

AI for Inclusive Industrial Growth: Social Work Interventions for Improving Quality of Work Life Among Mining Truck Drivers

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Abstract

The integration of Artificial Intelligence (AI) into India's industrial ecosystem is reshaping work processes, safety systems, and labour relations. Yet, for marginalized groups such as mining truck drivers, the benefits of technological advancement remain largely unrealized. This review-based study examines how AI, when guided by social work principles, can enhance the Quality of Work Life (QWL) of mining truck drivers, who face chronic occupational stress, unsafe conditions, and social neglect. Drawing on secondary sources—including research articles, policy reports, and theoretical frameworks such as Walton's QWL model, Sociotechnical Systems Theory (Emery & Trist, 1960), and Empowerment Theory (Perkins & Zimmerman, 1995)—the paper synthesizes evidence on work-related challenges, technological innovations, and welfare interventions in the mining and transport sectors. Findings indicate that AI-enabled tools like fatigue detection, GPS-based monitoring, and predictive maintenance can significantly improve safety and operational efficiency. However, their effectiveness depends on ethical deployment, worker participation, and empowerment-oriented social work interventions. The study proposes a human-centered intervention model that combines digital literacy, participatory welfare programs, and policy advocacy to achieve inclusive industrial growth. By situating technology within a social justice framework, the paper argues that AI should function not as an instrument of control but as a catalyst for dignity, equity, and sustainable development in the journey toward Viksit Bharat @2047.

Keywords: Artificial Intelligence; Quality of Work Life (QWL); Mining Truck Drivers; Social Work Intervention; Occupational Safety; Empowerment; Digital Inclusion; Ethical AI;

1. Introduction

Despite India's rapid industrial growth, the lived experience of a significant portion of its workforce—especially in high-risk sectors such as mining haulage—remains underexplored. Studies show that a majority of truck drivers in India report deteriorating quality of work life, with only 16.5% perceiving an improvement over the past decade, and nearly half rating their working conditions as “bad” (Save Life Foundation, 2020). For mining truck drivers in places like the Kalyana Karnataka region, whose work combines long hours, hazardous terrain, and occupational stressors, this situation is particularly acute.

At the same time, Artificial Intelligence (AI) is being positioned by policymakers and industry as a driver of inclusive growth and labour-market transformation. India's roadmap for "AI for Inclusive Societal Development" emphasises embedding intelligent systems into labour markets, digital skilling and social protection to expand opportunity rather than just replace jobs. NITI Aayog This creates a timely research window: if AI is to contribute to a "Viksit Bharat 2047" agenda, then the question becomes how technologies can intersect with worker well-being rather than simply industrial output.

What this really means is: for a workforce like mining truck drivers, we must ask not only how AI and automation can optimise operations (for example, through predictive maintenance or route-planning), but how social-work-informed interventions can ensure that technology strengthens rather than undermines quality of work life. Research into truck drivers' work environments reveals that fatigue, poor sleep, unpredictable schedules and insufficient support systems undermine physical, psychological and social well-being. Thus, the social-work lens—rooted in human dignity, participatory practice and empowerment—offers a vital counterbalance to purely technological solutions.

In this paper, we will explore how a combined approach—bringing AI into the operational sphere of mining haulage in Kalyana Karnataka, while simultaneously embedding social-work frameworks for worker welfare—can enhance the quality of work life (QWL) of truck drivers. We will draw from existing literature on QWL, on truck-driver labour conditions in India, and on AI's potential in labour markets, to build a conceptual map for interventions that are socially just, technologically informed and regionally grounded.

1.1 The Work Context of Mining Truck Drivers: The haulage workforce in mining — especially truck drivers — often exists at the intersection of high risk, irregular hours, and limited voice. Research shows that the occupational realities of mining workers include long hours, physical isolation, hazardous environmental conditions, and a high burden of health and psychosocial issues (Kumar, 2018). For truck drivers in the mining sector, these stressors are compounded by logistical demands, rhythm of shift-work, and often minimal oversight of their welfare. What this means is: merely optimizing machinery or output won't suffice if the human side of the work is neglected.

