

FROM GIG ECONOMY TO DIGITAL INFRASTRUCTURE: FREELANCE PLATFORMS AS DRIVERS AND CHALLENGES OF SUSTAINABLE WORK AND INNOVATION*

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ARTICLE INFO	ABSTRACT
<p>Article History:</p> <p>Received 15.11.2025 Accepted 15.03.2026 Published 25.04.2026</p> <p>Keywords:</p> <p><i>Freelancing Platforms, Gig Economy, Sustainable Development Goals, Digital Infrastructure</i></p>	<p><i>Freelancing platforms are increasingly becoming digital labour infrastructure, encoding how work is found, priced, contracted, and governed across borders. This paper examines how platform mechanisms and institutional contexts jointly shape progress toward the UN Sustainable Development Goals, focusing on SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), SDG 5/10 (Gender Equality and Reduced Inequalities), SDG 16 (Peace, Justice, and Strong Institutions), and the cross-cutting climate dimension of SDG 13 (Climate Action). Using a conceptual-comparative design and desk research (peer-reviewed literature, policy reports, platform documentation, and regulatory texts), Fiverr (USA) and Useme (Poland/EU) are contrasted as illustrative cases representing market-driven and compliance-oriented models. The case evidence shows that platforms can widen market access and enable capability recombination for firms and freelancers, while also reproducing precarity, unequal visibility and pay, limited social protection, and rising environmental burdens via expanding data infrastructures. The comparison indicates that sustainability trajectories depend less on technology than on governance: transparency and due process in algorithmic management; benefits and contributions aligned with multi-client work; data rights and interoperability; and climate accountability for digital operations. The paper concludes with actionable recommendations for regulators, platforms, and buyers to translate platform scale into inclusive, secure, and low-carbon outcomes.</i></p>

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1. Introduction

Over the past decade, the gig/platform economy has moved from the margins to a structural feature of labour markets. Digitisation and pandemic-era reorganisation accelerated this shift. Freelancing platforms now operate as socio-technical infrastructures: they codify participation, curate reputation, and coordinate contracting, invoicing, taxation, payments, and

dispute resolution. In doing so, they govern access and allocate risk. Within the 2030 Agenda frame, platforms can lower entry barriers, widen market access, and diffuse digital capabilities (SDG 8/9). However, algorithmic opacity and information asymmetries can entrench precariousness and gendered disparities in visibility, ratings, and pay (SDG 5/10) while posing governance challenges (SDG 16). Environmental effects are mixed: commuting and office footprints may fall, even as energy- and material-intensive data infrastructures expand and rebound effects accumulate (SDG 13).

Against this backdrop, the paper asks: (1) how freelancing platforms shape decent work - quality, stability, and progression (SDG 8); (2) how they function as innovation infrastructure by lowering coordination costs, redistributing capabilities, and potentially concentrating power (SDG 9); (3) how they affect equality and inclusion, especially gender and intersecting disadvantages (SDG 5/10); and (4) how legal, social-insurance, and data-governance regimes mediate these effects (SDG 16). SDG 13 is treated as cross-cutting to assess whether remote work reduces emissions or shifts burdens to digital infrastructure.

A conceptual-comparative design combining literature synthesis, desk research, and illustrative cases is applied. Fiverr (United States) represents a market-driven, scale-oriented model built on standardised contracts and reputation. Useme (Poland/EU) represents a compliance-oriented, institutionally embedded model emphasising lawful contracting, invoicing, and links to tax and social contributions. Platforms are treated as socio-technical infrastructures that specify mechanisms - matching and access; algorithmic curation and reputation; contractual and dispute templates; payments-tax-compliance interfaces; and data governance - through which SDG effects materialise. Overall, sustainability trajectories appear governance-contingent: outcomes depend less on technology than on calibrated rules that balance innovation with equity, flexibility with security, and efficiency with environmental stewardship.

2. Literature Review

Research on the gig economy often frames labour platforms as platform capitalism: value is generated through intermediation, network effects, and data, while platform rules shape visibility, pricing, and dispute resolution (Srnicsek, 2017; De Stefano, 2015). Treating freelancing platforms as socio-technical infrastructures makes their relevance to the SDGs explicit: they are not only markets but governance systems that allocate opportunities and risks.

