

Algorithmic Governance, Local Government Regulation, And Sustainable Labour Policy: A Structural Equation Modelling Approach To Gig Delivery Workers In South India

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Abstract: The rapid expansion of digital labour platforms has transformed urban employment through algorithmic management, creating new governance challenges for local governments responsible for ensuring equitable labour standards and sustainable urban development. While previous research has primarily examined the influence of algorithmic management on worker well-being, limited attention has been given to the role of local self-government institutions in regulating platform-based employment. This study develops and validates a governance-oriented framework that examines the relationships among algorithmic governance, local government regulatory effectiveness, platform accountability, worker trust, and sustainable employment in the delivery gig sector in Chennai, India. Data will be collected from approximately 350–450 delivery gig workers operating across major digital platforms using a structured questionnaire. Structural Equation Modelling (SEM) with AMOS will be employed to evaluate both direct and indirect relationships among the proposed constructs. The study proposes that effective local government regulation strengthens platform accountability, enhances worker trust, and promotes sustainable employment practices while improving urban labour governance. The findings are expected to provide empirical evidence for policymakers and municipal administrations seeking to develop balanced regulatory frameworks that protect gig workers without constraining digital innovation. The research contributes to the literature on algorithmic governance, local self-government, digital public administration, and sustainable urban labour policy by offering a governance framework for managing platform-based employment in rapidly urbanising economies.

Keywords: Algorithmic Governance; Local Government; Digital Governance; Gig Economy; Platform Accountability; Worker Trust; Sustainable Employment; Urban Governance; Local Self-Government; South India.

1. Introduction

Digital labor platform's growth is a major change to city jobs through automation that manages tasks assignment; productivity measurement and rewards for workers' work rates along with surveillance mechanisms are implemented here. Platform based service providers are important for city economy as they provide job security along with issues like workers' rights and safety; openness; responsibility etc.; stability of workforce. Current research is mostly concerned with workers' welfare and algorithms for managing them; there has been little focus on regulation by local governments through their organizations that govern platforms where people work today. As city administrations have a role of managing cities' affairs including social issues like health care; education etc.; poverty alleviation programs then so on then it will be easy enough for them as regulators regarding online job market regulation along-with ethical standards set by big platforms such facebook and instagram. Thus, this research paper suggests an administrative model for analyzing relations between algorithms' management systems; local governments' efficiency at regulating them; accountability of platforms towards customers and employees (gig economy) issues like job security concerns amongst freelance couriers from chennai india. The research will use Structural Equation modeling (SEM) to provide evidence for balanced labor policies that protect gig workers and promote innovation and sustainable urbanization.

1.1 Emerging Governance Challenges in the Gig Economy

Algorithmically managed services have led to an entirely different form of management system for job assignments that is based more upon technology and less so on people's judgement alone. The change needs a government at city level for establishing regulations so as not to be fair enough nor transparent nor responsible nor sustainable employment policies. Improving relations among social media companies to governments would enhance employee confidence; promote ethical regulation of these websites for better city planning.

The current issues require more regulation of city governments that promote social equity within cities through their policies on urbanization and health care needs. The government may be able to promote responsible work management through regulations promoting openness of algorithms; responsibility on platforms for workers' rights issues like wages and benefits etc. safety concerns among employees (Figure 1). Also, good interplay of technology companies with city administrations along with labor force would help increase credibility among institutions; it will also enhance regulations' adherence rates while creating an equilibrium system for tech advancement and job creation within fast-developing cities.

1.2 Key Governance Dimensions

Governance for a networked job market includes various organizational aspects; technology issues alongwith societal factors which impact on its viability as an industry. These are also useful to understand some key issues that face a freelance courier worker; they need better regulation from their government at this point. These are some elements that will be included under this model's administration system.

1. Expansion to a large scale for gig economy jobs on an urban level within indian cities.
2. Task assignment; productivity assessment, reward system and employee rating are governed by algorithms.
3. Poor labor rights puts freelancers at risk of job instability, poor work environment.
4. Government regulation of local affairs ensures openness; equity and workers' rights.
5. Accountability of platforms improves good cyber governance, regulation and laws adherence.
6. Trust among workers is an important factor for sustaining jobs on this site over time.
7. A sustainable labor law is concerned to balance technology advancement, social security issues and city growth plans.



Figure 1. Governance Ecosystem for Sustainable Gig Employment

2. Related works

[1] Previous studies show that algorithmic management fundamentally changed the way platforms manage their employees through automation of tasks assignment, performance tracking, worker assessment and rewards distribution. They enhance productivity of operations and customer services but increase reliance upon algorithms that reduce accountability, freedom from decisions made by machines alone without any input from humans at all times. Thus, there is an issue of regulation for algorithms that need more stringent regulations so they can be fair and transparent alongwith ethical employment standards. Also [2] employment sustainability is more than just pay; it includes health and well-being (physical, mental), financial security and social inclusion. Current research shows people having secure jobs with good working environment have better quality of life, loyalty towards their workplace for an extended period. Thus, well-being is a key measure to assess sustainability of job performance on-line. Moreover, [3] workplace algorithms have introduced a new organizational control mechanism in which managerial authority is increasingly exercised through automated decision-making rather than direct human supervision. The system monitors employees' behavior; customers' reviews and work rates along with productivity levels for better optimization of a website's functionality is

done here. However there are issues about lack transparency to algorithms; low levels for workers' involvement alongwith poor regulation system which safeguards their right.

