

Work-life safety and health challenges among Gig Workers: A select study

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Abstract

The Gig workers serving the nation's day to day requirement in both formal and informal works are remained as one of the most invisible labour serving the nation's immediate needs. Mostly driven by the informal works, the gig workers are striving in the form of questions on safety and health challenges which are creating a major focus of the present research paper. The paper focalize on the status of government provisions including New Labor codes and the statistics derived from e-shram to assess the enrollment of Gig workers and the key observations of labor codes applicable for the gig workers. Further, a field study is made to understand the field realities of work life safety and health related challenges and the key factors derived from the study show that financial safety, work life safety and employability stability were extracted using Principal component analysis. Study is based on mixed methods research design and field study results further demonstrates the descriptive results obtained using select statistical techniques.

Keywords: E-Shram; PCA; Labour Code; UAN

1. Introduction

The rapid expansion of India's digital economy has significantly altered the nature of employment by creating a large workforce engaged through online platforms and technology-enabled services. Activities such as ride-hailing, food delivery, logistics support, home-based services, and freelance digital work have generated income opportunities for millions of individuals seeking flexible work arrangements. However, despite their increasing contribution to economic growth and service delivery, gig and platform workers have traditionally remained outside the ambit of formal labour protections and social security coverage, exposing them to economic insecurity, occupational risks, and limited access to welfare benefits (ILO, 2021).

Recognizing the growing importance of this workforce, the Government of India introduced the Code on Social Security, 2020, which marks a significant development in labour regulation. The legislation formally acknowledges gig workers and platform workers as distinct categories within the labour market and seeks to extend social security protection to them. This policy intervention reflects the evolving structure of employment and addresses long-standing concerns regarding the absence of institutional support for workers engaged in non-standard forms of work (Government of India, 2020).

A key feature of the legislation is the establishment of a financing mechanism through which digital aggregators contribute to worker welfare. The creation of a dedicated social security fund is intended to provide financial resources for implementing welfare schemes and reducing the vulnerabilities associated with platform-based employment. Such an approach encourages shared responsibility among the government, digital platforms, and other stakeholders in ensuring worker protection (NITI Aayog, 2022).

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The Code further provides a foundation for extending social security benefits to gig and platform workers through schemes related to health care, accident insurance, maternity assistance, disability support, and other welfare measures. These provisions represent a shift from discretionary welfare initiatives towards a more structured framework of social protection. By facilitating access to essential benefits, the legislation aims to improve the overall well-being and economic security of workers operating in the platform economy (Ministry of Labour and Employment, 2020).

Another important aspect of the framework is the portability of benefits. Since many gig workers engage with multiple platforms or frequently move between different work arrangements, uninterrupted access to welfare benefits is essential. The registration process linked with the e-Shram portal enables workers to maintain continuity in their social security coverage irrespective of changes in employment or platform affiliation. This portability enhances worker mobility while reducing the risk of losing access to benefits (Government of India, 2021).

The creation of a centralized database through worker registration is expected to strengthen policy implementation and welfare delivery. A comprehensive repository of worker information can support evidence-based decision-making, facilitate targeted interventions, and assist in designing programmes related to skill development and employment generation. Such a database also contributes to a better understanding of workforce dynamics within the rapidly evolving gig economy (NITI Aayog, 2022).

The framework additionally provides mechanisms for grievance redressal and worker assistance. Access to facilitation centres, help lines, and support services can improve communication between workers and authorities while ensuring that concerns related to welfare benefits, working conditions, and platform practices are addressed more effectively. These institutional arrangements contribute to enhancing transparency and accountability within the platform ecosystem (Ministry of Labour and Employment, 2020).

The increasing prominence of gig and platform work necessitates a reorientation of labour policies to accommodate emerging forms of employment. By extending legal recognition, promoting social security coverage, enabling benefit portability, and strengthening institutional support systems, the Code on Social Security, 2020 represents an important step toward building a more inclusive labour market. Effective implementation of these provisions can contribute to improving working conditions, reducing worker vulnerability, and fostering sustainable growth within India's platform economy (ILO, 2021; NITI Aayog, 2022).