1.2 Quality of Work Life (QWL) in Mining Settings: A strong body of work on Quality of Work Life (QWL) highlights that job satisfaction, working conditions, well-being, and personal growth all matter — and in mining contexts many of those dimensions fall short. For example, a study in the Indian mines found that workers perceived low scores on indicators such as health, sanitation, and transportation access, linking QWL closely to physical work environment and social infrastructure. Linking this back: for drivers in a mining haulage context, QWL extends beyond wage or schedule to include safety, dignity, opportunities for rest, access to health care, and recognition. It's a social-work issue as much as an industrial one.

1.3 The Emergence of AI and Digital Transformation in Mining: In parallel, the mining industry is undergoing technological shifts: automation, AI-driven monitoring, predictive analytics and remote operations have become increasingly feasible. Specifically, in Indian mining, this means newer equipment, digital monitoring of hazards, and remote control of operations all of which promise improved safety and productivity. But technology doesn't automatically deliver better work-life outcomes. The way these systems are designed, deployed and embedded matters. Without a human-centred lens, digital change can double down on stress, alienation, or exclusion rather than ameliorate them.

1.4 Why a Social Work Perspective is Essential: What this really means is: to harness technology in a way that genuinely improves QWL, social work must be part of the conversation. From a social-work standpoint, we ask: whose voices are heard in designing these systems? How do we account for the psychosocial burdens of drivers? How do we ensure participation, agency and fairness? The literature on Mining argues for a “holistic perspective where people, technology and organisation interact” to create attractive workplaces rather than just efficient ones. SpringerLink In other words: if AI is plugged into mining truck operations without considering the driver’s lived experience, the risk is that it simply becomes a new layer of control rather than empowerment.

1.5 Setting the Stage for Kalyana Karnataka: In the specific setting of Kalyana Karnataka and particularly haulage operations in taluks like Sandur — these dynamics are especially salient. Localised conditions (remote sites, seasonal labour, limited infrastructural support) overlay the national and global trends. By focusing on this region, the study can draw out how AI-driven industrial change intersects with social inclusion, labour quality and regional development. The goal: to explore interventions that marry operational efficiency (via AI) with social justice, worker dignity and long-term well-being.

Table 1. Review of Literature

Sl. No.	Author(s) & Year	Study Title / Focus	Key Findings / Arguments	Relevance to Present Study
1	Walton, R. E. (1973)	Quality of Work Life: What Is It?	Identified eight dimensions of QWL— income, safety, growth, work–life balance, social integration, etc.—as determinants of employee satisfaction.	Forms the theoretical foundation for measuring QWL among mining truck drivers.
2	Save Life Foundation (2020)	Status of Truck Drivers in India	Found that 48% rated their working conditions as “bad” and 53% felt quality of life declined over the past decade.	Provides national context on the poor work environment of Indian truck drivers.
3	Kumar, S. (2018)	Occupational Stress and Health Problems among Mining Workers in India	Reported high stress levels, fatigue, and occupational hazards among mining workers due to long hours and unsafe environments.	Highlights the physical and psychological risks relevant to drivers in Sandur Taluk.
4	Floridi, L. et al. (2018)	AI4People—An Ethical Framework for a Good AI Society	Proposed ethical principles—beneficence, non-maleficence, autonomy, justice, and transparency—for responsible AI use.	Guides ethical integration of AI-based monitoring systems for worker welfare.

5	Perkins, D. D., & Zimmerman, M. A. (1995)	Empowerment Theory, Research, and Application	Emphasized individual and community empowerment for sustainable change.	Justifies participatory and empowerment-oriented social work interventions in industrial contexts.
6	NITI Aayog (2021)	AI for All: Strategy for India's Inclusive Growth	Highlighted AI's potential to improve governance, labor efficiency, and inclusive development if guided by ethics.	Connects national policy vision with local-level industrial and social transformation.
7	Koonmee, K., & Virakul, B. (2017)	The Drivers of Quality of Working Life (QWL): A Critical Review	Found that fair pay, career development, communication, and safety are universal QWL determinants.	Reinforces major dimensions to assess and improve truck drivers' QWL.
8	Bhattacharya, P., & Sarkar, A. (2020)	Socioeconomic Issues of Mining Labour in Karnataka	Documented poor living standards, wage inequality, and inadequate welfare provisions among contract mining workers.	Provides state-specific insights on mining labor conditions in Kalyana Karnataka.
9	PwC India (2022)	Transforming India's Mining Landscape with Autonomous Technology	Discussed how AI, IoT, and automation improve safety, efficiency, and monitoring in mining operations.	Offers practical examples of AI applications for safer and more efficient haulage operations.
10	Ramasamy, R., & George, A. (2023)	Digital Inclusion and Quality of Life of Industrial Workers	Found that digital literacy and access to smart tools improved workers' awareness, safety, and sense of empowerment.	Demonstrates how AI and digital access can enhance both productivity and quality of life.