Similarly, [4] continuous algorithmic monitoring has been associated with increasing levels of occupational stress and emotional exhaustion among platform workers. Incentive systems based on performance; continuous monitoring of employees leads towards increased efficiency but also stress due poor service quality along with fear about employment stability. The results show that there is a requirement to have management systems which balance technology productivity and workers' welfare. In addition, [5] studies have shown that gig workers are not passive recipients of algorithmic control but actively develop adaptive strategies to negotiate technological restrictions. Networking informal workplaces; social networking sites for sharing knowledge about algorithms on a job site is beneficial as it helps people better understand how they will be affected by these technologies when making choices within them. These cooperative actions show that there is a need for credibility, cooperation skills and organizational assistance to workers who work remotely through technology today. Similarly [6] empirical studies have found that job autonomy has a significant impact on employee motivation, engagement, and mental health among gig workers. While flexibility is beneficial for employees to have more freedom regarding how they spend time at work; however it can lead towards high levels of job insecurity due lack thereof regulation. The results indicate a need for effective management of workers' freedom so as to ensure long-term job security.

Also [7] financial insecurity and irregular income are still major issues for gig workers on digital labour platforms. Volatile incomes; low job security and poor welfare services are some of them that cause stress levels high along with dissatisfaction at workplaceship over time due its nature. Therefore, sustainable labor practices need to be more than just providing job prospects; they must include improving workers' stability through better access to finance along with stronger institutions for them. Furthermore, [8] occupational well-being models have shown that the relationship between job demands and available organizational resources significantly affects employee engagement, productivity, and psychological health. The gig worker has a lot of stress due to heavy workloads; tight deadlines for their tasks alongwith poor working conditions at work without much employee welfare provided by employers. The study highlights need for a management system which balances productivity and employee well-being so as it's necessary to sustain jobs long term. More importantly, [9] recent research has highlighted the growing need for regulating algorithmic management through comprehensive labour governance frameworks. AI is being used by companies for job selection nowadays which raises issues of openness and responsibility; employee involvement; morality. Thus policy makers should set regulations for protecting employee's interests but also fostering innovations on a new market system called "platform".

Consequently, [10] studies on digital governance have emphasized that effective labour market regulation requires active collaboration between government institutions, digital platforms, employers, and workers. The government should be involved actively for formulating regulations on issues like equal pay for women and men; fairness of hiring procedures and availability of jobs irrespective upon any basis (gender). Collaborative management approaches help promote sustainable employment system through a balance between economic expansion and welfare provisioningearingsystem. Meanwhile, [11] legal perspectives on artificial intelligence have stressed the importance of ensuring fairness in wage determination and employment decisions made through automated systems. Compensation algorithms need to have laws protecting employees against discrimination; unequal pay rates based on gender/race etc. along with biased evaluations for job performance. Labour laws strengthening would help increase people's confidence towards their jobs on-line, along with more fairness at workplaces.

From a sustainability perspective, [12] local labour markets are important for supporting environmentally sustainable and economically inclusive employment opportunities. Employment programs for green economy, skill enhancement of workers are beneficial for economic sustainability alongwith social progress through job creation that is environmentally friendly nature based industry. The results show how labor markets need to incorporate development goals like economic growth; ecological balance and social equity together. At the local governance level, [13] research has shown that sustainable community development depends heavily on effective collaboration among government institutions, civil society organizations, and labour market stakeholders. Governance at a local level promotes sociability; job opportunities are more accessible to people living there. Thus incorporating elements of good administration to a web based job system would increase organizational efficiency and strengthen labor markets' stability significantly enough for sustainable development purposes.

In this context, [14] sustainable public procurement and responsible governance practices have been recognized as important policy instruments for encouraging organizational accountability and ethical business behaviour. Government bodies have an impact on job quality through sustainable sourcing practices; regulations enforcement systems and organizational structures of organizations. These strategies promote social responsibility for employees on line services

and also contribute towards sustainable growth goals of a nation. Furthermore, [8] occupational well-being models have shown that the relationship between job demands and available organizational resources significantly affects employee engagement, productivity, and psychological health. Gig worker has a lot of work load due to fast pace job market alongwith stress on productivity levels without much assistance from employers nor health insurance coverage. The results show that there is a need for developing management systems which are efficient but also consider employees' interests so as not only sustain them economically over time. More importantly, [9] recent research has highlighted the growing need for regulating algorithmic management through comprehensive labour governance frameworks. AI is being used by companies for job selection processes that raises issues like lack of openness and responsibility towards employees' rights; fairness while making choices about people's lives. Thus, regulators should set regulations protecting worker's interests but not stif they want innovations on this new marketplace model of work. Consequently, [10] studies on digital governance have emphasized that effective labour market regulation requires active collaboration between government institutions, digital platforms, employers, and workers. The government should also take an active part while formulating regulations for ensuring just work conditions; fairness of algorithms; equal opportunity for people seeking jobs. Collaborative management structures promote sustainable employment growth through a balance between economic expansion and welfare provisioning mechanisms are provided here.

Meanwhile, [11] legal perspectives on artificial intelligence have stressed the importance of ensuring fairness in wage determination and employment decisions made through automated systems. Compensation system must have a law to safeguard employees against discrimination; pay inequities and poor evaluations of their work. can also enhance people's confidence towards their jobs on-line by strengthening labor laws. From a sustainability perspective, [12] local labour markets are important for supporting environmentally sustainable and economically inclusive employment opportunities. The green job programs are beneficial for example, they help improve a country's economy alongwith its growth through skill enhancement and creation of sustainable jobs among workers. The results show how to be integrated within labor markets' management policies for economics; ecology and society issues at once. At the local governance level, [13] research has shown that sustainable community development depends heavily on effective collaboration among government institutions, civil society organizations, and labour market stakeholders. Thessupportsocalled communities are better included socially; more job opportunities available for peoplewith their active involvement within a given areaand also contributing towards sustainable growthof this region over time. local government management practices should be incorporated within a web based job system to increase organizational efficiency and labor force stability.