Despite their growing contribution to India's digital economy, gig workers continue to face significant barriers in accessing labour rights and social protection mechanisms. Unlike workers in formal employment, most gig workers are classified as independent contractors rather than employees, which limits their eligibility for statutory benefits and employment-related protections (Chand, 2023). Consequently, many workers remain outside the coverage of essential welfare provisions such as health insurance, paid leave, retirement benefits, unemployment assistance, and sickness compensation. The absence of these safeguards increases economic insecurity, weakens workers' negotiating capacity, and exposes them to greater occupational health and safety concerns (Dwivedi & Deepak, 2024; Sanjaya & Kumar, 2024; Gaurav & Sharma, 2023).

The need for stronger social protection measures has therefore become increasingly important. Although some digital platforms have introduced limited welfare initiatives, including accident insurance and basic health coverage, these measures are often inadequate to address the broader social security needs of workers (Berg, 2021, as cited in Dwivedi & Deepak, 2024). Recognizing these challenges, the Government of India introduced the Code on Social Security, 2020, later supplemented through subsequent policy measures. The Code seeks to extend social security coverage to employees, unorganized workers, gig workers, and platform workers by facilitating access to healthcare and income protection during contingencies such as old age, illness, disability, maternity, unemployment, work-related injuries, and the loss of a primary income earner (Beevi, 2024).

However, the implementation of the Code has encountered several practical and administrative challenges. Researchers have noted that the benefits envisioned under the legislation have not been fully realized due to operational constraints and gaps in implementation (Gaurav & Sharma, 2023). Worker dissatisfaction with working conditions, long working hours, and limited access to labour benefits has led to collective protests and strikes by gig workers in recent years (Beevi, 2024). One of the major concerns relates to the registration process required for accessing social security benefits. Ambiguities surrounding the legal status of gig and platform workers often create uncertainty regarding eligibility, making it difficult for many workers to benefit from existing welfare schemes (Dwivedi & Deepak, 2024).

Additional challenges arise from the requirement of Aadhaar-based registration and authentication. Access to several welfare schemes depends on the successful linking of Aadhaar credentials, which may inadvertently exclude workers

who face technological, documentation, or connectivity barriers. Such requirements can disproportionately affect workers from marginalized and rural backgrounds who may experience difficulties in completing the registration process or maintaining digital access.

Gender-related concerns also remain significant within the gig economy. Although maternity benefits are available to women employed under traditional employment arrangements, similar protections are often unavailable to female gig workers who are classified as independent contractors. As a result, many women engaged in platform-based work do not receive maternity-related income support or associated employment benefits, thereby increasing their economic vulnerability during pregnancy and childbirth (Beevi, 2024).

2. Review of literature

A concise review of existing studies with a focus on working conditions and health status of gig workers is presented here.

Mukhopadhyay and Mukhopadhyay (2021) discuss the rapid growth of the gig economy and its role in creating micro-entrepreneurship and flexible employment opportunities. The authors argue that digital platforms have transformed traditional labor markets by connecting workers and clients globally, enabling both skilled and unskilled workers to participate in short-term, project-based employment. The article highlights how the expansion of internet-based platforms has simplified access to gig work, particularly in sectors such as ride-sharing, food delivery, logistics, and professional services. While the gig economy offers broader opportunities for income generation and consumer benefits such as convenience and lower costs, the authors emphasize the uncertainty associated with gig work, often characterized by a “feast or famine” lifestyle where workers experience fluctuating workloads and unstable earnings. The article underscores the need to balance flexibility and innovation with economic security for gig workers.

Yoo et al. (2024) investigated the working conditions and health status of platform workers in the Republic of Korea, focusing on designated drivers, food-delivery drivers, and housekeeping managers. Using survey data from 1,000 platform workers, the study examined exposure to physical, chemical, ergonomic, and psychosocial hazards, as well as health outcomes such as musculoskeletal disorders, fatigue, headaches, injuries, digestive challenges, and mental health issues. The findings revealed that platform workers often operated outside formal social insurance systems and were frequently exposed to workplace violence and occupational hazards. Compared with the general population, platform workers reported significantly higher levels of musculoskeletal symptoms, general fatigue, and depressive symptoms. The study concluded that platform workers experience poorer working conditions and inferior occupational health outcomes than the general population, emphasizing the need for stronger occupational health protections and social security coverage for platform-based workers.

