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A Comparative Analysis of Income Stability among Gig Workers Engaged with Different Digital Platforms in Udaipur

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Abstract:
Platform-based gig work has become an important source of livelihood for many urban workers, yet the stability of income earned through different digital platforms remains uneven. The present study examines income stability among gig workers engaged with different categories of digital platforms in Udaipur. The objective is to compare the level of income stability among workers associated with food delivery, ride sharing and bike taxi services, quick commerce and delivery services, and courier and parcel delivery work. A quantitative research approach was adopted, using primary data collected from 168 gig workers through a structured questionnaire. Income stability was measured through eight Likert scale statements, and a composite mean score was used for statistical comparison. Descriptive statistics and one-way ANOVA were applied to examine differences across platform categories. The findings show that food delivery workers reported the highest income stability, followed by quick commerce and delivery workers, ride-sharing and bike taxi workers, and courier and parcel delivery workers. The ANOVA result confirmed a significant difference in income stability across platform categories, $F(3, 164) = 17.01$, $p < .001$. The study highlights the need for greater attention to earning regularity and income predictability within platform-based employment.

Keywords: Income stability, Gig workers, Digital platforms, Platform-based employment, Udaipur.

1.1 INTRODUCTION

Digital platform work has reshaped the structure of urban employment by creating flexible earning opportunities across service activities such as food delivery, ride sharing, quick commerce, and parcel delivery. In cities such as Udaipur, these platforms have become a visible source of livelihood for workers who depend on app-based systems for work allocation, payment, incentives, and customer access. While such work offers entry into income-generating activity, the regularity and dependability of earnings remain important concerns for both workers and researchers. Income stability is especially relevant in the gig economy because earnings may vary according to demand, platform rules, incentives, seasonal conditions, and the nature of the service category.

The present study focuses on income stability among gig workers engaged with different digital platforms in Udaipur. It treats income stability as the dependent variable and the category of digital platform as the independent or grouping variable. The study includes four platform categories, namely food delivery workers, ride sharing and bike taxi workers, quick commerce and delivery workers, and courier and parcel delivery workers. By comparing these groups, the study moves beyond a general view of gig work and examines whether all platform workers experience income conditions in the same manner.

A quantitative research approach was followed, and data were collected from 168 respondents through a structured questionnaire. Income stability was measured through eight Likert scale statements covering monthly income regularity, weekly earning predictability, income fluctuation, consistency of work opportunities, incentive support, ability to meet regular expenses, seasonal uncertainty, and overall income dependability. The reliability of the scale was acceptable, with Cronbach's alpha reported at 0.774. Descriptive statistics indicated that food delivery workers had the highest income stability mean score, whereas courier and parcel delivery workers reported the lowest mean score. The one way ANOVA result confirmed a statistically significant difference in income stability across platform categories. Therefore, the study is positioned as a focused empirical assessment of how the type of digital platform may shape the perceived stability of earnings among gig workers in Udaipur.

1.2 REVIEW OF LITERATURE

(Ramesh & Shobha, 2025) developed and validated a scale for measuring socio economic disparities among gig workers, with particular attention to income stability, job security and benefits, work flexibility, and career progression. Using a mixed method design, the authors first conducted interviews to identify relevant constructs and then tested the scale through a pilot study of 50 participants and a larger survey of 400 gig workers. Exploratory and confirmatory factor analysis produced a 30-item structure with strong reliability and validity. This study supports the present research by establishing income stability as an important measurable dimension of gig workers' socio-economic condition.

(Au-Yeung et al., 2025) examined the occupational welfare dilemma of food delivery workers in Hong Kong by situating platform work within social policy and welfare debates. The article focused on how platform workers position themselves in relation to platforms and the state, especially where social protection, income irregularity, and fragmented work arrangements remain inadequately addressed. The discussion highlights that income protection schemes often do not fit the realities of platform work, where workers may hold multiple tasks and experience irregular earnings. This study is relevant to the present research because it shows how platform based income uncertainty is connected with the broader welfare and protection gaps faced by delivery workers.

