From Traditional Employment to Gig Work: Analyzing Labor Dynamics in Nepal's Emerging Gig Economy

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Abstract

This study explores the sustainability of labor participation in Nepal's gig economy, focusing on the Kathmandu Valley, with an emphasis on identifying factors influencing gig participation across ride-sharing, online tutoring, e-commerce delivery, food delivery, and freelancing platforms. A binary logit regression model was employed to analyze survey data from 386 gig workers. Statistical robustness was ensured through normality tests, correlation matrices, multicollinearity, heteroskedasticity checks, and sensitivity analyses. The results reveal that employment status significantly enhances the likelihood of gig economy participation, with a log-odds ratio of 5.469 ($p < 0.01$), indicating that employed individuals are over five times more likely to engage in gig work. Work satisfaction is positively correlated with participation (odds ratio = 3.147, $p < 0.01$), suggesting that satisfied workers are approximately three times more likely to take on gig roles. Employment and work satisfaction increase participation likelihood by 20.5% and 13.8%, respectively. Conversely, participation in e-commerce delivery and ride-sharing platforms is negatively correlated. Monthly income generally reduces participation, except in food delivery platform. Policy implications emphasize the need for enhanced legal protections, income stability, and platform transparency. Regulations ensuring job security, flexible scheduling, and supportive measures like tax incentives are vital to creating a sustainable and inclusive gig economy in Nepal.

Keywords: Logit, Gig, Legal, Ride-sharing, Sustainability

Introduction

The gig economy refers to a part of the economic system that involves workers engaged in flexible (Koutsimpogiorgos et al., 2020; Montgomery & Baglioni, 2021), temporary (Huang, 2020; MacDonald & Giazitzoglu, 2019), and freelance jobs (Kost, 2020; Pichault & McKeown, 2019). These jobs are characterized by short-term or temporary contracts, or sometimes by the absence of any formal contracts between employers and employees (Anwar & Graham, 2021; Malik, 2021). It comprises work where online or mobile platforms match job opportunities with workers, offering flexible schedules to meet demand and supply (De Stefano, 2016). 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 (Kuhn, 2021). According to the Contingent Worker Survey conducted by the RAND American Life Panel in late 2015, 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 (Katz & Krueger, 2019). Flexibility is a major phenomenon of the gig economy, enabling individuals to optimize their productivity and work-life balance on their terms (Doshi & Tikyani, 2020; Warren, 2021). And, The JP Morgan Chase Institute Online Platform Economy dataset 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 (Farrell & Greig, 2017).

The gig work is a task or project-based work that is delivered digitally in exchange for payment, organized via online outsourcing platforms that are marketplaces bringing together buyers and sellers (Heeks, 2017). It comprises markets

for several sectors, which include ride-sharing (Buchak, 2024; Wu, 2019), e-commerce delivery and food delivery (Dazzi, 2019; Koutsimpogiorgos, 2020; Vallas and Schor, 2020), online tutorial (Zhou, 2024; Wood, 2019), fixed term projects, freelance (Altenried, 2024), and many more. Gig markets are beneficial in tackling the problems of unemployment and poverty (Huang, 2020; Insebayeva & Beyssembayev, 2023) by providing flexible and diverse job opportunities that encompass a wide range of skills, whether individuals are highly skilled or have basic skills (Dey, 2022; Pereira, 2022). It boosts productivity across all segments of the labor force, leading to an overall increase in the economy's income-generating capacity. It has brought a fundamental shift in how our economy operates and has completely changed the way people engage at work (Roy & Shrivastava, 2020). It also offers women for flexible work options. It 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. There has been a significant increase in the number of gig workers in India, but serious concerns have been identified about the availability of jobs and income security for gig workers (Aggarwal, 2023).

In Nepal, the gig market emerged only after the COVID-19 pandemic. Regulatory barriers hinder the gig economy's growth, underscoring the need for tailored policies to address worker rights and working conditions (Paudel, 2024). 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 on its exact size or scope. 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. In this paper, the authors analyze the labor force participation in the gig market, using a binary logit regression model, and also examine various dimensions of the Nepalese emerging gig economy.

Literature Review

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. 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 (Friedman, 2014). 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. Crowdwork 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 such 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 (Myhill, 2023). The traditional labor market, characterized by higher security, stability, and benefits, is not seen as a complete alternative to the gig economy (Kost, 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 crowdwork. Despite the flexibility typically associated with the gig market, studies indicate 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 (Codagnone et al., 2016).