Jain and Sarkar (2024) examined the socio-economic challenges faced by gig workers in India's rapidly expanding digital labor market. The chapter highlighted that while the gig economy offers flexibility, autonomy, and income-generating opportunities, it also exposes workers to significant vulnerabilities, including wage instability, lack of social security, absence of employment benefits, and limited job security. Drawing on Indian and international case studies, the authors analyzed the power imbalances inherent in platform-mediated work and the resulting impact on workers' well-being and livelihoods. The study reviewed recent policy initiatives such as the Code on Social Security (2020) and the Rajasthan Platform-Based Gig Workers Act (2023), questioning their effectiveness in ensuring adequate protection for gig workers. The authors advocated for innovative policy measures, including a Gig Worker Provident Fund and portable benefit systems, to enhance social protection, economic security, and equity within India's evolving gig economy.

Joseph and Joseph (2025) examined the rapid growth of the gig economy and its implications for workers' health and well-being. The authors observed that the gig economy has emerged as a significant source of employment, particularly among young, technology-oriented workers who prefer flexible work arrangements. Despite its economic benefits and increasing contribution to employment and GDP, the study highlighted several challenges faced by gig workers, including job insecurity, unstable income, lack of social security, absence of legal protection, and dependence on algorithm-based work allocation systems. The authors further noted that gig workers are exposed to various occupational health risks such as road traffic accidents, noise and dust exposure, musculoskeletal disorders, stress, poor sleep quality, headaches, burnout, anxiety, depression, and other psychosocial challenges. The study concluded that the rapid expansion of the gig economy necessitates stronger labor regulations, social security measures, and occupational health interventions to safeguard the health, safety, and welfare of gig workers.

Okech et al. (2025) reviewed the occupational health implications of the rapidly expanding gig economy and highlighted the challenges arising from non-standard employment arrangements. The study found that gig workers frequently encounter job insecurity, inadequate social protection, psychological stress, and exposure to physical and ergonomic hazards. The review emphasized that existing occupational health and safety frameworks are often ill-equipped to address the unique risks associated with platform-based work. It further identified regulatory gaps and social inequalities that disproportionately affect vulnerable gig workers. While acknowledging that gig work provides flexibility and income opportunities, the authors concluded that it also reinforces precarious working conditions and necessitates urgent policy reforms, stronger labor protections, and adaptive occupational health measures to safeguard worker well-being in the evolving digital economy.

Yazbi and Sachin Kumar (2025) examined the legal and occupational safety challenges faced by gig workers in India's rapidly expanding platform economy. The study highlights that workers engaged through platforms such as Uber, Swiggy, and Zomato are generally classified as independent contractors, excluding them from many protections available under traditional labor laws. Through an analysis of the Labour Codes (2019–2020), the Social Security Code, 2020, judicial decisions, and international practices, the authors identify significant gaps in occupational safety and social protection for platform workers. The paper acknowledges progressive state-level initiatives, including welfare measures, accident insurance, and algorithmic transparency provisions introduced in Rajasthan and Karnataka. However, the absence of clear employee status continues to limit the enforcement of workplace safety rights. The authors advocate for comprehensive legal reforms, stronger regulatory mechanisms, and clearer employment classifications to ensure adequate occupational protection and social security for gig workers in India.

K.B. (2026) examined the emergence of the platform economy and its impact on gig workers in India. Using secondary data from NITI Aayog, Fairwork India, and the International Labour Organization, the study analyzed the growth, sectoral distribution, benefits, and challenges associated with gig work. The findings revealed that platform-based employment has expanded significantly due to digitalization and the widespread use of platforms such as Swiggy, Uber, Ola, and Upwork. The study highlighted that gig work enhances employment opportunities, labor market inclusion, flexibility, and income generation. However, it also identified major challenges, including job insecurity, lack of social protection, absence of employment benefits, and unpredictable earnings. The author concluded that while the platform economy serves as a catalyst for innovation and economic development, comprehensive policy reforms and stronger regulatory frameworks are necessary to ensure fair working conditions, protect gig workers' rights, and promote sustainable livelihoods in India's evolving digital labor market.

Dhinesha and Thirumal (2026) examine the socio-economic conditions and challenges faced by gig workers engaged through digital platforms. The study highlights that while gig work offers flexibility and serves as a primary source of income for many workers, it is characterized by significant vulnerabilities. Key issues identified include income instability, job insecurity, lack of social security benefits such as insurance and pensions, algorithm-driven work allocation, and dependence on customer ratings. The findings further reveal concerns regarding delayed payments, sudden account deactivations, absence of written contracts, and adverse effects of long working hours on workers' physical and mental health. The authors conclude that stronger regulatory frameworks and welfare policies are essential to protect gig workers while preserving the flexibility associated with platform-based employment.

