054)	0.963 (0.41)	-0.005 (0.053)		
TRN_ACC	1.339 (0.615)	0.036 (0.057)				
EMP_STS	4.72*** (2.72)	0.192*** (0.070)	5.294*** (2.943)	0.208*** (0.067)	5.081*** (2.741)	0.205 (0.066)
SRH_EMP	0.776 (0.265)	-0.031 (0.042)				
HOU_HD	2.529** (1.154)	0.115** (0.056)	2.324* (1.031)	0.105* (0.055)		
PAS_INC	0.259*** (0.135)	-0.167*** (0.063)	277** (0.139)	-0.160** (0.061)	0.282** (0.139)	-0.160** (0.061)
WRK_HOR	0.987 (0.202)	-0.002 (0.025)	1.008 (0.198)	0.001 (0.024)	1.102 (0.206)	0.012 (0.024)
AM_HOU_INC	0.635** (0.141)	-0.056** (0.027)	0.657* (0.142)	0.052* (0.026)	0.59*** (0.119)	0.067*** (0.025)
AM_GIG_INC	1.643* (0.419)	0.061* (0.031)	1.726** (0.428)	0.068** (0.030)	1.872** (0.456)	0.079** (0.030)
AM_HOU_EXP	1.313 (0.613)	0.034 (0.058)				
WRK_STS	3.203*** (0.512)	0.144*** (0.014)	3.216*** (0.512)	0.146*** (0.014)	3.186*** (0.501)	0.146*** (0.014)
Constant	0.013*** (0.02)		0.014*** (0.019)		0.005*** (0.006)	
N	386		386		386	
Pseudo R-Square	0.301		0.297		0.289	
AIC	334.303		327.857		327.613	
BIC	393.641		371.371		363.215	

Note: Standard error in parentheses *** $p < .01$, ** $p < .05$, * $p < .1$

Source: Author's calculation based on the field survey, 2024.

In this study, employment status, which has a log odds ratio of around 4.72 to 5.294 in all models, significantly increases the likelihood of participating in gig work. The marginal effects range from 0.192 to 0.208, indicating that for each additional employed person, the likelihood of participating in gig work increases significantly. This could be due to the need for extra income to support families, as many people in Nepal combine formal jobs with gig work to improve their financial situations supporting the findings of Berger et al (2019). Similarly, the Nepal Living Standard Survey 2022/23 revealed that 20.2% of people are under the poverty line. Similarly, urban economies like Kathmandu have also suffered from unemployment problems due to excessive inward migration from other parts of the country. This

could have motivated people to enter into gig markets to generate income, improve living standards, and handle family expenses.

Another important factor is the role of the household head. In Models 1 and 2, this variable shows a log odds ratio of about 2.529 and 2.324, respectively, with corresponding marginal effects of 0.115 and 0.105 suggesting that individuals who are household heads are more inclined to engage in gig work, possibly because they have a greater responsibility to provide for their families.

Passive income also plays a significant role, particularly in Model 1, where it shows a log odds ratio of 0.259. The negative marginal effects, which range from -0.167 to -0.160 in subsequent models, suggest that as passive income increases, the likelihood of engaging in gig work decreases. This could mean that individuals who have enough passive income feel less pressure to seek out additional gig opportunities, preferring the security of their existing income. Similarly, average monthly household income shows significance, particularly in Model 3, with a log odds ratio of 0.59 and a negative marginal effect of -0.067, indicating that higher household income may lead to lower participation in gig work, as individuals may prioritize stable jobs. So, individual gig workers with higher household incomes may not have an incentive to continue in gig work, or they might be opting for gig work, particularly for freelancing or part-time jobs. This highlights that gig markets are more necessary for households with lower incomes because they do not have to suffer the traditional work barriers in gig markets. However, average gig income shows a significant positive effect on the likelihood of participating, which supports the previous findings of Allon et al. (2023). And, work satisfaction is also a significant factor that encourages workers to continue in the gig work which is also discussed by Yang (2023). So, if gig workers have regular income flow, job flexibility, job stability, and job benefits, then that leverages work satisfaction as discussed by Klein et al. (2024).

Similarly, we also examined the likelihood of workers' participation in different gig platforms in Nepal. Since there are five gig platforms studied in this survey, we construct dummies for each gig platform, keeping that the freelancing platform is the base.