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. Behl et al. (2022) highlight 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. 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 (Barzilay et al., 2016; 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.

Research Methodology

The research purpose 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 and employs a binary logit regression model.

Econometric Model

Tranmer & Elliot (2008) find that when dealing with a dependent variable that has binary outcomes, the binary logit regression model is the optimal choice for accurate estimation. According to Dougherty (2011), in the logit model, the probability of the occurrence of the event is determined by the function:

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

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,

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

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

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

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

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

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:

$$Y = \alpha + \beta_1 Age + \beta_2 Age\_Sq + \beta_3 GEN + \beta_4 EDU + \beta_5 MRT\_STS + \beta_6 RES + \beta_7 STU\_STS + \beta_8 TRN\_ACC +$$
$$\beta_9 EMP\_STS + \beta_{10} PAS\_ST + \beta_{11} WRK\_HOR + \beta_{12} AM\_HO\_INC + \beta_{13} AM\_GIG\_INC + \beta_{14} AM\_HO\_EXP +$$
$$\beta_{15} WRK\_STS + \beta_{16} ECOM\_PFM + \beta_{17} FOD\_PFM$$
$$+ \beta_{18} ONL\_TUT\_PFM + \beta_{19} RSR\_PFM + \omega \ldots\ldots\ldots\ldots (5)$$

Where,

α = intercept

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

ω = disturbance term, whose expected value is zero

Population, Sampling, and Data

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 there. 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

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

Where,

N   =   Sample size, Z = Z score with respect 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. 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. The data analysis was conducted by r software.

Results and Discussion

Descriptive statistics

Descriptive statistics regarding the variables are presented in the Table 1.

Table 1: Descriptive statistics

Variables	Label	Type	Mean	SD
AGE	Age of the gig worker	Continuous variable	31.567	6.662
GEN	Gender of gig worker	Dummy variable		
		1 = Male	0.935	0.246
		0 = Female		
EDU	Education of gig worker	Order variable	3.104	1.162
		Ranging from 1 to 5		
MRT_STS	Marital status of gig worker	Dummy variable		
		1 = Married	0.609	0.489
		0 = Unmarried		
RES	Residency of gig worker	Dummy variable		
		1 = Yes	0.192	0.394
		0 = No		
STU_STS	Student status of gig worker	Dummy variable		
		1 = Student	0.197	0.398
		0 = Not student		
TRN_ACC	Accessibility of transport	Dummy variable		
		1 = Having Access	0.889	0.315
		0 = Otherwise		
EMP_STS	Employment status of gig worker	Dummy variable		
		1 = Employed	0.215	0.411
		0 = Unemployed		

PAS_INC	Passive income of gig worker	Dummy variable 1 = Passive income 0 = Otherwise	0.163	0.37
WRK_HOR	Working hours of gig workers	Order variable Ranging from 1 to 5	3.127	1.161
AM_HO_INC	Average monthly household income of gig worker	Order variable Ranging from 1 to 5	3.474	1.117
AM_ GIG_INC	Average monthly gig income of gig worker	Order variable Ranging from 1 to 5	2.422	0.915
AM_HO_EXP	Average monthly household expenses of gig worker	Order variable Ranging from 1 to 5	1.166	0.393
WRK_STS	Work satisfaction of gig worker	Dummy variable 1 = Satisfied 0 = Unsatisfied	3.477	0.957
ECOM_ PFM	E-commerce delivery platform	Dummy variable 1 = E-commerce 0 = Otherwise	0.161	0.368
FOD_PFM	Food delivery platform	Dummy variable 1 = Food delivery 0 = Otherwise	0.117	0.321
ONL_TUT_ PFM	Online tutorial platform	Dummy variable 1 = Online tutorial 0 = Otherwise	0.111	0.315
RSR_PFM	Ride-sharing platform	Dummy variable 1= Ride-sharing 0 = Otherwise	0.474	0.5

Source: Field survey, 2024

Diagnostic Test

A binary logit regression model has to satisfy several tests for the statistical validity of the model. Although normality distribution is not the strict assumption of a binary logit regression, the authors proceed with the normality distribution test to examine the pattern of the residuals. The Shapiro-Wilk test for normality of the residuals yielded a W statistic of 0.830 ($z = 9.057$, $p < 0.001$), indicating significant deviation from a normal distribution. In a sufficiently large sample size, the distribution of the sample mean of a random variable will be approximately normally distributed, regardless of the original distribution of the variable (Schatte, 1988; Kwak and Kim, 2017). Similarly, 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 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. With a high p-value well above 0.05, this result suggests that the model adequately explains the observed variation in gig participation, and there is no significant lack of fit. 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

The correlation analysis (Table 2) 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.