Lee and Kim (2026) investigate the occupational health and safety challenges faced by midnight delivery workers in South Korea's platform economy. Using a mixed-methods approach that combines interviews with delivery workers and a nationwide survey of 942 respondents, the study reveals significant workplace vulnerabilities associated with algorithmic management and regulatory gaps. The findings indicate widespread sleep deprivation, fatigue, inability to take adequate rest breaks, increased traffic accident risks, and limited access to healthcare services. The study further demonstrates how platform companies often maintain formal regulatory compliance while creating incentives that encourage workers to bypass safety measures. The authors conclude that platform-based work arrangements contribute to precarious employment conditions and emphasize the need for stronger policy frameworks to address algorithmic management practices and enhance worker safety and well-being.

Observations from the study include expansion of Gig economy as a rapidly changing employment system, flexibility , insecurity issues, social security and legal protection, health risks associated with occupation, need for policy reforms. Based on the observations, key objectives are framed.

Objectives

The following are the core objectives of the research study.

- To examine the Labour Code amendments in India and evaluate their applicability to gig workers in India.
- To assess the status of gig workers registration in e-shram to analyze the enrollment.
- To evaluate the work related challenges faced by the gig workers in the selected geographical region.
- To determine the underlying factors influence on work life safety and health conditions of gig workers.

3. Methodology

The study is based on mixed methods research design. The exploratory analysis made to examine the key points for gig workers that are observed through latest amendments. Further, the statistics of e-shram show the exploratory results of present status. The descriptive research design is applied for the field study results to examine what factors have high influence on gig workers and to determine what factors are the key considerations for the gig workers pertaining to work life safety and health.

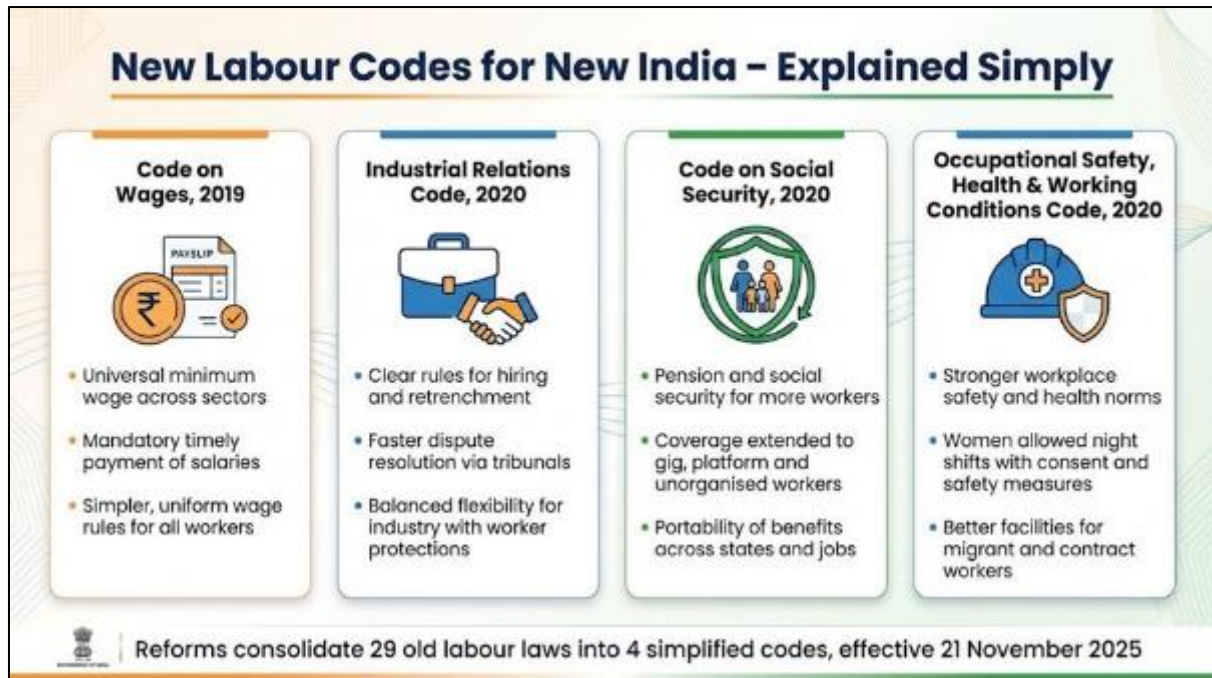
The field study is organized on a sample of 400 gig workers selected from metropolitan and non metropolitan cities in Andhra Pradesh and Telangana states. The respondents are selected using Stratified purposive sampling method. The reliability of field study results show that on a sample of 400 valid respondents, the computed Cronbach's alpha is 0.946 which show that the variables used for the study show strong internal consistency.