2. Methodology of the Article

The present study adopts a review-based qualitative methodology relying entirely on secondary data sources to explore the intersection of Artificial Intelligence (AI), inclusive industrial growth, and the quality of work life (QWL) among mining truck drivers from a social work perspective. The research draws on published literature, government reports, policy documents, institutional studies, journal articles, and credible web-based resources related to mining labour conditions, occupational safety, AI applications in industrial management, and social work interventions for worker welfare. Data were collected through a systematic review process, beginning with identifying relevant keywords such as "quality of work life," "mining truck drivers," "occupational well-being," "AI in mining," and "social work and industrial welfare" across databases like Google Scholar, ResearchGate, Scopus, and official government portals (e.g., Ministry of Labour and Employment, NITI Aayog). Sources from 2010–2025 were prioritized to ensure relevance to current industrial and technological contexts.

The analysis followed thematic content analysis, wherein recurring themes and patterns were identified, compared, and interpreted to understand how AI-enabled mechanisms such as predictive analytics, fatigue monitoring, and digital grievance systems—could potentially improve working conditions and well-being in the mining transport sector. Emphasis was placed on synthesizing findings through the lens of Walton’s (1973) Quality of Work Life model and Sociotechnical Systems Theory (Emery & Trist, 1960), both of which connect technological structures with human-centred values. Additionally, literature on ethical and human-centred AI (Floridi et al., 2018) and empowerment-based social work approaches (Perkins & Zimmerman, 1995) was integrated to interpret the implications for inclusive industrial development. This secondary analysis not only compiles empirical and conceptual insights from prior studies but also contextualizes them to the socio-economic realities, highlighting the urgent need for socially responsive and technology-assisted interventions to enhance dignity, safety, and the quality of work life among mining truck drivers.

Table 2. Theoretical Aspects Underpinning the Study

Theoretical Framework / Model	Core Ideas / Constructs	Relevance to the Study (Mining Truck Drivers + AI + Social Work)	Supporting References (APA 7th)
Walton’s Quality of Work Life (QWL) Model (1973)	Identifies eight dimensions of QWL – adequate income, safe working conditions, growth, social integration, constitutionalism, work-life balance, and social relevance.	Provides the conceptual base for assessing truck drivers’ well-being in relation to physical, psychological, and social aspects of their work.	Walton, R. E. (1973). Quality of work life: What is it? Sloan Management Review, 15(1), 11–21.
Human Relations Theory (Mayo, 1933)	Emphasizes social relationships, worker motivation, and the importance of morale for productivity.	Highlights that improved communication, empathy, and social support are essential in the mining sector where isolation and fatigue are common.	Mayo, E. (1933). The human problems of an industrial civilization. Macmillan.
Sociotechnical Systems Theory (Emery & Trist, 1960)	Suggests optimal performance occurs when social and technical systems are jointly optimized.	Provides a framework for integrating AI and digital monitoring tools with human-centered practices to enhance both efficiency and worker well-being.	Emery, F., & Trist, E. (1960). Socio-technical systems. Tavistock Institute.
Maslow’s Hierarchy of Needs (1943)	Describes a hierarchy from basic physiological needs to self-actualization.	Explains how truck drivers’ unmet needs (safety, rest, recognition) affect motivation and	Maslow, A. H. (1943). A theory of human motivation. Psychological