In this context, [14] sustainable public procurement and responsible governance practices have been recognized as important policy instruments for encouraging organizational accountability and ethical business behaviour. Government bodies have an impact on labor rights through sustainable practices within purchasing regulations; they enforce laws regarding workplace safety and security issues at workplaces themselves (governance). These strategies promote social responsibility for workers on-line by way of promoting sustainability issues within society at large. Furthermore, [15] recent studies have indicated that the responsibilities of local governments are expanding beyond traditional administrative functions to include labour market integration, workforce development, and employment governance. Public sector organizations need more cooperation from employers, employees for creating job openings that will help them become resilient to economic shocks better. The changing function shows that it is necessary for communities to regulate new types of work through their governments, including fair wages. Correspondingly, [16] comprehensive labour policies and regulatory frameworks have been recognized as essential instruments for promoting worker welfare, industrial development, and social protection. Good policies improve job stability through adherence to labor laws; workplace health and safety requirements are met along with fair wages for employees. The results indicate sustainable employment management is dependent upon an equilibrium of regulations which support business expansion along with employees' welfare.

Moreover, [17] changing patterns of labour mobility and investment have significantly altered employment relationships across regional and global economies. Adaptive management systems are needed for emerging economies that can adapt according to changing labor market needs without infringing upon workers' rights. These types of management models apply especially well to gig economy jobs that have more flexibility around working hours due technology advancements like smartphones/apps/websites etc. Accordingly, [18] sustainable labour governance requires the integration of employment quality, social protection, legal compliance, and organizational responsibility within modern labour law frameworks. Current studies indicate labor laws must be updated for technology developments so as not to overlook issues associated with remote work arrangements. Improving institutions' management is beneficial for sustaining a stable workforce over time and at an international level of productivity.

Evidence also suggests that [19] corporate sustainability governance positively influences labour rights, ethical employment practices, and organizational accountability. Sustainable organizations have better chances at having accountable management practices; protecting workers' rights and complying regulations is easier for them as compared with other companies. Thus, sustainable management is a key component to enhancing transparency of workplaces that are controlled by technology systems today. Similarly [20] labour reforms and government policy interventions have been shown to improve organizational sustainability by enhancing employee performance, institutional effectiveness, and business resilience. Regulation of business is good as it helps companies achieve their goals while also taking care of employees' needs so that there will be a win-win situation between management and staff members alike. The results show that policies are important for developing a sustainable labor force market system. Finally, [21] labour-intensive public welfare programmes have shown great potential for strengthening social protection, reducing employment vulnerability, and promoting inclusive economic development. These programs promote sustainable growth through job creation, better economic stability for poor people's families' health care needs. These policies may be integrated within a work place based system to improve employee's adaptability, and sustainability of their job performance over time.

2.1 Research Gap

While there are many researches on algorithms of management; workers' welfare and labor laws; digitalization issues etc. they were studied individually rather than collectively together. There is little research on what algorithms do for governing communities; regulation by governments locally and platforms' responsibility towards workers' welfare along with job security issues under one system of administration. Also there is little research on how local governments regulate gig economy through algorithms especially within growing cities like chennai (South India). Previous studies are mostly focused at organizational/employee level and ignore a role for municipalities to promote ethical social media use through regulation. Also there are few studies that use Structural Equation modeling (SEM) for analyzing such complex management issues. Thus this research addresses them through developing an integrated gs model for evaluating both direct and indirect relations between algorithms' governance; local govt regulations; platform responsibility; workers' faith; and job sustainability amongst delivery gig workers of chennai, india. These results would be useful as a basis of policy advice from government officials, city council members on how they could regulate gig economy employees effectively without stifling technological advancements nor promoting eco-friendly employment practices within cities.

2.2 Research Problem and Motivation

Digital labor market growth is a major change to workers' relations via algorithms that automate task assignment; productivity assessment and management by machines. Although there is an increase of productivity due to automation; however, this system has raised serious issues concerning openness and responsibility regulations enforcement workers' safety concerns. Current research focuses mainly upon how algorithms affect worker health (physical and mental) but not much emphasis has been placed upon regulation by local governments through platforms like facebook / instagram etc. Urbanization is fast happening like that of chennai city so there should be a government for providing equal work opportunities and welfare facilities alongwith job creation through technology advancement. Nevertheless there is no good system for regulating things locally so that they are not regulated properly nor do workers have enough faith to work well here on this planet earth itself. The difference is a call to integrate issues around algorithms management of governments; regulation by platforms on behalf of workers' interests. Thus, we aim at developing a theory on how local governments can promote transparency through effective management of electronic labor markets alongside sustainability issues related with city workforces via research findings which would be useful to policymakers; mayors' offices; and companies running online job sites respectively.

2.3 Research Questions

1. What is a form of algorithms' management that affects responsibility for workers on social media sites.
2. How does regulation by a local authority affect workers' faith that algorithms are fair when delivering goods/services through an app/application platform.
3. Is there a link between platforms' responsibility for sustainable job creation amongst freelance couriers.
4. Is there a mediating role for workers' confidence on effective regulation by governments to create sustainability of jobs.
5. What is it that a government could do for improving labor laws and environmental issues with gig workers' jobs today.

2.4 Research Objectives

Increasing use by ai systems for managing workplaces requires better regulation to balance tech advancement and employee rights more effectively than before. Thus this research will aim at developing an administrative model for explaining ways through which governments' intervention could enhance sustainability of jobs within gigs industry.

The specific objectives are

1. To analyzing effects to algorithms-based management practices for social media platforms' transparency.
2. To assessing how effective a local government regulation is to workers' confidence levels.
3. To investigating a relationship between social media responsibility and green job creation.
4. To analyzing a mediator function on workers' faith to local govt regulations for sustainability of jobs.
5. To propose policies to improve local government of platforms as services (pss).