4. Results and discussion

The exploratory results obtained from the Government records pertaining to Code on Social Security, 2020 and new labour codes, statistics of Gig workers from e-shram is discussed here followed by field study results.

4.1. Key points for Gig workers as per recent amendments

- Gig and platform workers are recognized under the Code on Social Security, 2020, enabling the creation of social security and welfare schemes.
- Aggregator companies are required to contribute to a Social Security Fund for the welfare of gig and platform workers as notified by the Central Government.
- Benefits such as health insurance, life insurance, disability support, maternity benefits, and old-age protection may be provided through notified welfare schemes.
- Gig workers are not automatically treated as regular employees; therefore, many traditional employment benefits remain outside their coverage.
- The Code on Wages, 2019 emphasizes timely payment of wages, which reflects the importance of prompt remuneration in all forms of work.
- Overtime payments, where applicable, form part of wage calculations under the Labour Codes.
- Employer contributions towards social security funds are treated separately from wages for statutory calculations.
- Occupational safety and health provisions under the OSH&WC Code primarily apply to workers in formal establishments and may not fully extend to independent gig workers.
- Access to social security benefits for gig workers depends on the formulation and implementation of specific government schemes.
- The Labour Codes recognize the growing role of digital platforms and provide a legal basis for future welfare measures targeting gig and platform workers.
- Platform workers may benefit from government-supported welfare initiatives funded through aggregator contributions.
- The Codes represent an initial framework for gig worker protection, but detailed rules and implementation mechanisms remain critical for ensuring effective coverage and benefits.



Source: News 18 Report, 2025

Figure 1 New Labour Codes in India**4.2. Status of Gig Workers registered in e- Sharam**

Gig workers work in a unpredictable environment which require lot of travel and physical work associated with mental challenges to meet the targets. In order to avail the health benefits, they should enroll in a governmental agency at state or central government to get unique identity of their works. E-shram is one of the government schemes providing free enrollment which requires registration for Universal Account Number(UAN) to get registered for digital identity. The benefits associated with the portal include the assistance for the gig workers' family in case of accident in the form of accidental insurance, access to pension and access to 14 other governmental welfare measures. An evaluation of state wise number of GIG workers registered in e-sharam as on July, 2025.

Table 1 State wise e-shram enrollment

Sl. No.	State/UT	Male	Female
1	Andaman and Nicobar Islands	21	11
2	Andhra Pradesh	2729	2396
3	Arunachal Pradesh	43	28
4	Assam	5387	5422
5	Bihar	2205	2338
6	Chandigarh	109	23
7	Chhattisgarh	437	210
8	Delhi	2807	938
9	Goa	83	21
10	Gujarat	3108	1306
11	Haryana	1299	334
12	Himachal Pradesh	104	158
13	Jammu and Kashmir	326	160

14	Jharkhand	981	543
15	Karnataka	4115	1220
16	Kerala	974	203
17	Ladakh	11	3
18	Lakshadweep	1	NA
19	Madhya Pradesh	2357	1564
20	Maharashtra	8467	3355
21	Manipur	28	29
22	Meghalaya	71	36
23	Mizoram	21	15
24	Nagaland	24	11
25	Odisha	876	277
26	Puducherry	62	18
27	Punjab	881	563
28	Rajasthan	2834	2010
29	Sikkim	29	13
30	Tamil Nadu	3100	1733
31	Telangana	3656	317
32	Dadra and Nagar Haveli and Daman and Diu	13	10
33	Tripura	128	44
34	Uttar Pradesh	4788	1636
35	Uttarakhand	294	161
36	West Bengal	14313	12058
Grand Total	Grand Total	66682	39164

Source: Data extracted from data.gov.in as on 17th July, 2025.