(Masta & Kaushiva, 2024) conducted a systematic literature review on work in the platform economy, drawing on 258 studies related to gig work, freelancing, self employment, on call work, and other temporary arrangements. Following systematic search criteria and SPAR 4 SLR protocols, the review classified platform workers into different profiles and used thematic analysis to identify dominant patterns in the literature. The review shows that platform work is not a uniform category, as worker experiences vary according to task type, dependence on the platform, labour conditions, and institutional context. Its relevance to the present study lies in supporting the need to compare gig workers by platform category rather than treating all platform workers as a single homogeneous group.

(Alauddin et al., 2024) reviewed the influence of digital platforms on gig workers through a systematic review of 18 articles selected from Scopus and Web of Science records using the PRISMA framework. The review identified themes showing that platforms create flexible entry points, task allocation systems, and earning opportunities, but also generate challenges linked with weak social protection, algorithmic control, competition, and downward pressure on wages. The study is closely aligned with the present research because it confirms that platform mediated work produces both opportunity and instability, making income stability an important empirical issue for workers engaged in different digital platform categories.

(Van Zoonen & Sivunen, 2024) investigated the viability challenges faced by online crowdworkers by examining income dependence, perceived pay inadequacy, autonomy, and locus of control. Based on data from 581 crowdworkers, the study showed that autonomy and flexibility may offer benefits, but these advantages can be limited when workers depend heavily on platform income and perceive payment as inadequate. The findings are relevant to the present study because they show that income stability cannot

be understood only as an earning amount; it must also be examined through predictability, dependence, and perceived adequacy of platform based income.

(Huang, 2023) explored platform precarity among online food delivery workers in China through one year of ethnographic fieldwork in Shanghai. The study identified three major sources of precarity: outsourcing of employment responsibility, algorithmic management, and the vulnerable socio economic position of rural migrant workers. By showing how food delivery work is shaped by platform control and institutional vulnerability, the study provides useful background for examining why income stability may vary across gig work categories. Its relevance to the present study is especially strong because food delivery workers form one of the key comparison groups in the Udaipur based analysis.

(Parwez, 2023) investigated the precarity of platform based food delivery work, particularly in the context of the COVID 19 period. The study observed that platform based food aggregators often classify workers as delivery partners, weakening traditional employer employee responsibilities and contributing to low income, limited labour welfare, livelihood loss, and income erosion. This work is relevant to the present study because it directly connects food delivery platform work with income insecurity and welfare absence. It also supports the need to examine whether income stability differs across platform groups rather than assuming similar income experiences for all gig workers.

(Glavin & Schieman, 2022) examined the mental health consequences of platform work using two nationally representative Canadian worker samples. Drawing on the job demands resources model and the idea of platform dependence, the study found that workers who depended on platform work reported higher psychological distress, with financial strain explaining a substantial part of this disadvantage. The study is relevant to the present research because it shows that dependence on platform income and the financial uncertainty associated with platform work are important dimensions of gig workers' well being. This supports the present focus on income stability as a meaningful outcome among platform workers.

(Wood & Lehdonvirta, 2022) analysed how platforms disrupt reputation systems and thereby increase uncertainty for platform workers. The study discussed recognition, power relations, and transparency as areas through which platform governance can create insecurity in work arrangements. It also described how platform work is often detached from conventional labour market institutions and regulated through platform based mechanisms. The study is relevant to the present research because income stability among gig workers may be shaped not only by market demand but also by platform rules, transparency, ratings, and allocation systems that influence access to work and earnings.

(Schor et al., 2020) examined dependence and precarity in the platform economy through 112 interviews with workers across seven platforms, including Uber, Lyft, Postmates, TaskRabbit, Airbnb, Turo, and Favor. The study challenged the idea that platform workers experience gig work uniformly, showing that outcomes differ according to workers' dependence on platform income, platform type, and work context. This article is directly relevant to the present study because it provides a strong conceptual basis for comparing income stability across digital platform categories. It supports the view that platform category and income dependence are central to understanding variations in gig workers' economic security.

1.3.RESEARCH GAP

The reviewed literature indicates that gig work is shaped by flexibility, income dependence, platform control, welfare gaps, and variable working conditions. However, much of the existing scholarship either examines platform work broadly, focuses on one platform sector, or discusses precarity at a conceptual or policy level. Limited attention has been given to comparative empirical assessment of income stability across different categories of digital platform workers within a specific local urban context. The present study addresses this gap by comparing the level of income stability among food delivery workers, ride sharing and bike taxi workers, quick commerce and delivery workers, and courier and parcel delivery workers in Udaipur.