SDG 8: Decent Work and Economic Growth

Evidence highlights a duality. Platforms lower entry barriers and can widen access to income opportunities, but they also shift risks onto workers through income volatility, unpaid search time, and limited social protection (Digital labour platforms and the future of work, 2018; Wood et al., 2019). Decent-work outcomes, therefore, hinge on institutional complements such as minimum standards, enforceable due process in ratings and deactivation, and portable benefits suited to multi-client work (European Commission, Directorate General for Employment, Social Affairs and Inclusion, & CEPS, 2021; The role of digital labour platforms in transforming the world of work, 2021).

SDG 9: Industry, Innovation, and Infrastructure

As infrastructure, platforms can reduce coordination costs, enable rapid recombination of skills, and help SMEs access specialised capabilities (World Development Report 2016, 2016). At the same time, data advantages and network effects can produce winner-take-most dynamics and lock-in, motivating policy debates on interoperability, data portability, and fair ranking to keep innovation benefits broadly shared (Competition Policy in Digital Markets, 2024; The Evolving Concept of Market Power in the Digital Economy, 2022).

SDG 5/10: Gender Equality and Reduced Inequalities

Findings are mixed. Participation can widen for women and other groups facing constraints in local labour markets, yet disparities persist in category segregation, visibility, reviews, and pay, sometimes reinforced by feedback loops in reputation systems (Hannák et al., 2017; Foong et al., 2018; Stringhi, 2022). Outcomes depend on platform design (transparent ranking, bias-aware recommendation, safety, and reporting) and on broader supports such as childcare, skills development, and anti-discrimination enforcement.

SDG 16: Peace, Justice, and Strong Institutions

Institutional regimes condition platform governance. In the EU, emerging rules combine working-conditions regulation with algorithmic-management transparency and strong data-rights and intermediary-accountability frameworks (Directive (EU) 2024/2831 of the European Parliament and of the Council of 23 October 2024 on improving working conditions in platform work (Text with EEA relevance), 2024; Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation) (Text with EEA relevance), 2016; Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act) (Text with EEA relevance), 2022). In the United States, regulation remains more classification-centred, leaving many governance questions to private ordering (Employee or Independent Contractor Classification Under the Fair Labor Standards Act, 2024). These differences shape incentives around contracting models, transparency, and access to protections.

SDG 13: Climate Action (cross-cutting)

Environmental impacts are similarly contingent. Remote and hybrid work may reduce commuting and office energy use, but growing data traffic and cloud dependence increase electricity demand in digital infrastructure (Electricity 2024. Analysis and forecast to 2026, 2024; Masanet et al., 2020). Net effects, therefore, depend on power-sector decarbonisation, efficiency in data centres and devices, and credible accounting that extends beyond direct operational emissions.

3. Methodology

The study adopts a conceptual-comparative design with illustrative case studies, treating freelancing platforms as socio-technical infrastructures and analysing effects via matching/ranking, contracting/dispute resolution, payments-tax compliance, and data governance across distinct regulatory contexts. Evidence is drawn from desk research: peer-

reviewed literature; ILO/OECD and related policy reports; public platform documents (terms, fees, category taxonomies, reputation/dispute and transparency policies); and regulatory texts (EU Platform Work Directive, GDPR, DSA; U.S. Department of Labor Independent Contractor Rule).

Two cases anchor the analysis—Fiverr (US, market-driven scale with risk externalisation) and Useme (Poland/EU, compliance-oriented with legal contracting, invoicing, and social-insurance/tax links). Mechanisms (matching/ranking, contracts/disputes, payments–tax compliance, data governance) are assessed against SDGs 8, 9, 5, 10, and 16, with SDG 13 cross-cutting, by coding sources and contrasting mechanism × institution effects. Limits (proprietary opacity, illustrative scope, sparse environmental data) are mitigated via triangulation; the design surfaces actionable levers: transparency, due process, benefits portability, data rights, and interoperability.

As a design illustration (not a third empirical case), Bordo.space is briefly referenced - an experimental, university-led prototype of a sustainable freelance workspace. It later shows how the paper's governance levers can be embedded by design into platform architecture (transparency, protection, inclusion, and capability development).