Andhra Pradesh and Telangana emerged as significant contributors to the total beneficiaries, although their gender composition varied considerably. Andhra Pradesh recorded 5,125 beneficiaries, comprising 2,729 males and 2,396 females, reflecting a relatively balanced gender distribution and strong participation of women. In contrast, Telangana reported 3,973 beneficiaries, of which 3,656 were males and only 317 were females, indicating a substantial gender gap in participation. While both states demonstrated considerable overall engagement, Andhra Pradesh exhibited greater gender inclusiveness, whereas Telangana's participation was predominantly male-oriented, highlighting the need for focused measures to enhance women's involvement.

4.3. Demographic Profile of Respondents

Four select demographic variables are analyzed during the field study. These include age, educational qualification, category of gig work and area of gig work. Respondents' data reveal that, majority of the respondents, i.e., 36 percent of the respondents are in the age group of 18-25 years. Age group upto 25 years represent 49 percent. Education wise results show that, 38.5 percent of the respondents are graduated and 31 percent of them are intermediate. With reference to category of gig work, 38.5 percent of the respondents work in professional/on demand works followed by Food delivery (31%). Approximately 51 percent of the respondents are working in urban areas including 2 select metropolitan cities including Vijayawada and Hyderabad.

Table 2 Demographic profile of Gig workers

Age category		Frequency	Percent
1	Below 18 years	52	13.0
2	18-25 years	144	36.0
3	25-35 years	116	29.0
4	35 years and above	88	22.0
	Total	400	100.0
Educational Qualification		Frequency	Percent
1	SSC	40	10.0
2	Intermediate/Diploma	126	31.5
3	Graduation	154	38.5
4	Post Graduation	40	10.0
5	Not Shared	40	10.0
	Total	400	100.0
Category of Gig Work		Frequency	Percent
1	Home Services	40	10.0
2	Logistics	40	10.0
3	Professional/on demand works	154	38.5
4	Food Delivery	126	31.5
5	Retail works	40	10.0
6	Total	400	100.0
Area of Gig work		Frequency	Percent
1	Urban areas(Metropolitan)	206	51.5
2	Semi Urban areas(Non metro)	194	48.5
	Total	400	100.0

Source: Field Study results

4.4. Study on Major Challenges faced by Gig Workers

The field study organized in two select districts of Andhra Pradesh and Telangana reveal the following major challenges as perceived by GIG workers. The weighted means are computed on a five point rating scale using Level of agreedness. Variation is computed for further analysis.

Table 3 Major challenges experienced by Gig workers

Variable	Total	Mean	Standard Deviation
Income instability and unpredictable earnings	400	3.02	1.17
Unpaid waiting time between work assignments	400	2.98	1.02
Algorithmic control, penalties, and account suspensions	400	2.99	1.13

Rising fuel and vehicle maintenance costs	400	3.00	1.16
Lack of social security and employee benefits	400	3.01	.97
Delayed payments and cash flow difficulties	400	3.20	1.29
Long working hours and excessive workload	400	3.29	1.31
Traffic congestion and road accident risks	400	3.34	1.31
Exposure to adverse weather conditions	400	3.29	1.31
Mental stress, burnout, and job insecurity	400	3.19	1.29
Customer rating and performance pressure	400	3.29	1.21
Limited grievance redressal and platform support systems	400	3.32	1.22

Source: Field Study results

4.5. Factor Analysis

With an aim to extract the factors that will influence the gig workers' work life safety and health challenges, a total of 20 variables are framed in the form of statements. The dimension reduction technique using Principal Component Analysis (PCA) is applied to determine the factors. To evaluate whether the sample are adequate to perform Exploratory Factor Analysis (EFA), KMO measure is applied. The results show that computed KMO statistic is 0.937. Hence it confirms 93.7% of the sample date is adequate to perform factor analysis. Further, to check whether the sample results are significant, Chi-square measure is applied. Results show computed test statistic is 7264.95 at 190 degrees of freedom and the $p\text{-value}=0.000<\alpha=0.05$ at 5% level. Hence, results confirm that the factors analysis results proved significant. The communality values vary in the range of 0.540 to 0.876, exceeding the recommended threshold of 0.50. This indicates that all 20 items contributed meaningfully to the extracted factors and were well represented in the factor analysis.