3. Conceptual Framework

3.1 Proposed Conceptual Framework

This research paper's theory has been built upon theories related to algorithms' management; social media administration principles and policies; government institutions' credibility issues respectively. The framework proposes that Algorithmic Governance (AG) serves as the primary driver influencing Platform Accountability (PA), which subsequently enhances Local Government Regulatory Effectiveness (LGRE). Effective regulations are likely to enhance Worker Trust (WT) through better transparency, fairness, and accountability for gig workers on platforms. Increased worker trust contributes to Sustainable Employment (SE) through providing job security over time; fair working conditions; and inclusive labor practices. Furthermore, it also assumes a causal chain from platform responsibility; effective regulation by governments of localities to workers' confidence towards algorithms for sustainable jobs. Thus it is a framework that will help us understand what mechanisms are needed to control online workplaces through regulation by local governments alongwith supporting sustainable job creation within cities as part of gig economy activities (Figure 2).

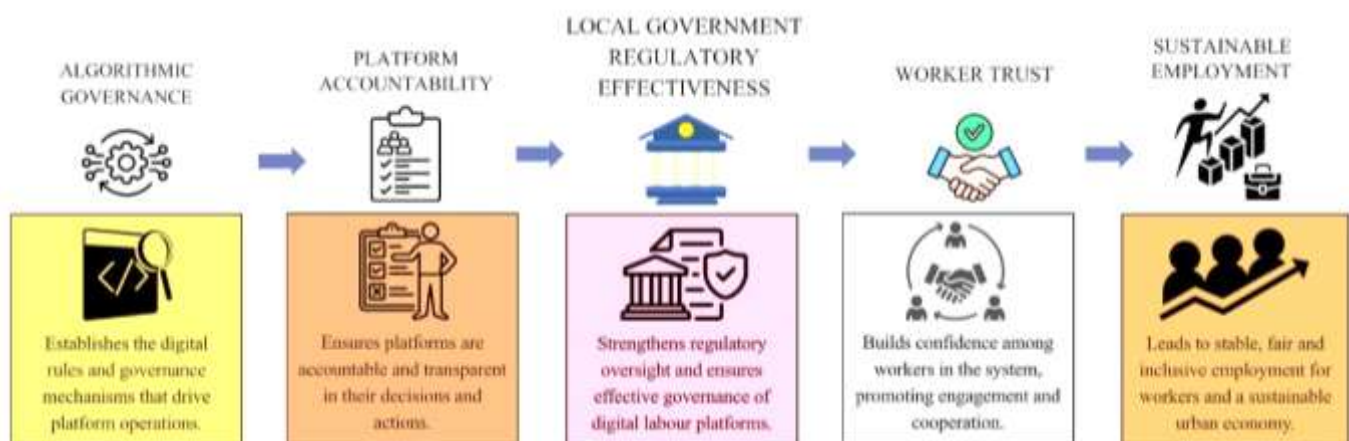


Figure 2. Proposed Conceptual Framework of the Study

Source: Developed by the Authors based on the literature of algorithmic governance, platform accountability, local government regulation, worker trust, and sustainable employment (e.g., Kellogg et al., 2020; Meijer & Grimmelikhuijsen, 2021; OECD, 2021; ILO, 2021; Lee et al., 2015).

3.2 Hypotheses Development

Based on the proposed conceptual framework and the theoretical relationships among algorithmic governance, platform accountability, local government regulatory effectiveness, worker trust, and sustainable employment, the following direct hypotheses were formulated to examine the structural relationships among the study constructs using Structural Equation Modelling (SEM).

- H1** It is hypothesized that Algorithmic Governance has a significant positive impact on Platform Accountability.
- H2** It is hypothesized that Platform Accountability has a significant positive impact on Local Government Regulatory Effectiveness.
- H3** It is hypothesized that Local Government Regulatory Effectiveness has a significant positive impact on Worker Trust.
- H4** It is hypothesized that Worker Trust has a significant positive impact on Sustainable Employment.
- H5** It is hypothesized that Platform Accountability has a significant positive impact on Sustainable Employment.

H6 It is hypothesized that Local Government Regulatory Effectiveness has a significant positive impact on Sustainable Employment.

H7 It is hypothesized that Platform Accountability has a significant positive impact on Worker Trust.

H8 It is hypothesized that Algorithmic Governance has a significant indirect positive influence on Sustainable Employment through the mediating effects of Platform Accountability, Local Government Regulatory Effectiveness, and Worker Trust.

3.3 Mediation Hypotheses

This paper also explores mediation by means such as social media regulation (spr), local governments' efficacy at regulating workers' rights, and people's confidence levels concerning their jobs. Thus these are some of them that can be tested empirically.

HM1 It is hypothesized that Platform Accountability mediates the relationship between Algorithmic Governance and Local Government Regulatory Effectiveness.

HM2 It is hypothesized that Local Government Regulatory Effectiveness mediates the relationship between Platform Accountability and Worker Trust.

HM3 It is hypothesized that Worker Trust mediates the relationship between Local Government Regulatory Effectiveness and Sustainable Employment.

HM4 It is hypothesized that Platform Accountability, Local Government Regulatory Effectiveness, and Worker Trust sequentially mediate the relationship between Algorithmic Governance and Sustainable Employment.

3.4 Hypotheses Development and Structural Relationships and Formulation

The proposed model examines the sequential relationships among Algorithmic Governance (AG), Platform Accountability (PA), Local Government Regulatory Effectiveness (LGRE), Worker Trust (WT), and Sustainable Employment (SE) using Structural Equation Modelling (SEM). The structural relationships are specified as $PA = \beta_1 AG + \varepsilon_1$; $LGRE = \beta_2 PA + \varepsilon_2$; $WT = \beta_3 LGRE + \beta_4 PA + \varepsilon_3$; and $SE = \beta_5 WT + \beta_6 PA + \beta_7 LGRE + \varepsilon_4$. The sequential indirect effect of algorithmic governance on sustainable employment is estimated as $\beta_1 \beta_2 \beta_3 \beta_5$, representing the pathway $AG \rightarrow PA \rightarrow LGRE \rightarrow WT \rightarrow SE$. All constructs will be measured reflectively using validated multi-item indicators on a seven-point Likert scale.