4. Findings

Fiverr has shifted from early gig brokerage to a socio-technical infrastructure: founded in 2010 (US), it now spans 160+ countries, integrating a data-driven marketplace with productivity tools, learning resources, and AI-enabled matching—assessed here against selected SDGs. The 2024 Impact Report pivots to “equitable, accessible, and sustainable economic opportunity,” with the 2025 Freelancer Equity Program and Fiverr for Nonprofits reframing the platform as a facilitator of sustainable livelihoods. Empowerment remains conditional: freelancers still absorb market volatility, lack collective bargaining, and face limited social protection, so corporate sustainability pledges substitute for enforceable rights and bound the shift to a “sustainable work” ecosystem. Under SDG pressure, Fiverr institutionalises governance (SASB/TCFD) and expands AI infrastructure (Fiverr Go, Dynamic Matching, Managed Services) to democratise innovation for SMEs and creators (SDG 9). Community building—events, mentoring, local hubs—and gender-equity measures (51% women; pay audits, leadership programmes, Yozmot Atid partnership) further lower entry barriers for women, caregivers, and marginalised groups.

Environmentally, Fiverr reports a 58% cut in Scope 1–2 emissions since 2020 via efficient offices, remote-first policies, and data-centre optimisation, alongside a 2030 carbon-neutrality target (SDG 13/SDG 7). However, indirect (Scope 3) impacts from suppliers, data centres, and end-user devices remain under-reported as data storage, cloud computing, and transactions grow. Table 1 summarises key initiatives, their contributions to SDG 13, and associated trade-offs.

Table 1. Fiverr’s Environmental Initiatives and SDG 13 Alignment

Initiative	Description	SDG(s)	Contribution Type	Risks/Trade-offs
Emission Reduction	Reduction of Scope 1 & 2 emissions through renewable energy and remote-first policy.	SDG 13, SDG 7	Operational efficiency, low-carbon digital model.	Limited coverage of Scope 3 emissions; potential rebound effect from increased online activity.
Carbon-Neutral 2030 Target	Goal to achieve carbon neutrality through offsets and clean energy procurement.	SDG 13	Long-term sustainability commitment; ESG signalling.	Reliance on offset markets may delay deeper systemic decarbonization.
Green Office & Remote Work Policy	Energy-efficient infrastructure, flexible work model reducing commuting.	SDG 11, SDG 13	Reduced physical footprint, work-life balance benefits.	Shifts energy burden to home-based workers.
Data-Center Optimization	Collaboration with hosting providers for energy-efficient cloud computing.	SDG 9, SDG 13	Greener digital infrastructure; innovation in efficiency	Opaque reporting of data center energy sources.
Environmental Reporting	Transparency in climate-related disclosures and risk assessments.	SDG 16, SDG 13	Institutional accountability; investor confidence.	Limited verification; lack of third-party auditing.

Source: own elaboration

Table 1 consolidates Fiverr's reported environmental initiatives and associated trade-offs. The broader implications of these initiatives for SDG alignment - including the limits of voluntary ESG signalling without enforceable rights - are assessed comparatively in the Discussion section.

Useme embodies a European, compliance-centred model built on legality and trust rather than market scale or algorithmic novelty. Founded in 2013 (Wrocław), it operates as a regulatory-financial intermediary that automates contracts, invoicing, and tax procedures so freelancers can bill and be paid without forming a business, converting informal gigs into transactions recognised under Polish/EU law, and reframing decent work as a compliant, transparent infrastructure. Its triangular legal model—issuing VAT invoices to clients, acting as contractor of record, and remitting payments net of fees/contributions—verifies contracts, secures payment, and substitutes algorithmic intermediation with institutional governance (“legality as innovation”), advancing Digital Single Market goals via automated invoicing, contract validation, and secure cross-border payments (eIDAS/GDPR compliant). Trade-offs persist strict compliance can curb flexibility and does not deliver complete social protection; yet formalisation anchors flexibility in accountability, supporting decent work and institutional trust.

Useme’s compliance-centred model directly advances SDG 9 by strengthening the reliability and inclusivity of Europe’s digital work infrastructure and serving as a public–private interface that embeds governments, firms, and individuals within a shared legal framework. It indirectly supports SDG 16 through rule compliance and data transparency and SDG 8 by shielding freelancers from risks typical of informal labour markets. Environmentally, paperless contracting, GDPR-compliant digital archiving, and a distributed, remote-first

workforce minimise direct emissions and reduce commuting and office energy use, aiding the decarbonisation of small-business and HR operations.