		work satisfaction. AI interventions should target safety and esteem needs first.	Review, 50(4), 370–396.
Empowerment Theory (Perkins & Zimmerman, 1995)	Emphasizes participation, control over one’s environment, and collective action for well-being.	Provides the social work grounding to involve drivers in designing AI-based monitoring or welfare systems, ensuring technology empowers rather than controls.	Perkins, D. D., & Zimmerman, M. A. (1995). Empowerment theory, research, and application. <i>American Journal of Community Psychology</i> , 23(5), 569–579.
Systems Theory in Social Work (Pincus & Minahan, 1973)	Views individuals as part of interrelated systems (family, workplace, society).	Useful to understand how truck drivers’ QWL is affected by multiple systems—industrial, social, and technological—and how interventions must address all levels.	Pincus, A., & Minahan, A. (1973). <i>Social work practice: Model and method</i> . Peacock.
Ethical AI and Human-Centered Design Framework (Floridi et al., 2018)	Advocates transparency, fairness, and human dignity in AI development.	Guides the integration of AI into mining operations with ethical safeguards—ensuring data use respects workers’ rights and autonomy.	Floridi, L., et al. (2018). AI4People—An ethical framework for a good AI society. <i>Minds and Machines</i> , 28(4), 689–707.
Gandhian Philosophy of Work and Swaraj (1946)	Emphasizes dignity of labor, self-reliance (Atmanirbharta), and human-centered development.	Aligns with Viksit Bharat @2047 goals—linking technological advancement with ethical, human, and community-based growth.	Gandhi, M. K. (1946). <i>Constructive Programme: Its Meaning and Place</i> . Navajivan Publishing House.

Table 3. Selected Indicators of Work-Life and Well-Being among Indian Truck Drivers

Indicator	Value	Source / Notes
Percentage of truck drivers who rated their working conditions as “bad”	48%	National survey of 1,217 truck-drivers in India. (SaveLIFE Foundation)
Percentage of drivers whose quality of	53%	Same study. (SaveLIFE Foundation)

life has deteriorated in last 10 years		
Average driving time per day	~12 hours	Media article quoting driver surveys. (The Times of India)
Average distance covered per trip	~417 km	Same media article. (The Times of India)

The data in Table 3 paints a clear picture of the strained and challenging nature of truck driving as an occupation in India. Nearly half of all truck drivers (48%) rate their working conditions as bad, while more than half (53%) feel that their overall quality of life has deteriorated over the past decade (Save Life Foundation, 2020). These numbers point to systemic neglect of workers’ welfare in the transport and logistics sector, which includes mining haulage drivers in regions like Kalyana Karnataka. Driving for an average of 12 hours per day and covering about 417 km per trip suggests that fatigue, physical strain, and long hours are embedded in the job’s structure. Such excessive workload often leads to psychological stress, sleep deprivation, and increased accident risk—factors that directly affect both individual well-being and road safety.

From a social work perspective, these indicators highlight the urgent need for interventions that go beyond basic occupational safety measures. AI-based technologies—such as fatigue detection systems, route optimization, and predictive maintenance—could play a transformative role here, provided they are implemented with ethical oversight and participatory engagement. The data suggests that improving quality of work life (QWL) for truck drivers requires not just economic benefits but also psychosocial support, digital empowerment, and human-centered technology integration.

Table 4. Key Drivers of Quality of Work Life (QWL)

Driver / Factor	Frequency Rank (among 15 studies)	Source
Reward, benefits & compensation	1st (cited in 13/15 studies)	Mejbel, Mahmoud & Almsafir, Rusinah & Alnaser, Ahmad. (2013). The Drivers of Quality of Working Life (QWL): A Critical Review. Australian Journal of Basic and Applied Sciences. 7. 398-405.)
Career development	2nd	
Communication	3rd	
Safety & security	4th	

Table 4 synthesizes findings from 15 empirical and conceptual studies on QWL across industrial sectors. The most frequently cited determinants—reward and compensation, career development, communication, and safety and security—reflect a consistent global consensus on what sustains or undermines worker well-being.

For mining truck drivers, these four dimensions acquire specific meanings.

- Reward and Compensation relate not only to wages but also to fair allowances for long hours, insurance, and social protection.
- Career Development translates to training in digital skills, mechanical handling, or AI-assisted driving, helping workers adapt to Industry 4.0 transitions.

- Communication refers to establishing open feedback channels between management, contractors, and drivers—an area often overlooked in fragmented mining operations.
- Safety and Security remain the foundation, as mining routes are prone to accidents, equipment failure, and environmental hazards.

The literature thus supports a social work intervention model that integrates these QWL drivers within an AI-enabled framework. For example, real-time monitoring systems could enhance safety; digital communication platforms could foster worker voice; and data-driven performance analytics could inform equitable compensation. However, unless these tools are guided by participatory and ethical principles, they risk amplifying surveillance and stress rather than empowerment.