1.4 RESEARCH OBJECTIVE

To compare the level of income stability among gig workers engaged with different categories of digital platforms in Udaipur.

1.5 LIKERT-SCALE STATEMENTS ON INCOME STABILITY

Table 1.1: Exhibits the Distribution of Responses on Income Stability Statements

Statements	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree
My monthly income from gig work remains reasonably stable.	6	28	57	62	15
I am able to predict my approximate weekly earnings from platform-based work.	5	39	64	47	13
My earnings from gig work do not fluctuate heavily from one week to another.	3	25	68	53	19
The number of work opportunities available to me is generally consistent.	1	23	61	62	21
Platform incentives and payments help me maintain income regularity.	6	33	80	37	12
I can depend on my gig work income to meet regular household or personal expenses.	6	33	55	67	7
Seasonal or demand based changes do not create major uncertainty in my income.	12	23	80	43	10
Overall, my income from platform based gig work is stable and dependable.	3	25	68	56	16

The Likert scale results indicate a moderate to favourable perception of income stability among gig workers, although the pattern is not evenly distributed across all statements. Respondents showed comparatively stronger agreement on monthly income stability, consistency of work opportunities, and overall dependability, while responses related to incentives, seasonal uncertainty, and income predictability reflected more mixed opinion. This suggests that income from platform-based gig work is perceived as partly stable, but not fully predictable across all working conditions.

1.6 HYPOTHESIS TESTING

H_{01}: There is no significant difference in income stability among gig workers engaged with different categories of digital platforms in Udaipur.

The present hypothesis examines whether income stability differs among gig workers engaged with different categories of digital platforms in Udaipur. For this purpose, income stability is treated as the dependent variable, while the category of digital platform is considered the independent variable. The grouping variable consists of different types of gig work or platform categories, including food delivery, ride sharing and bike taxi, quick commerce and delivery, and courier and parcel delivery work.

Table 1.2: Descriptive Statistics - Income Stability Mean Score by Platform Category

	n	Mean	Std. Deviation
Food delivery workers	49	3.63	0.53
Ride-sharing and bike taxi workers	43	3.09	0.52
Quick commerce and delivery workers	37	3.33	0.46
Courier and parcel delivery workers	39	2.90	0.53
Total	**168**	**3.26**	**0.58**

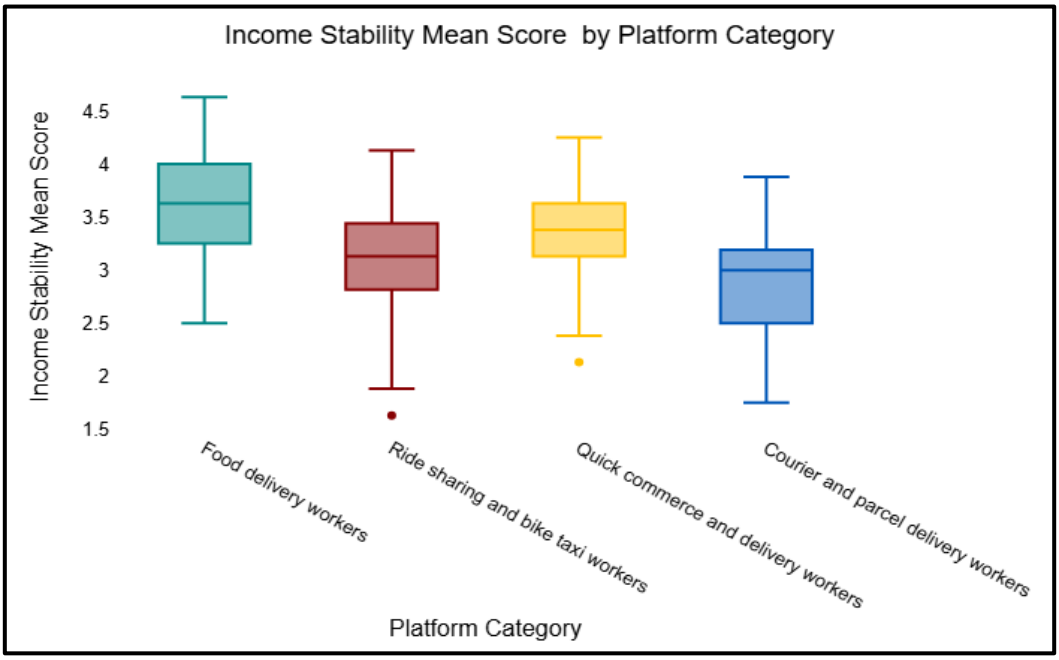

Figure 1.1: Descriptive Statistics - Income Stability Mean Score by Platform Category