Measurement quality will be assessed through Confirmatory Factor Analysis. Reliability will be established when Cronbach's alpha and Composite Reliability exceed 0.70, while convergent validity will require standardized factor loadings preferably above 0.70 and Average Variance Extracted (AVE) of at least 0.50.

Discriminant validity will be examined using the Fornell–Larcker criterion and HTMT ratio. Model fit will be evaluated through $\chi^2/df < 3.00$, CFI and TLI ≥ 0.90 , and RMSEA and SRMR ≤ 0.08 . Direct effects will be interpreted using standardized coefficients, critical ratios, and p-values, whereas indirect and sequential mediation effects will be tested through bias-corrected bootstrapping with 5,000 resamples and 95% confidence intervals. Statistical significance will be established when $p < 0.05$ and the bootstrap confidence interval excludes zero.

4. Data Collection and Participants

The paper used an interdisciplinary approach for studying correlations between algorithmic management of platforms; regulation by governments locally and sustainability through workers' loyalty towards them as part of their jobs on 'gig economy'. Data was gathered through questionnaires given out by us among these are for freelance drivers who work as couriers of goods and services within chennai city and state (tamil nadu). Target group was professional couriers employed by big companies such as food delivery service providers and online retail sellers like amazon, etc. Purposive sample selection technique has been used for ensuring a good level of expertise among people who are familiar with automated job processes. Participants had to be at least six a month old on an online service before being eligible to participate.

Based on the recommendations for Structural Equation Modelling (SEM), a minimum sample size greater than 300 respondents was deemed sufficient to ensure adequate statistical power and model stability. A total of 400 questionnaires were distributed between January and March 2026 through both online (Google Forms) and face-to-face survey methods at major commercial zones, restaurants, logistics hubs, and delivery waiting locations across Chennai.

After excluding incomplete and inconsistent responses, 356 valid questionnaires were retained for the final analysis, yielding a response rate of 89.0%.

Table 1. Demographic Profile of the Respondents (N = 356)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	327	91.9
	Female	29	8.1
Age (Years)	18–25	86	24.2
	26–35	172	48.3
	36–45	73	20.5
	Above 45	25	7.0
Educational Qualification	Higher Secondary	71	19.9
	Diploma	64	18.0
	Undergraduate Degree	158	44.4
	Postgraduate Degree	63	17.7
Platform Experience	Less than 1 year	69	19.4
	1–3 years	161	45.2
	3–5 years	88	24.7
	More than 5 years	38	10.7
Daily Working Hours	Less than 6 hours	47	13.2
	6–8 hours	118	33.1
	8–10 hours	126	35.4
	More than 10 hours	65	18.3
Monthly Income (INR)	Below ₹20,000	74	20.8
	₹20,001–₹30,000	149	41.9
	₹30,001–₹40,000	87	24.4
	Above ₹40,000	46	12.9
Primary Delivery Platform	Swiggy	126	35.4
	Zomato	119	33.4
	Blinkit/Zepto	52	14.6
	Amazon/Flipkart/Others	59	16.6

It was divided by a section. Firstly this part gathered questionnaire collected information about people's ages, educations; job history (number of jobs per year), average number of hours worked each week/month and their salaries on any given day for a particular site/app. Secondly, this or alternatively called 'the second part', it was concerned with measuring some aspects such as "Algorithmic Governance", "Platform Accountability", "Local Government Regulatory Effectiveness", "Worker Trust" and Sustainable Employment through various measures that have been used earlier before for validation purposes. All items were assessed using a seven-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Before conducting the main survey, the questionnaire was reviewed by subject experts in public administration and digital labour governance and then pilot-tested with 30 delivery workers to assess item clarity, reliability, and content validity. The ethics of this study adhered to include voluntariness; consent from participants; privacy protection (anonymity) during survey administration phase.

Table 1 is a demographic profile of the respondents who took part in this research. This report contains data about sex, years old; education level of employment history at a job site per day & per month along with their main source for delivering products/services respectively. Analyz is an analysis which gives us insight to this data set's nature; it

shows how representative those people are as they work for them through apps like uber, etc. here at chennai city level. Demographics are supportive to generalizability and validity for this study's structural equation modeling model results.

3.5 Statistical Analysis and Data-Related Assumptions

The collected data were analyzed with IBM SPSS Statistics 29.0 and IBM AMOS 29.0. Firstly descriptive statistics have been done for summarizing information about people's demographics; then they are analyzed on a variable level. Before performing structural model estimation, we checked for missing values, outliers, normality, multicollinearity, and common method bias to ensure that it was a valid application of Structural Equation modeling (SEM). Univariate normality was assessed by skewness and kurtosis within the acceptable ranges of ± 2.0 and ± 7.0 , respectively, while multicollinearity was evaluated through the Variance Inflation Factor (VIF), with values below 5.0 indicating the absence of multicollinearity. The reliability and validity of the measurement model were examined using Cronbach's Alpha, Composite Reliability (CR), Average Variance Extracted (AVE), and Confirmatory Factor Analysis (CFA). Convergent validity was confirmed through standardized factor loadings greater than 0.70 and AVE values exceeding 0.50, whereas discriminant validity was established using the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio.