Table 4 Results of KMO and Bartlett's test

KMO statistic			.937
Bartlett's Sphercity results	χ^2		7264.955
	$\ddot{Y}$		190
	p		.000
Communalities			
Sl.No.	Variable	Initial	Extraction
	The income I earn from gig work adequately covers my essential living expenses.	1.000	0.803
	My earnings from platform-based work remain reasonably consistent over time.	1.000	0.758
	Uncertainty regarding future earnings creates financial pressure for me.	1.000	0.876
	I am financially prepared to handle unexpected medical or emergency situations.	1.000	0.634
	Concerns about insufficient work opportunities affect my financial security.	1.000	0.617

	The flexibility of gig work helps me maintain a satisfactory balance between work and personal life.	1.000	0.652
	I frequently spend more time working than I would ideally prefer.	1.000	0.587
	My work commitments allow sufficient time for family and personal responsibilities.	1.000	0.815
	Managing the boundaries between work and personal life is challenging for me.	1.000	0.601
	The nature of my work often leaves me physically exhausted.	1.000	0.830
	My job involves exposure to conditions that may affect my health or safety.	1.000	0.621
	I generally feel secure while carrying out my work-related activities.	1.000	0.776
	The platform offers adequate guidance and resources to ensure worker safety.	1.000	0.825
	Necessary safety equipment or protective resources are accessible when required.	1.000	0.811
	Job-related pressures have an adverse effect on my mental well-being.	1.000	0.835
	The platform provides appropriate assistance during emergencies or work-related incidents.	1.000	0.540
	The absence of benefits such as insurance, pension, or paid leave affects my sense of job security.	1.000	0.825
	Healthcare support is available to me when I experience work-related health concerns.	1.000	0.833
	The demands of gig work have influenced my overall health and well-being.	1.000	0.772
	The challenges associated with gig work have little impact on my overall quality of life.	1.000	0.743

Source: Field study results

Table-2 presents the results of Total Variance explained using PCA analysis. Based on the extraction of sums of squared loadings and initial eigen values, results show that PCA analysis generated three factors with eigen values greater than 1. The first factor explained 50.349% of the total variance, the second factor accounted for 16.378%, and the third factor contributed 7.046%. Together, these three factors explained 73.773% of the total variance, indicating a strong factor structure and substantial representation of the underlying dimensions of work-life safety and health challenges among gig workers.

After rotation, the variance was more evenly distributed across the three factors, explaining 31.709%, 24.087%, and 17.977% of the variance, respectively. This suggests a clear and interpretable factor solution suitable for further analysis.

Table 5 Results of Total Variance using PCA analysis

Component	IEV			ESSL			RSSL		
	Sum	VAR(%)	CUM(%)	Sum	VAR(%)	CUM(%)	Sum	VAR(%)	CUM(%)
1	10.070	50.349	50.349	10.070	50.349	50.349	6.342	31.709	31.709
2	3.276	16.378	66.727	3.276	16.378	66.727	4.817	24.087	55.796
3	1.409	7.046	73.773	1.409	7.046	73.773	3.595	17.977	73.773
4	0.643	3.213	76.986						

5	0.536	2.680	79.666						
6	0.515	2.573	82.238						
7	0.448	2.239	84.478						
8	0.429	2.147	86.625						
9	0.375	1.877	88.501						
10	0.369	1.843	90.344						
11	0.316	1.578	91.922						
12	0.265	1.323	93.245						
13	0.237	1.184	94.429						
14	0.215	1.074	95.503						
15	0.187	.936	96.439						
16	0.183	.914	97.353						
17	0.166	.831	98.184						
18	0.157	.785	98.969						
19	0.115	.573	99.541						
20	0.092	.459	100.000						

Figure-2 presents the results of Scree plot. Results confirm that, the variation in the trend line show more variation for 3 components and remains flat (horizontal) for the remaining components.