Table 5

Estimating Workers' Participation in Different Gig Platforms

Gig_Part	Coefficients	Log Odd Ratio	Marginal Effect
AGE	0.041 (.035)	1.041 (0.036)	0.005 (0.004)
EDU	0.033 (.189)	1.034 (0.196)	0.004 (0.023)
EMP_STS	1.699*** (0.6)	5.469*** (3.282)	0.205*** (0.070)
HOU_HD	0.844* (.453)	2.326* (1.054)	0.102* (0.054)
PAS_INC	-1.017* (0.534)	0.362* (0.193)	-0.123 (0.063)
WRK_HOR	0.189 (0.237)	1.209 (0.287)	0.023 (0.029)
AM_HO_INC	-.408* (0.229)	0.665* (0.153)	-0.049* (0.027)

AM_GIG_INC	0.536** (0.269)	1.709** (0.459)	0.065** (0.032)
AM_HO_EXP	0.115 (0.47)	1.121 (0.527)	0.014 (0.057)
WRK_STS	1.147*** (0.163)	3.147*** (0.512)	0.138*** (0.014)
ECOM_PFM	1.476* (0.862)	0.229* (0.197)	-0.178* (0.103)
FOD_PFM	-1.02 (1.043)	0.361 (0.376)	-0.123 (0.125)
ONL_TUT_PFM	-0.755 (0.887)	0.47 (0.417)	-0.091 (0.107)
RSR_PFM	-1.855** (0.762)	0.156** (0.119)	-0.224** (0.090)
Constant	-3.546** (1.732)	0.029** (0.05)	
N	386	386	
Pseudo R-Squared	0.323	0.323	

Note: Standard error in parentheses *** $p < .01$, ** $p < .05$, * $p < .1$

Source: Author's calculation based on the field survey, 2024.

Employment status, like in the previous model, shows a highly significant positive impact on gig participation. Similarly, work satisfaction also exhibits a significant positive association with gig participation emphasizing that individuals who are satisfied with the gig work are about three times more likely to participate in gig work. Additionally, higher gig income is significant at the 5% level, with a positive coefficient of 0.536, indicating that individuals with increased earnings from gigs are more likely to remain in the gig economy, motivated by the additional income which supports the findings of Churchill and Craig (2019). In Nepal, income is the major motivation for gig work because urban poverty is on the rise and there are no easy ways to find stable jobs.

On the other hand, specific gig platforms like e-commerce delivery and ride-sharing platforms reveal negative associations with gig participation, both significant at the 5% and 10% levels. For e-commerce delivery, the odds ratio is 0.229, showing that users on this platform are less likely to consistently participate in gig work, possibly due to unstable demand or limited job security. Ride-sharing platforms display an even stronger negative effect with an odds ratio of 0.15, and a marginal effect indicating a 22.4% decrease in the likelihood of participation. This suggests that factors specific to ride-sharing, such as high operational costs or inconsistent earnings, occupational health, and work safety issues, longer working hours, etc. might deter sustained engagement which supports the findings of Bartel et al. (2019). Furthermore, unclear laws and policy complexities are other significant factors raising additional problems for gig workers in Nepal as discussed by Fielbaum and Airachini (2021) in the context of Chili ride-sharing platforms.

We further delved into investigating the likelihood of participation in each gig platform individually to examine the platform-wise determinants of workers' participation in gig platforms, and the regression outcome has been illustrated in Table 6 below.

Table 6

Estimating Worker’s Participation in Gig Platform Dummies

Gig_Part	RSR_PFM	ECOM_PFM	FOD_PFM	ONL_TUT_PM
	Log Odd.	Log Odd	Log Odd	Log Odd
AGE	1.031 (.049)	1.099 (.098)	.884 (.123)	.869 (.298)
EDU	895 .228)	1.229 (.836)	3.031 (2.543)	3.815 (10.296)
EMP_STS	7.49** (6.078)	733 (2.195)		
HOU_HD	989 (.574)	103.894** (195.802)	137.532* (372.847)	
PAS_INC	697 (.435)			
WRK_HOR	1.713* (.514)	1.105 (1.142)	.059* (.091)	
AM_HOU_INC	482** (.142)	6.059 (6.74)	14.44* (20.015)	0 (0)
AM_GIG_INC	1.717 (.597)	.249 (.311)	.865 (1.146)	30.275 (77.188)
AM_HOU_EXP	.897 (.46)			
WRK_STS	2.628*** (.533)	8.691*** (7.137)	5.963** (4.514)	1.872e+09 (4.938e+12)
Constant	025* (.052)	0** (0)	5.155 (30.13)	46.113 (121642.25)
N	183	62	45	43
Pseudo R-Squared	0.254	0.508	0.496	0.716

Note: Standard error in parentheses *** $p < .01$, ** $p < .05$, * $p < .1$

Source: Author’s calculation based on the field survey, 2024.