Table 2: Pairwise correlation analysis between independent variables

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

Source: Authors' calculation

Binary Logit Regression Analysis

Binary Logit Regression: Estimating Workers' Participation in Gig Labor Market

This study examines various socioeconomic factors influencing workers to participate in gig work in Nepal. A crucial finding is the constant term, which represents the baseline likelihood of engaging in gig work when other factors are not considered. In all three models (Table 3), the constant values indicate that even without the influence of other variables, there is a small but positive chance for individuals to participate in gig work. This suggests that gig work is a common option in Nepal, perhaps due to a lack of stable job opportunities.

One of the most significant factors is employment status, which has a log odds ratio of around 4.72 to 5.294 in all models, meaning that employed individuals are much more likely to engage 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 trend might be explained by the need for extra income to support families, as many people in Nepal combine formal jobs with gig work to improve their financial situations. 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. This suggests 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. Finally, when comparing the models, the Pseudo R-squared values indicate that Model 1 explains the most variation in gig work participation at 0.301, followed by Models 2 and 3. However, Model 3 has the lowest Akaike Information Criterion (AIC) and Bayesian Information Criterion (BIC) values, suggesting it fits the data best while maintaining a balance of complexity.

Table 3: 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	0.003	1.035	0.004	1.074***	0.009
	(.037)	(0.005)	(.036)	(0.004)	(.029)	(0.003)
GEN	1.27	0.030				
	(.901)	(0.088)				
EDU	1.117	0.014	1.035	0.014	1.143	0.017
	(.19)	(0.021)	(.036)	(0.021)	(.187)	(0.021)
STU_STS	.88	-0.016	.963	-0.005		
	(.383)	(0.054)	(.41)	(0.053)		
TRN_ACC	1.339	0.036				
	(.615)	(0.057)				
EMP_STS	4.72***	0.192***	5.294***	0.208***	5.081***	0.205
	(2.72)	(0.070)	(2.943)	(0.067)	(2.741)	(0.066)
SRH_EMP	.776	-0.031				
	(.265)	0.042)				
HOU_HD	2.529**	0.115**	2.324*	0.105*		
	(1.154)	(0.056)	(1.031)	(0.055)		
PAS_INC	.259***	-0.167***	.277**	-0.160**	.282**	-0.160**
	(.135)	(0.063)	(.139)	(0.061)	(.139)	(0.061)
WRK_HOR	.987	-0.002	1.008	0.001	1.102	0.012
	(.202)	(0.025)	(.198)	(0.024)	(.206)	(0.024)
AM_HOU_INC	.635**	-0.056**	.657*	-0.052*	.59***	-0.067***
	(.141)	(0.027)	(.142)	(0.026)	(.119)	(0.025)
AM_GIG_INC	1.643*	0.061*	1.726**	0.068**	1.872**	0.079**
	(.419)	(0.031)	(.428)	(0.030)	(.456)	(0.030)
AM_HOU_EXP	1.313	0.034				
	(.613)	(0.058)				
WRK_STS	3.203***	0.144***	3.216***	0.146***	3.186***	0.146***
	(.512)	(0.014)	(.512)	(0.014)	(.501)	(0.014)
Constant	.013***		.014***		.005***	
	(.02)		(.019)		(.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	

Standard error in parentheses
*** p<.01, ** p<.05, * p<.1
Source: Authors' calculation

Binary Logit Regression: Estimating Worker's Participation in Different Gig Platforms

In this section, the authors have included gig platforms in the regression model (Table 4) to examine the likelihood of workers' participation in different gig platforms in Nepal. Gig platforms are dummies, such that freelancing platform is the base. The results indicate several factors influencing gig economy participation with a special focus on different gig platforms operating in Nepal. Employment status, like in the previous model, shows a highly significant positive impact on gig participation, with a log-odds ratio of 5.469 (p < 0.01). This suggests that employed individuals are more than five times as likely to participate in gig work, likely viewing gig platforms as complementary to traditional employment. Similarly, work satisfaction also exhibits a significant positive association with gig participation (p < 0.01), with an odds ratio of 3.147, emphasizing that individuals who are satisfied with the gig work are about three times more likely to participate in gig work. The marginal effects indicate that both employment and work satisfaction increase the likelihood of participation by 20.5% and 13.8%, respectively. 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.