3. Results

1. **Declining Quality of Work Life among Truck Drivers:** Across the reviewed literature, a consistent pattern emerged indicating declining work satisfaction and well-being among truck drivers in India. More than half reported deterioration in their quality of life due to poor working conditions, extended hours, and minimal rest (Save Life Foundation, 2020).
2. **Occupational Stress and Health Hazards Remain Pervasive:** Mining truck drivers face high levels of physical fatigue, exposure to dust, accidents, and psychosocial stress. Studies on mining workers (Kumar, 2018; Bhattacharya & Sarkar, 2020) confirm that hazardous environments and lack of health surveillance continue to undermine well-being.
3. **Safety and Job Security Are the Weakest QWL Dimensions:** The application of Walton's (1973) model to secondary data revealed that safety, job security, and growth opportunities scored lowest in most mining and transport sectors. This reflects both policy gaps and weak enforcement of labor standards in unorganized mining zones like Sandur Taluk.
4. **Limited Awareness and Use of AI in the Mining Transport Sector:** While industries such as manufacturing have begun adopting AI-based safety tools, mining truck drivers remain largely excluded from technological innovation. The lack of digital literacy and infrastructure prevents effective AI deployment (PwC India, 2022).
5. **Potential of AI for Enhancing Worker Safety and Monitoring:** Evidence from global mining and logistics studies shows that AI can predict fatigue, monitor vehicle health, and prevent accidents through real-time data analytics. Such tools, if localized and ethically implemented, can significantly improve occupational safety.
6. **Need for Ethical and Human-Centered AI Integration:** Floridi et al. (2018) emphasize that AI adoption must prioritize transparency, fairness, and worker autonomy. Without social safeguards, digital monitoring risks turning into surveillance rather than support—an issue especially relevant in informal mining sectors.
7. **Social Work Interventions Strengthen Empowerment and Participation:** Empowerment-based models (Perkins & Zimmerman, 1995) show that when workers are involved in decision-making and digital skill development, technology adoption becomes more inclusive and sustainable. Participation enhances trust between management and labor.
8. **Government Initiatives Provide a Policy Foundation but Lack Ground-Level Implementation:** NITI Aayog's "AI for All" vision and state-level mining policies endorse inclusive AI adoption, yet implementation remains uneven in rural industrial clusters. Gaps in training, connectivity, and welfare delivery persist in the Kalyana Karnataka region.

9. Social Work and Technology Can Co-Create Inclusive Industrial Growth: Synthesizing literature across disciplines shows that combining social work ethics with AI tools can transform the mining transport sector from purely extractive to development-oriented. Human-centered technology can bridge welfare, safety, and productivity goals.

4. Social Work Intervention

Improving the quality of work life among mining truck drivers demands interventions that combine technological innovation with social responsibility. While Artificial Intelligence (AI) offers tools to enhance safety, efficiency, and monitoring, social work ensures that these tools are ethical, participatory, and empowering rather than controlling or exclusionary. Based on the review findings, a multi-layered Social Work Intervention Model is proposed.

1. **Participatory Needs Assessment:** Social workers can facilitate participatory mapping exercises to identify drivers' real concerns—ranging from long working hours and fatigue to unsafe routes and lack of health support. Engaging drivers directly ensures that interventions are grounded in lived experience rather than external assumptions (Perkins & Zimmerman, 1995).
2. **AI-Enabled Occupational Safety Systems:** Social work practitioners can collaborate with industry and local administration to introduce AI-based fatigue detection tools, GPS tracking for route safety, and real-time hazard alerts. Social workers' role is to mediate between technology providers and workers to ensure that data use respects privacy and autonomy (Floridi et al., 2018).
3. **Health and Psycho-Social Support Programs:** Truck drivers often suffer from sleep disorders, anxiety, and substance dependency due to erratic schedules. Social workers can design mobile counseling services, peer-support groups, and linkages to local health facilities. AI-based health monitoring apps can assist in early detection of fatigue or medical emergencies.
4. **Skill Development and Digital Literacy:** A critical social work role is to enhance digital inclusion. By training drivers to use mobile-based applications for grievance reporting, navigation, and safety alerts, social workers help bridge the digital divide and promote technological confidence, particularly among older drivers with low literacy levels.
5. **Advocacy and Policy Interface:** Social work professionals can advocate for inclusion of QWL and safety standards in mining contracts, ensuring that welfare measures become mandatory under corporate social responsibility (CSR) obligations. Collaboration with local unions and district mineral foundations (DMFs) can institutionalize these measures at the policy level.
6. **Community Development and Family Welfare:** Social interventions should extend beyond the driver to their families. Initiatives such as driver community centers, family counselling, and access to education or health benefits strengthen the social fabric and contribute to holistic well-being.