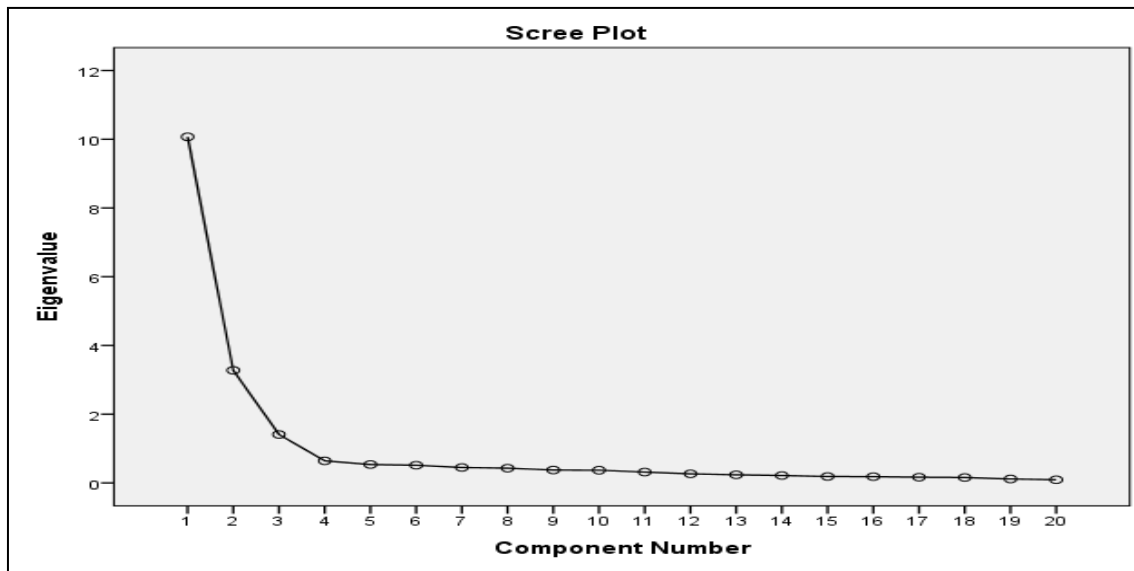


Figure 2 Results of Scree Plot

Table-4 presents the results using Varimax and Kaiser Normalization. The following are the derived factors.

Factor-1 is titled as "Financial Security". The following variables are combined to generate factor which represents 31.70% of variance.

Uncertainty regarding future earnings creates financial pressure for me.
The absence of benefits such as insurance, pension, or paid leave affects my sense of job security.
Healthcare support is available to me when I experience work-related health concerns.

The nature of my work often leaves me physically exhausted.
 My work commitments allow sufficient time for family and personal responsibilities.
 The demands of gig work have influenced my overall health and well-being.
 The challenges associated with gig work have little impact on my overall quality of life.

Factor 2 represents “Worklife safety”. Following variables are combined to generate factor-2.

The platform offers adequate guidance and resources to ensure worker safety.
 Job-related pressures have an adverse effect on my mental well-being.
 Necessary safety equipment or protective resources are accessible when required.
 The income I earn from gig work adequately covers my essential living expenses.
 Managing the boundaries between work and personal life is challenging for me.
 The flexibility of gig work helps me maintain a satisfactory balance between work and personal life.

Factor-3 is titled as Employment Stability. Following factors are combined to generate the results.

I generally feel secure while carrying out my work-related activities.
 My earnings from platform-based work remain reasonably consistent over time.
 The platform provides appropriate assistance during emergencies or work-related incidents.
 My job involves exposure to conditions that may affect my health or safety.
 I frequently spend more time working than I would ideally prefer.
 Concerns about insufficient work opportunities affect my financial security.
 I am financially prepared to handle unexpected medical or emergency situations.

Table 6 Results of RC Matrix

Component No.	Component		
	1	2	3
3	0.904		
17	0.880		
18	0.880		
10	0.876		
8	0.870		
19	0.846		
20	0.815		
13		0.895	
15		0.895	
14		0.888	
1		0.880	
9		0.556	
6		0.520	
12			0.838
2			0.828
16			0.583
11			0.561

7			0.546
5			0.520
4			0.514

Source: Compiled from field study results

5. Conclusions

The results show that, Code on Social Security, 2020 provided more supportive legal framework for Gig workers, a positive step towards effective protection. Inclusion in welfare schemes are not received momentum as many of Gig workers still not enrolled in the e-Shram. Further, the insurance, pensions and maternity support are yet to receive momentum. Universal coverage in the states is still showing the disparity in registration and benefits. The field study results show that majority of the Gig workers are under 25 years age group and due to income instability and delayed payment, the Gig workers are facing the challenges. The occupational risk, performance ratings, automated work allocation creating hurdles to Gig workers. The factor analysis results confirm financial security, work life safety and employment stability are the key underlying constructs. Among these three factors, the financial insecurity is the key factor. Strong policy support, regulatory interventions are required for providing sustainability to Gig workers.

Compliance with ethical standards

Disclosure of conflict of interest

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