The analysis highlights key factors influencing gig participation across various platforms, with specific emphasis on employment status, household head status, and average household income. Employment status shows a strong positive association with ride-sharing gigs, with employed individuals more likely to engage in gig work, suggesting that ride-sharing gig platforms may appeal to those seeking supplemental income or additional flexibility alongside a main job. Interestingly, while employment status is a broad predictor, household head status emerges as a specific driver of participation in E-Commerce and food delivery platforms, where household heads are significantly more likely to participate. This may reflect the increased financial responsibilities of household heads, making these platforms particularly attractive as additional income sources to support household needs.

Average household income has a mixed effect across platforms. In general, higher household income is associated with reduced odds of gig participation, possibly due to a decreased need for supplementary income among wealthier households. However, for food delivery platforms specifically, higher-income households show an unexpected positive association, with a high odds ratio indicating that individuals

from these households are more likely to engage in food delivery gigs. This could suggest that individuals from wealthier backgrounds see food delivery platforms as a viable, flexible side activity rather than a primary income source. Lastly, work satisfaction strongly influences participation across all platforms, particularly in ride-sharing and e-commerce, suggesting that actively working individuals see these gig platforms as complementary sources of income or work flexibility that can be balanced with existing commitments.

Order Logit Examining Gig Income

We also investigated the various determinants of gig income as shown in Table 7 below.

Table 7

Order logit regression to estimate gig income

AM_GIG_INC	Coef.	Log Odd
AGE	0.052*** (0.016)	1.054*** (0.017)
GEN (Male)	0.468 (0.476)	1.596 (0.76)
EDU	0.261** (0.113)	1.299** (0.146)
RES (Urban)	0.094 (0.281)	1.098 (0.309)
TRN_ACC	0.954** (0.371)	2.597** (0.964)
EMP_STS	-0.002 (0.337)	0.998 (0.337)
WRK_HOR	1.212*** (0.131)	3.359*** (0.44)
AM_HOU_INC	1.042*** (0.147)	2.835*** (0.415)
AM_HOU_EXP	0.567** (0.274)	1.764** (0.484)
WRK_STS	0.577*** (0.12)	1.781*** (0.213)

*Note: Standard error in parentheses *** p<.01, ** p<.05, * p<.1*

Source: Author’s calculation based on the field survey, 2024.

The analysis reveals several key factors influencing average monthly gig income. Age and education emerge as important contributors, with older individuals and those with higher education levels generally earning more. Older individuals who are either unemployed, retired, or are partially involved in gig work and who are also household heads have responsibility for their families. So, they work more hours in the gig works, which contributes to high gig incomes. Besides this, educated gig workers like university graduates are also working as freelancers and online tutors, as well as programmers to IT companies as contract-based workers. This supports the earlier study by Nelson et al. (2020) and Schor (2017). Thus, access to training significantly enhances earning potential, highlighting the value of skill development for gig workers. Longer working hours are strongly associated with higher incomes, emphasizing the

role of effort and time commitment in income generation. Workers in ride-sharing platforms like Pathao, Indrive, etc. work in day and night shifts to earn additional income because the number of ride-sharing platforms and supply side have increased significantly after the government legalized this sector in 2019.

Additionally, higher household income and expenditure are positively linked to gig income, suggesting that economic stability may provide workers with better opportunities or resources. Work satisfaction also plays a critical role, with satisfied individuals reporting higher earnings. In contrast, gender, urban residence, and employment status do not show significant associations, suggesting that these factors may have less direct impact on gig income. Overall, the findings underscore the importance of individual characteristics, economic factors, and training in shaping income outcomes in the gig economy.

Challenges, Opportunities, and Support measures for labor in the gig market

A survey of gig workers identified key challenges they face in their employment. The most frequently reported issue is legal and regulatory uncertainty, affecting 37.56% of respondents. This was closely followed by concerns about social security and health issues, which were reported by 32.64% of participants. Underpayment and unfair payment practices were also significant, with 16.58% of gig workers citing this as a major challenge. Additionally, difficulty in finding enough customers was noted by 7.77% of respondents, while work discrimination was a concern for 5.44%. These findings highlight the diverse and pressing issues within gig work, emphasizing the need for improved regulations and protections.