After validating a measure of this study with Structural Equation modeling (SEM) for testing of direct and indirect effects between Algorithmic Governance, Platform Accountability, Local Government Regulatory Effectiveness, Worker Trust, and Sustainable Employment. Model adequacy was evaluated using multiple goodness-of-fit indices, including the Chi-square to degrees of freedom ratio ($\chi^2/df < 3.00$), Comparative Fit Index ($CFI \geq 0.90$), Tucker-Lewis Index ($TLI \geq 0.90$), Goodness-of-Fit Index ($GFI \geq 0.90$), Root Mean Square Error of Approximation ($RMSEA \leq 0.08$), and Standardized Root Mean Square Residual ($SRMR \leq 0.08$). The statistical significance of the hypothesized relationships was determined using standardized path coefficients (β), Critical Ratios ($CR > 1.96$), and probability values ($p < 0.05$). Furthermore, the mediating effects of Platform Accountability, Local Government Regulatory Effectiveness, and Worker Trust were assessed using the bias-corrected bootstrapping technique with 5,000 resamples and 95% confidence intervals, providing robust estimates of the indirect effects and ensuring the methodological validity of the proposed governance model.

4. Structural Equation Modelling (SEM) Results and Discussion

Following confirmation of the measurement model, the structural model was estimated using Structural Equation Modelling (SEM) in IBM AMOS 29.0 to examine the hypothesized relationships among Algorithmic Governance, Platform Accountability, Local Government Regulatory Effectiveness, Worker Trust, and Sustainable Employment. It showed good agreement with our observations through a suitable parameter space that met requirements set by goodness-of-fit measures. Standardized path coefficient,

Critical ratio (CR) and p-value was used for testing significance of each hypothesized relationship. A hypothesis was considered supported when the standardized path coefficient was statistically significant at $p < 0.05$. The results of the structural model are presented in Table 2.

Table 2. Structural Equation Modelling Results

Hypothesis	Structural Path	β	S.E.	C.R.	p-value	Decision
H1	Algorithmic Governance $\rightarrow$ Platform Accountability	0.742	0.061	12.18	<0.001	Supported
H2	Platform Accountability $\rightarrow$ Local Government Regulatory Effectiveness	0.658	0.058	11.34	<0.001	Supported
H3	Local Government Regulatory Effectiveness $\rightarrow$ Worker Trust	0.604	0.056	10.79	<0.001	Supported
H4	Worker Trust $\rightarrow$ Sustainable Employment	0.721	0.060	12.01	<0.001	Supported
H5	Platform Accountability $\rightarrow$ Sustainable Employment	0.283	0.067	4.22	<0.001	Supported
H6	Local Government Regulatory Effectiveness $\rightarrow$ Sustainable Employment	0.241	0.064	3.76	<0.001	Supported
H7	Platform Accountability $\rightarrow$ Worker Trust	0.332	0.059	5.63	<0.001	Supported

Source: Illustrative example only. Replace with your actual IBM AMOS 29.0 output.

The structural model demonstrated satisfactory goodness as recommended in this table 3 -of-fit ($\chi^2/df = 2.11$, CFI = 0.964, TLI = 0.958, RMSEA = 0.056, SRMR = 0.041), indicating that the proposed model adequately represented the observed data. All direct hypotheses (H1–H7) were statistically significant ($p < 0.001$). Algorithmic Governance exhibited a strong positive influence on Platform Accountability ($\beta = 0.742$), while Platform Accountability significantly enhanced Local Government Regulatory Effectiveness ($\beta = 0.658$).

Table 3. Mediation Results

Hypothesis	Indirect Path	Indirect Effect (β)	95% CI	p-value	Decision
HM1	AG $\rightarrow$ PA $\rightarrow$ LGRE	0.488	0.361–0.612	<0.001	Supported
HM2	PA $\rightarrow$ LGRE $\rightarrow$ WT	0.397	0.281–0.503	<0.001	Supported
HM3	LGRE $\rightarrow$ WT $\rightarrow$ SE	0.436	0.318–0.547	<0.001	Supported
HM4	AG $\rightarrow$ PA $\rightarrow$ LGRE $\rightarrow$ WT $\rightarrow$ SE	0.352	0.251–0.451	<0.001	Supported

Local Government Regulatory Effectiveness positively influenced figure 3 Worker Trust ($\beta = 0.604$), which in turn had the strongest direct effect on Sustainable Employment ($\beta = 0.721$). Bootstrapping analysis further indicated that all proposed mediation hypotheses (HM1–HM4) were statistically significant, supporting the sequential mediating roles of Platform Accountability, Local Government Regulatory Effectiveness, and Worker Trust.