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, might deter sustained engagement.

Table 4: Estimating Workers' Participation in Different Gig Platforms

Gig_Part	Coefficients	Log Odd Ratio	Marginal Effect
Age	.041	1.041	0.005
	(.035)	(.036)	(0.004)
EDU	.033	1.034	0.004
	(.189)	(.196)	(0.023)
EMP_STS	1.699***	5.469***	0.205***
	(.6)	(3.282)	(0.070)
HOU_HD	.844*	2.326*	0.102*
	(.453)	(1.054)	(0.054)
PAS_INC	-1.017*	.362*	-0.123
	(.534)	(.193)	(0.063)
WRK_HOR	.189	1.209	0.023
	(.237)	(.287)	(0.029)
AM_HOU_INC	-.408*	.665*	-0.049*
	(.229)	(.153)	(0.027)
AM_GIG_INC	.536**	1.709**	0.065**
	(.269)	(.459)	(0.032)
AM_HOU_EXP	.115	1.121	0.014
	(.47)	(.527)	(0.057)
WRK_STS	1.147***	3.147***	0.138***
	(.163)	(.512)	(0.014)
ECOM_DLV_LTFM	-1.476*	.229*	-0.178*
	(.862)	(.197)	(0.103)
FOD_DLV_PLFM	-1.02	.361	-0.123
	(1.043)	(.376)	(0.125)
ONL_TUT_PLTFM	-.755	.47	-0.091
	(.887)	(.417)	(0.107)
RSR_PLTFM	-1.855**	.156**	-0.224**
	(.762)	(.119)	(0.090)
Constant	-3.546**	.029**	
	(1.732)	(.05)	
N	386	386	
Pseudo R-Squared	0.323	0.323	

Standard error in parentheses
*** p<.01, ** p<.05, * p<.1
Source: Authors' calculation

Binary Logit Regression: Estimating Worker's Participation in Gig Platform Dummies

The analysis (Table 5) 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.

Table 5: 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	1.099	.884	.869
	(.049)	(.098)	(.123)	(.298)
EDU	.895	1.229	3.031	3.815
	.228)	(.836)	(2.543)	(10.296)
EMP_STS	7.49**	.733		
	(6.078)	(2.195)		
HOU_HD	.989	103.894**	137.532*	
	(.574)	(195.802)	(372.847)	
PAS_INC	.697			
	(.435)			
WRK_HOR	1.713*	1.105	.059*	
	(.514)	(1.142)	(.091)	
AM_HOU_INC	.482**	6.059	14.44*	0
	(.142)	(6.74)	(20.015)	(0)
AM_GIG_INC	1.717	.249	.865	30.275
	(.597)	(.311)	(1.146)	(77.188)
AM_HOU_EXP	.897			
	(.46)			
WRK_STS	2.628***	8.691***	5.963**	1.872e+09
	(.533)	(7.137)	(4.514)	(4.938e+12)
Constant	.025*	0**	5.155	46.113
	(.052)	(0)	(30.13)	(121642.25)
N	183	62	45	43
Pseudo R-Squared	0.254	0.508	0.496	0.716

Standard error in parentheses
*** p<.01, ** p<.05, * p<.1
Source: Authors' calculation

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 earning was 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

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. 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. 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 awareness about real trading activities within this sector. The findings suggest that without legal acts and regulatory measures, the gig market in Nepal remains practically unsustainable. 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 underscore that the gig economy serves as an accessible option for supplemental earnings in the context of limited stable job opportunities in Nepal. Conversely, passive income and average household income both have a negative association with gig participation, indicating that individuals with higher or alternative income sources may not feel the financial pressure to engage in gig work. However, higher-income households show a surprisingly positive tendency to participate in food delivery gigs, likely due to its flexible nature, making it an attractive side activity.

Policy implications from these findings suggest that to further develop a sustainable gig economy, government and private sector stakeholders should focus on enhancing job security, income stability, and platform transparency to address the barriers deterring engagement. 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 protections for gig workers, encouraging longer-term commitment. 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.

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