As depicted in the above table and figure, the descriptive results show that food delivery workers reported the highest income stability mean score (M = 3.63, SD = 0.53), followed by quick commerce and delivery workers (M = 3.33, SD = 0.46), ride sharing and bike taxi workers (M = 3.09, SD = 0.52), and courier and parcel delivery workers (M = 2.90, SD = 0.53). This pattern indicates that perceived income stability is not uniform across the selected platform categories.

Table 1.3: ANOVA

	Sum of Squares	df	Mean Square	F	p
Platform Category	13.42	3	4.47	17.01	<.001
Residual	43.12	164	0.26		
Total	56.54	167			

The one way ANOVA result further confirms a statistically significant difference in income stability across platform categories, $F(3, 164) = 17.01$, $p < .001$. Since the p value is below the 0.05 level of significance, the variation in mean income stability scores across the four groups is statistically meaningful.

Decision

For H_{01}, one way ANOVA was applied to test whether income stability differs significantly among gig workers engaged with different categories of digital platforms in Udaipur. The result was statistically significant, $F(3, 164) = 17.01$, $p < .001$. Therefore, the null hypothesis is rejected.

Finding

The result shows that income stability varies across different categories of digital platform work. Food delivery workers reported comparatively higher income stability, while courier and parcel delivery workers reflected the lowest mean score, suggesting that the platform category may shape the regularity and dependability of earnings among gig workers in Udaipur.

Hypothesis Conclusion

Since the null hypothesis is rejected, the researcher concludes that there is a significant difference in income stability across categories of digital platform work.

H_{02}: There is no significant difference in income stability among gig workers based on their level of dependence on gig work income.

The one-way ANOVA was applied to examine whether income stability differs significantly among gig workers based on their level of dependence on gig work income.

Table 1.4: Descriptive Statistics - Income Stability Mean Score by level of dependence on gig work income

	n	Mean	Std. Deviation
Very low dependence	12	3.38	0.59
Low dependence	25	3.19	0.69
Moderate dependence	54	3.23	0.58
High dependence	49	3.28	0.59
Very high dependence	28	3.27	0.50
Total	**168**	**3.26**	**0.58**

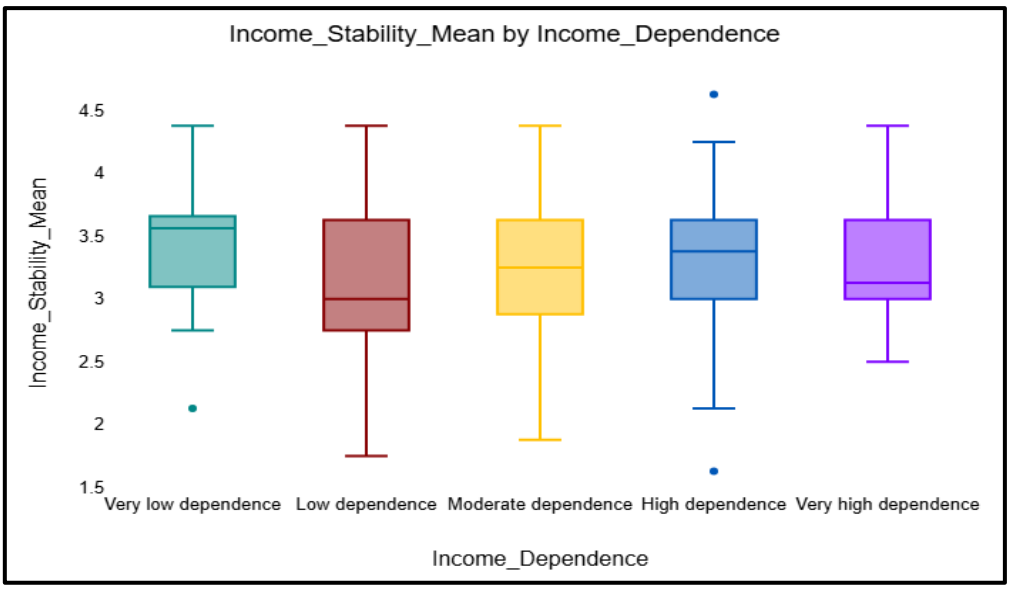

Figure 1.2: Descriptive Statistics - Income Stability Mean Score by level of dependence on gig work income