The survey highlights several key opportunities within gig work. The predominant advantage reported is the earning potential, with 48.19% of respondents citing it as a significant benefit. Work schedule flexibility also emerged as a crucial opportunity, appreciated by 18.39% of participants. Additionally, less burden on work and the absence of barriers to entry and exit were noted by 15.28% and 10.36% of respondents, respectively. Part-time earnings were identified by 7.77% as an opportunity. These insights underscore the appeal of gig work, particularly in terms of income potential and flexibility, which are highly valued by gig workers.

The survey reveals the key support measures that gig workers perceive as most beneficial. Better financial and saving options are seen as the most crucial support measure, with 34.72% of respondents emphasizing its importance. Tax benefits and performance-based bonuses follow closely, highlighted by 32.38% of participants. Legal protection and labor rights are also considered important, with 15.28% advocating for these measures. Additionally, work certification, workspaces, and infrastructure are identified by 9.07% as necessary improvements, while work safety, social security, and insurance are cited by 8.55% of respondents. These findings underscore the need for enhanced financial security, regulatory protections, and improved working conditions to better support gig workers.

Conclusion and Suggestions

The gig economy is increasingly important in developing economies like Nepal, where technological advancements such as digitalization, urbanization, and economic growth contribute significantly to the viability of gig services. While the majority of gig workers prefer to remain in gig work, workers engaged in ride-sharing and e-commerce delivery platforms show a lower likelihood of continuing in the gig work. In a country where more than 40% of economic activities remain outside the formal channel, gig markets can contribute significantly to take advantage of it. However, despite its growing presence in the labor market, the gig economy faces numerous challenges compared to the traditional labor market, particularly concerning legal protections, financial security, and the absence of sustainable strategies. The government does not seem efficient in formulating sustainable and effective laws and policies to tie up gig work with traditional works, especially in platforms like ride-sharing, delivery platforms, and online tutorial platforms. Hence, estimating the exact size and scope of the gig market in

Nepal is challenging due to the lack of legal provisions, control regulations, and governmental concerns about this sector. The findings suggest that without legal acts and regulatory measures, the gig market in Nepal remains practically unsustainable. Meanwhile, although the participation rates in gig work are almost comparable well above 75%, women are disproportionately engaged in gig markets leaving them out of the potential gig benefits. This study explores the key socioeconomic factors influencing individuals' participation in the Nepalese gig economy across various platforms, such as e-commerce delivery, ride-sharing, online tutoring, freelancing, and food delivery. Findings reveal that employment status plays a crucial role, as employed individuals are significantly more likely to engage in gig work, likely viewing it as a complementary income source to meet financial needs. Household head status also demonstrates a positive influence, especially for e-commerce and food delivery platforms, suggesting that heads of households, driven by family responsibilities, seek additional income sources through these specific gigs. These findings suggest that the gig economy serves as an accessible option for supplemental earnings in the context of limited stable job opportunities in Nepal. Similarly, higher gig income, and work satisfactions also contributes to increased participation in different gig platforms. Furthermore, factors like age, working hours, work satisfaction, education, and average household income also significantly affected the average monthly gig incomes.

Policy recommendations from these findings suggest that to further develop a sustainable gig economy in Nepal, government and private sector stakeholders should first focus on discussing and enacting time-relevant and workers friendly laws, regulations, and policies to enhance job security, income stability, and platform transparency to address the barriers deterring gig engagement. The government should conduct policy dialogues and formulate gender-friendly platforms to encourage women, and housewives to engage in gig platforms through digital literacy, technology, and financial inclusion programs. E-commerce and ride-sharing platforms showed reduced participation due to possible job insecurity and inconsistent earnings. Policymakers could work towards establishing regulatory frameworks that provide better income security and clearer protection for gig workers, encouraging longer-term commitment. Many gig workers are out of insurance policies, savings, and financial options which threaten gig workers, particularly in ride-sharing and delivery platforms. Stakeholders may offer these facilities immediately to protect workers' rights. Additionally, targeted initiatives that support household heads and employed individuals such as tax incentives for supplementary income from gig work or flexible scheduling options could increase engagement across all platforms. By addressing these challenges and enhancing the overall attractiveness of gig work, Nepal can leverage its gig economy to provide a resilient and inclusive alternative to traditional employment pathways, promoting financial stability and employment flexibility across diverse socioeconomic groups.

Author contribution statement

S.BK.: Research design, survey development, statistical analysis, and manuscript writing. N.D.: Regular evaluation and supervision, guidance, and proofreading. S.B: Literature review, managed raw data (particularly the survey), performed data cleaning, and carried out statistical analysis, including several diagnostic tests. All authors addressed the comments of reviewers and finalized the manuscript.

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