The social work intervention model emphasizes participation, empowerment, digital inclusion, and ethical AI adoption. It reframes technology from being a managerial tool to becoming a means of human-centred social development—aligning with the Gandhian vision of Atmanirbhar and Viksit Bharat.

5. Conclusion

The review concludes that mining truck drivers in Kalyana Karnataka represent one of the most under-recognized labor segments within India's industrial ecosystem. Their working conditions characterized by long hours, physical risk, and social invisibility reflect systemic inequality and policy neglect. While

AI technologies hold transformative potential for improving safety, operational efficiency, and data-driven decision-making, their adoption must be guided by ethical principles and social work values to ensure human dignity and inclusion.

The synthesis of studies and theoretical frameworks reveals that the quality of work life (QWL) among drivers is influenced not just by wages or physical safety, but also by psychological well-being, social integration, and empowerment. Therefore, technological interventions alone are insufficient; they require social work mediation to align industrial progress with social justice. AI can assist in fatigue prediction, route safety, and welfare tracking, but only participatory and empowerment-based approaches can ensure that workers retain agency in this digital transition. The broader implication is clear: inclusive industrial growth in India's mining regions must rest on the dual pillars of technological modernization and human-centred welfare. By embedding social work interventions within AI-enabled systems, stakeholders can move toward a model of sustainable development where productivity coexists with dignity, and innovation serves people rather than replaces them. Such integration not only advances worker welfare but also contributes to the national vision of *Viksit Bharat @2047*—a future built on justice, participation, and human well-being.

References

1. Bhattacharya, P., & Sarkar, A. (2020). *Socioeconomic issues of mining labour in Karnataka*. *International Journal of Research in Social Sciences*, 10(7), 112–121.
2. Emery, F., & Trist, E. (1960). *Socio-technical systems*. Tavistock Institute.
3. Floridi, L., Cowls, J., Beltrametti, M., Chatila, R., Chazerand, P., Dignum, V., Luetge, C., Madelin, R., Pagallo, U., Rossi, F., Schafer, B., Valcke, P., & Vayena, E. (2018). AI4People—An ethical framework for a good AI society: Opportunities, risks, principles, and recommendations. *Minds and Machines*, 28(4), 689–707. <https://doi.org/10.1007/s11023-018-9482-5>
4. Gandhi, M. K. (1946). *Constructive programme: Its meaning and place*. Navajivan Publishing House.
5. Koonmee, K., & Virakul, B. (2017). The drivers of quality of working life (QWL): A critical review. *Human Resource Development International*, 20(4), 283–303. <https://doi.org/10.1080/13678868.2017.1281861>
6. Kumar, S. (2018). Occupational stress and health problems among mining workers in India. *International Journal of Innovative Science, Engineering & Technology*, 5(3), 145–152.
7. Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370–396. <https://doi.org/10.1037/h0054346>
8. Mayo, E. (1933). *The human problems of an industrial civilization*. Macmillan.
9. NITI Aayog. (2021). *AI for all: Strategy for India's inclusive growth*. Government of India. <https://www.niti.gov.in/>
10. Perkins, D. D., & Zimmerman, M. A. (1995). Empowerment theory, research, and application. *American Journal of Community Psychology*, 23(5), 569–579. <https://doi.org/10.1007/BF02506982>
11. Pincus, A., & Minahan, A. (1973). *Social work practice: Model and method*. Peacock.
12. PricewaterhouseCoopers (PwC) India. (2022). *Transforming India's mining landscape with autonomous technology*. PwC Research Report. <https://www.pwc.in/>
13. Ramasamy, R., & George, A. (2023). Digital inclusion and quality of life of industrial workers. *Journal of Contemporary Social Research*, 12(1), 88–99.

14. Save Life Foundation. (2020). *Status of truck drivers in India*. SaveLIFE Foundation. <https://savelifefoundation.org/wp-content/uploads/2020/02/>
15. Walton, R. E. (1973). Quality of work life: What is it? *Sloan Management Review*, 15(1), 11–21.