The descriptive results show that the mean income stability score was highest among respondents with very low dependence (M = 3.38, SD = 0.59), followed by high dependence (M = 3.28, SD = 0.59), very high dependence (M = 3.27, SD = 0.50), moderate dependence (M = 3.23, SD = 0.58), and low dependence (M = 3.19, SD = 0.69).

Table 1.5: ANOVA

	Sum of Squares	df	Mean Square	F	p
Income Dependence	0.34	4	0.09	0.25	.911
Residual	56.19	163	0.34		
Total	56.54	167			

However, the ANOVA result was not statistically significant, F(4, 163) = 0.25, p = .911. Since the p value is greater than 0.05, the null hypothesis is not rejected.

Decision

For H_{02}, one-way ANOVA was applied to test whether income stability differs significantly among gig workers based on their level of dependence on gig work income. The result was not statistically significant, F(4, 163) = 0.25, p = .911. Therefore, the null hypothesis is not rejected.

Finding

The result indicates that income stability does not differ significantly across different levels of dependence on gig work income. Although many respondents reported moderate to high dependence on gig work income, their perceived income stability remained broadly similar across dependence categories.

Hypothesis Conclusion

Since the null hypothesis is not rejected, the researcher concludes that there is no significant difference in income stability among gig workers based on their level of dependence on gig work income.

1.7 RESEARCH METHODOLOGY

1.7.1 Research Design

The study adopted a descriptive and analytical research design to examine income stability among gig workers engaged with different categories of digital platforms in Udaipur. The descriptive component was suitable for presenting the pattern of income stability across respondent groups, while the analytical component enabled a statistical comparison of mean income stability scores across platform categories. The design was suitable because the objective required measurable comparison of income stability across clearly defined platform categories.

1.7.2 Research Approach

The study followed a quantitative research approach, as the objective, variables, measurement procedure, and hypothesis were examined through numerical data. Income stability was measured through structured Likert scale statements, and the resulting scores were analysed using descriptive statistics and one way ANOVA. This approach was appropriate because the study required measurable comparison across clearly defined groups of gig workers.

1.7.3 Population and Sample

The target population comprised gig workers engaged with digital platforms in Udaipur. The study included respondents from four platform categories: food delivery workers, ride sharing and bike taxi workers, quick commerce and delivery workers, and courier and parcel delivery workers. The sample consisted of 168 respondents, including 49 food delivery workers, 43 ride sharing and bike taxi workers, 37 quick commerce and delivery workers, and 39 courier and parcel delivery workers. Non probability purposive sampling was used because the study required active gig workers from selected platform categories, while snowball sampling was used for respondent identification through worker referrals. The

sample size was considered adequate for the comparative analysis, as each platform category had sufficient representation for group wise statistical testing.

1.7.4 Research Variables

The independent variable of the study was the category of digital platform, represented by the type of gig work performed by the respondents. The dependent variable was income stability, which referred to the perceived regularity, predictability, dependability, and fluctuation of income earned through gig work. Income stability was operationally measured through eight Likert scale statements. A construct mean score was calculated by averaging the item scores for each respondent, and this composite mean score was used as the main dependent variable for hypothesis testing.

1.7.5 Instrument Development and Measurement

Primary data were collected through a structured questionnaire. The instrument included eight Likert scale statements related to income stability, covering monthly stability, weekly earning predictability, income fluctuation, consistency of work opportunities, platform incentives, ability to meet regular expenses, seasonal uncertainty, and overall income dependability. Responses were recorded on a five point Likert scale ranging from strongly disagree to strongly agree. The Likert items were used to quantify respondents' perceptions and to generate a composite income stability score for further analysis.

1.7.6 Data Collection Procedure

Data were collected from gig workers operating in Udaipur through a structured questionnaire. Respondents were selected from the identified platform categories on the basis of their active engagement in gig work. Worker referrals were also used to identify additional respondents from the same or related platform categories. Data were collected from gig workers operating in Udaipur through a structured questionnaire administered to respondents selected from the identified platform categories.