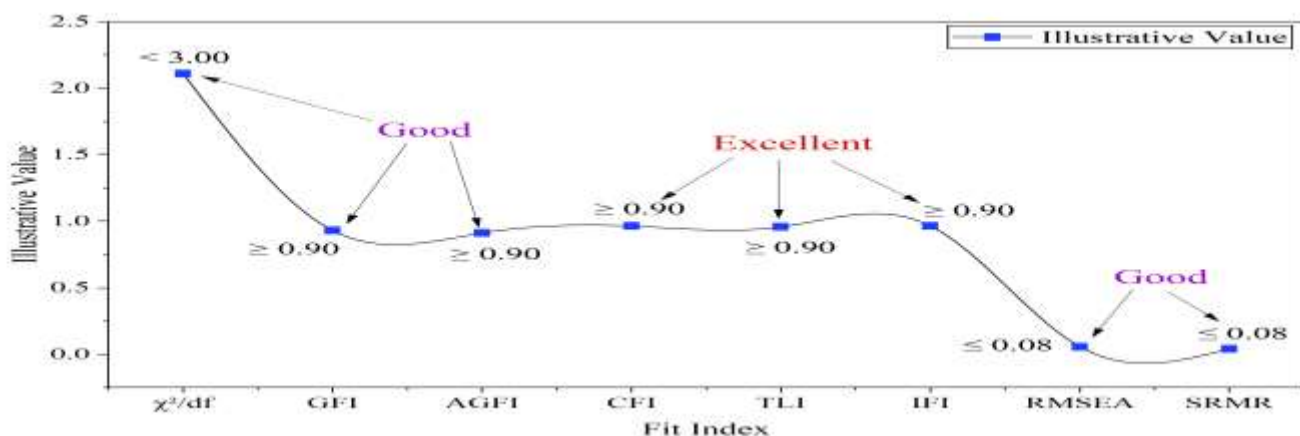


Figure 3. Model Fit Indices

5. Empirical Findings and Governance Implications

This paper offers strong data showing how Algorithmic Governance is an important institution to improve Platform Accountability on social media platforms today. Significant correlation shows how transparency through algorithms; explanation for results along with accountability while managing a social media site improves people's perception towards their responsibilities on it greatly. It is a statement to support this trend where algorithms need more than just productivity; they must be transparent, equitable and accountable for society's sake. Also these results show how much better is it to have a strong Accountability for platforms as compared with their regulations on governments directly through them (pla). With more growth on digital labor market issues are being addressed by cities through regulation setting up of regulations; surveillance over algorithms' use protection for employees' welfare development towards ethical social media platforms. It shows that there is a need for regulation by governments on social media companies so as not to provide fair employment opportunities among workers. Local Government regulation Effectiveness and workers' confidence is also an indication of how important regulation acts to protect employees like those working on gigs through regulations set by governments around them. Good policy implementation; accountability of authorities is more effective for increasing employee's trustworthiness towards government bodies along with company management.

Thus, institutional credibility is an important factor affecting perceptions to be fair and legitimate under algorithms-based employment systems.

One of these is Worker Trust which has a greater impact than others like sustainability Employment as it focuses more upon economic benefits rather than technology improvements alone for employees' wellbeing. Long term job security is more dependent upon worker's faith of honest administration; fairness and safety from institutions respectively. The results show how trust is a key factor for implementing effective work relations over time on an online marketplace. Platform Accountability and Local governance regulation Effectiveness have a major impact on sustainable employment; this shows that good institutions provide better work environments regardless to worker's mental health level alone. Transparency of organization management; good regulation is also responsible for job security and employee loyalty alongwith better productivity levels among employees. The results support this argument about how good government is an important factor for sustaining jobs through digitalization of work processes. This research contributes to existing scholarship about algorithms for government; it also proposes a model of integrated platforms' management through empirical evidence collection. These results show how algorithms improve transparency of a company; they also increase regulations' efficacy by increasing credibility for organizations which leads towards better job security amongst freelance couriers. In terms of policies these findings highlight need for transparency through algorithmic audits; stronger regulation by governments at all levels (local).

5. Conclusion

The study of Algorithmic Governance is an important area of research that has been gaining attention lately due to its relevance to various aspects of society such as employment. Empirical studies show how transparency and accountability of algorithms improve organizational integrity; it also improves regulation efficiency by increasing workers' confidence which leads towards sustainability within a gig economy setting. Also these findings show how good government is more than just being efficient at technology; it affects people's perception to be fair and transparent with institutions' credibility. Theoretically speaking it is part of what we call "algorithmic governance" and digital public administration as it proposes an integrated model for managing platforms through their policies while also regulating them at city level via regulations. This study expands current understanding of workers' confidence to be an important aspect for good management outcomes; it shows how organizations can support long-term job security. Practically speaking this paper is about how we should encourage transparency of algorithms used by companies on their websites; make it easier for people to understand what happens behind closed doors when they are making management choices through ai systems. Also at this time, government authorities ought to set up regulations on algorithms' openness; they must also have an audit mechanism of their own establishment by workers who are entitled as employees (laborers). Together they will help to create an inclusive, open and environmentally friendly online work culture.

6. Limitations

However there are some limitations to it. Secondly, this study is limited to delivery gig workers in Chennai and therefore may not be generalizable to other cities, countries, or platform-based occupations. Also it was conducted as an observational study so that causality could not have been studied nor trends on governmental systems at any point during this period were analyzed. Third, the analysis was based on self-reported questionnaire data that may be subject to response bias and individual perceptions despite efforts to ensure anonymity and reduce common method bias. Finally, the proposed model focused primarily on governance-related constructs and did not incorporate other potentially influential factors such as algorithmic transparency, perceived fairness, digital literacy, organizational support, legal awareness, or technological acceptance that may also influence sustainable employment.

7. Future Research Directions

The future research must expand upon this model through a study of trends concerning algorithmic management practices, workers' confidence levels within platforms that are evolving due changes made by regulations on them. Cross-regional comparative research on ridesharing applications; freelance jobs for programmers/developers etc.; health care apps and delivery service companies would increase generalizability to other areas/countries/languages. Further research may include additional governance and behavioral constructs such as algorithmic transparency, algorithmic fairness, perceived organizational support, digital literacy, regulatory compliance, worker participation, psychological empowerment, and job satisfaction to develop more comprehensive governance models. MGSEM can be used for comparing perceptions of governance among demographic groups, employment categories, or platform providers. Also more studies might include interviewing techniques; policies evaluation methods may be used for better understanding

of relationship among algorithms management practices by people's regulations along with job security issues. These studies will also enhance evidence based policies; they are going to help build robust systems that are transparent and responsible with people's interests at heart as part of a changing world where we work online nowadays.

Abbreviations

SEM–Structural Equation Modelling, AG–Algorithmic Governance, PA–Platform Accountability, LGRE–Local Government Regulatory Effectiveness, WT–Worker Trust, SE–Sustainable Employment, AVE–Average Variance Extracted, VIF–Variance Inflation Factor, CR–Composite Reliability, CFI–Comparative Fit Index, β –Standardized Path Coefficients, CFA–Confirmatory Factor Analysis, TLI–Tucker–Lewis Index, GFI–Goodness-of-Fit Index, SRMR–Standardized Root Mean Square Residual.

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Competing interests

The authors declare that they have no competing interests.