1.7.7 Reliability of the Instrument

The reliability of the income stability scale was examined through Cronbach's alpha. The scale consisted of eight items and produced a Cronbach's alpha value of 0.774. This value indicates acceptable internal consistency, suggesting that the items were reasonably consistent in measuring the income stability construct. The Cronbach's alpha value indicates acceptable internal consistency for the income stability scale.

1.7.8 Statistical Tools and Techniques

Descriptive statistics were used to summarise the income stability scores across platform categories through mean and standard deviation. Group wise descriptive statistics helped identify the comparative pattern of income stability among food delivery workers, ride sharing and bike taxi workers, quick commerce and delivery workers, and courier and parcel delivery workers. One way ANOVA was used to test the hypothesis because the study compared the mean income stability score across more than two independent platform categories.

1.8 OVERALL CONCLUSION

The study examined income stability among gig workers engaged with different categories of digital platforms in Udaipur. The overall results indicate that income stability varies across platform categories, with food delivery workers reporting the highest mean score, followed by quick commerce and delivery workers, ride sharing and bike taxi workers, and courier and parcel delivery workers. The descriptive pattern shows that gig workers do not experience income stability in a uniform manner, as the nature of platform work appears to shape the regularity, predictability, and dependability of earnings.

The hypothesis testing result further supports this empirical direction. The one way ANOVA result was statistically significant, $F(3, 164) = 17.01$, $p < .001$, leading to the rejection of the null hypothesis. Therefore, the study examines how the type of digital platform influences the perceived stability of earnings among gig workers in Udaipur. The findings contribute to a clearer understanding of how platform category may influence income conditions within the gig economy and highlight the need for greater attention to earning regularity among workers in less stable platform segments.

The analysis suggests that dependence on gig work income is an important descriptive feature of the respondents, but it does not statistically differentiate their perception of income stability. This means that workers with low, moderate, high, and very high dependence on gig income experience income stability at broadly similar levels. Therefore, income instability appears to be a general concern across dependence groups rather than being limited only to those who rely heavily on gig work income.

1.9 SUGGESTIONS BASED ON FINDINGS

The suggestions derived from the findings are presented below

1. Digital platform companies should work towards improving income predictability by providing clearer information about expected earnings, incentives, and work availability to gig workers.
2. Platforms should review their payment structures so that workers in lower stability categories, particularly courier and parcel delivery workers, receive more regular and dependable earning opportunities.
3. Incentive systems should be made more transparent, as mixed responses regarding platform incentives indicate the need for clearer and more consistent payment support.
4. Platform operators should reduce sudden changes in commission, bonus, or incentive rules, as such changes may affect the ability of gig workers to plan their income.
5. Companies should introduce minimum earning assurance mechanisms during low demand periods, especially for workers who experience greater income fluctuation.
6. Food delivery platforms may be studied as a useful reference category, since workers in this group reported comparatively higher income stability than other platform categories.
7. Courier and parcel delivery platforms should identify reasons for lower income stability and consider improvements in route allocation, payment regularity, and delivery volume distribution.
8. Ride sharing and bike taxi platforms should support workers through more predictable ride allocation and clearer peak hour earning structures.
9. Quick commerce and delivery platforms should maintain regular work availability so that moderate income stability can be strengthened further.
10. Platform companies should provide workers with weekly or monthly earning summaries to help them track income patterns and plan expenses more effectively.
11. Policy makers should consider guidelines for fair and transparent payment practices in the gig economy, particularly for workers whose income depends heavily on platform controlled systems.
12. Worker support programmes may include basic financial planning guidance, as the findings suggest that gig workers may face varying levels of income regularity.
13. Platforms should avoid excessive dependence on short term incentives and instead develop more stable earning models for regular workers.
14. Worker feedback should be collected periodically to understand problems related to income fluctuation, incentive uncertainty, and inconsistent work opportunities.
15. Local labour and employment agencies may consider mapping income conditions across platform categories to identify groups that require stronger support.
16. Digital platforms should ensure that work opportunities are distributed more fairly within each category so that income stability does not depend only on irregular demand or selective allocation.
17. Future platform management strategies should focus not only on service efficiency but also on the earning dependability of gig workers, as income stability directly affects worker security and continuity in platform based employment.

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