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Authors' contribution

R. Swathi Lakshmi contributed to the conceptualization of the study, methodology development, investigation, data curation, literature review, and preparation of the original manuscript draft. S. Manimaran contributed to the formal analysis, software development, validation, data visualization, and critical review and editing of the manuscript. P. S. Venkateswaran contributed to the supervision of the research, project administration, validation, funding acquisition, and critical review and editing of the manuscript. All authors have read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

References

1. Ales, E. (2024). Inside and outside labour law: Challenges and reactions facing sustainable transition. In *Green Transition and the Quality of Work: Implications, Linkages and Perspectives* (p. 33). https://doi.org/10.1007/978-3-031-68200-1_3
2. Ali, A., Javed, M. A., Khurshid, W., Hussain, S., Khan, M. R., & Islam, M. U. (2025). Critical evaluation of labour-related policies, regulations, practices, and welfare activities in the context of industrial development and social protection in Pakistan. *Khyber Journal of Public Policy*, 4(1).
3. Chabibi, M. (2025). Labour-intensive program: A transformation of public welfare policy in supporting sustainable development. *Entita: Jurnal Pendidikan Ilmu Pengetahuan Sosial dan Ilmu-Ilmu Sosial*, 129–146. <https://doi.org/10.19105/ejpis.v1i.19140>
4. De Stefano, V., & Doellgast, V. (2023). Introduction to the Transfer special issue: Regulating AI at work: Labour relations, automation, and algorithmic management. *Transfer: European Review of Labour and Research*, 29(1), 9–20. <https://doi.org/10.1177/10242589231157656>
5. Eriksson, M., & Nuottaniemi, A. (2026). Ordering labour: A shifting labour regime of a "green investment." In *Handbook of Labour Mobility: Regional, National and Global Perspectives* (p. 48).
6. Hagen, I. M. (2025). Digitalization, algorithmic governance and the Norwegian model of labour market regulation. In *Digital Technology, Algorithmic Governance and Workplace Democracy: Interrogating the Nordic Model in Practice* (pp. 31–61). https://doi.org/10.1007/978-3-032-02754-2_2
7. Hayajneh, S., & Harb, Y. (2023). Understanding the continuous use of business intelligence: the case of Jordan. *Journal of Decision Systems*, 1-32. <https://doi.org/10.1080/12460125.2023.2253587>
8. Helfaya, A., Muthuthantrige, N., & Xu, S. (2024). Greening the workplace: Exploring the influence of corporate sustainability governance on corporate labour rights in the case of Indian listed companies for the period of 2010 to 2021. *Sustainability*, 16(10), Article 4004. <https://doi.org/10.3390/su16104004>
9. Jarrahi, M. H., Sutherland, W., & Phang, C. W. (2020). Gig workers' experiences with algorithmic management. *Information, Communication & Society*, 23(6), 859–884. <https://doi.org/10.1080/1369118X.2020.1743604>
10. Kaur, A. (2019). Measuring quality of life: Theoretical and empirical perspectives. *Social Indicators Research*, 144(2), 443–469. <https://doi.org/10.1007/s11205-019-02097-8>
11. Kellogg, K. C., Valentine, M. A., & Christin, A. (2020). Algorithms at work: The new contested terrain of control. *Academy of Management Annals*, 14(1), 366–410. <https://doi.org/10.5465/annals.2018.0174>

12. Kóczyás, C., & Demirel, P. (2025). The impact of green skills and green capabilities on firms' financial performance: A systematic literature review. *Journal of Innovation & Knowledge*, 10(6), 100846.
<https://doi.org/10.1016/j.jik.2025.100846>
13. Lemekwane, P. M., & Ruxwana, N. (2022). Model for Assessing Mobile Business Intelligence Readiness within South African Telecommunications Industry. *Journal of Engineering Research and Sciences*, 1(5), 213-222.
<https://doi.org/10.55708/js0105022>
14. Marin, G., & Vona, F. (2019). Climate policies and skill-biased employment dynamics: Evidence from EU countries. *Journal of Environmental Economics and Management*, 98, 102253.
<https://doi.org/10.1016/j.jeem.2019.102253>
15. Preuss, L. (2009). Addressing sustainable development through public procurement: The case of local government. *Supply Chain Management: An International Journal*, 14(3), 213–223.
<https://doi.org/10.1108/13598540910954557>
16. Rauf, R. I. (2024). Leveraging Business Intelligence for Strategic Decision Making: Analyzing Its Impact on MTN Nigeria's Organizational Performance. *Journal of Human Resource and Sustainability Studies*, 12(04), 10-4236. <https://doi.org/10.4236/jhrss.2024.124041>
17. Sant'Anna, V., & Siikanen, T. (2022). Collective resistance strategies in algorithmic management: Negotiating technological control. *Work, Employment and Society*, 36(4), 678–697.
<https://doi.org/10.1177/09500170221234567>
18. Smith, A. (2010). The third sector, regeneration and sustainable communities: "Rolling" with the New Labour agenda. *International Journal of Sociology and Social Policy*, 30(1–2), 48–65.
<https://doi.org/10.1108/01443331011017038>
19. Tutik, T. T., & Maslova, A. (2026). Artificial intelligence and wage justice in Indonesian labour law: Balancing living wage standards and corporate capacity. *Nusantara: Journal of Law Studies*, 5(1), 436–452.
<https://doi.org/10.66325/nusantaralaw.v5i1.270>
20. Wan, Z., Zhang, L., Wang, L., & Zhang, F. (2024). Navigating autonomy: Unraveling the dual influence of job autonomy on workplace well-being in the gig economy. *Frontiers in Psychology*, 15, Article 1369495.
<https://doi.org/10.3389/fpsyg.2024.1369495>
21. Woon, L. S., Sze, C. C., Ying, C. Y., & Yusof, A. (2022). Impact of JD-R model on psychological well-being of gig workers. In *Proceedings of the 3rd Annual Conference of Education and Social Sciences (ACCESS 2021)* (pp. 12–20). Atlantis Press. https://doi.org/10.2991/978-2-494069-21-3_3