Useme’s operations align with SDGs 13, 12, and 9, but the platform lacks an explicit environmental strategy or an ESG framework comparable to those of larger players. Its sustainability is thus largely implicit and efficiency-driven—“silent sustainability” born of digital minimalism rather than proactive climate policy, with benefits emerging organically from formalised, paperless processes. The table below summarises key initiatives, their alignment with the SDGs, and trade-offs.

Table 2. Useme’s Environmental Initiatives and SDG Alignment

Initiative	Description	SDG(s)	Contribution Type	Risks/Trade-offs
Paperless Administration	100% digital contracting and invoicing system.	SDG 12, SDG 13	Eliminates paper waste and postal emissions	Relies on server energy use; limited visibility of cloud providers’ energy mix.
Remote-First Operations	Fully digital workforce with no fixed office infrastructure.	SDG 13	Reduces commuting and energy consumption.	Transfers energy costs to home offices; difficult to monitor Scope 3 emissions.
Automated Reporting & Data Storage	Digital archiving under GDPR-compliant infrastructure.	SDG 9, SDG 13	Efficient data management and reduced physical resource use.	Data storage still contributes to digital carbon footprint.
Integration with Cloud Accounting Tools	Minimizes redundant data entry and paper accounting.	SDG 9, SDG 12	Enhances operational efficiency and resource optimization.	Dependent on external cloud ecosystems; indirect environmental impact unmeasured.
Educational Outreach and Awareness	Promotes digital literacy and e-administration efficiency.	SDG 4, SDG 13	Builds a culture of sustainable digitalization among SMEs.	Environmental focus remains secondary to administrative goals.

Source: own elaboration

Useme operates within the EU governance environment and provides contracting, invoicing, and data handling aligned with Polish/EU requirements (e.g., GDPR and eIDAS), supporting formalisation and institutional accountability in platform-mediated work.

5. Discussion

Comparative interpretation: Fiverr and Useme

Building on the case evidence, this section compares how platform mechanisms interact with institutional regimes to generate distinct SDG pathways. Fiverr and Useme perform similar core functions (matching, reputation, contracting, payments, dispute handling), but their governance logics differ market-driven scale versus compliance-oriented intermediation.

Fiverr scales liquidity through standardisation and algorithmic curation. This can accelerate access and innovation (SDG 8/9), yet it can also intensify information asymmetries and externalise risks to freelancers (income volatility, deactivation exposure, weak social

protection). Sustainability reporting and equity programmes may mitigate some harms, but without enforceable due process and benefits integration, they remain partially voluntary.

Useme embeds freelancing into a regulated contracting and invoicing rail. Acting as a compliance intermediary reduces some transaction and payment risks and strengthens institutional trust (SDG 16) while supporting formalisation in decent work (SDG 8). The trade-off is lower market liquidity and reduced flexibility for some clients and workers, illustrating how institutional embedding can both enable and constrain platform-mediated innovation (SDG 9).

Across both cases, platforms function as dual-purpose infrastructures: they expand access and diffuse digital capabilities while introducing risks in labour conditions, inclusion, and market power. Governance fragmentation across jurisdictions enables regulatory arbitrage and uneven algorithmic accountability, which in turn shapes inequality outcomes (SDG 5/10) and competitive dynamics (SDG 9).

Environmental impacts (SDG 13) highlight similar trade-offs. Fiverr reports operational emission reductions and a carbon-neutrality target. However, the system-level footprint depends on underreported Scope 3 emissions and the electricity intensity of expanding cloud and data centre infrastructure. Useme's footprint is primarily through paperless processes and remote-first operations, but it also relies on digital infrastructure whose impacts are rarely measured. Credible climate contribution, therefore, requires transparent energy and carbon accounting, efficiency targets, and alignment with decarbonised power systems.

Freelance platforms exhibit structural ambivalence: algorithmic matching, reputation systems, and modular contracting lower coordination costs and expand markets, yet they redistribute information and enforcement power in ways that heighten income volatility, embed reputational lock-in, and narrow avenues for redress (Kellogg et al., 2020; Rosenblat & Stark, 2016; Silva, 2023), with liquidity-maximising designs compressing voice and producing patterned disparities by gender, geography, and skill (Calo & Rosenblat, 2017; Lloyd, 2017). Steering outcomes toward sustainability depends on institutions and public policy that provide clear contractual defaults, contestable algorithmic management, due-process safeguards, and benefits portability (Adăscăliței, 2022; Edwards & Veale, 2017; Fernández-Macías et al., 2018). Absent such complements, market dynamics favour opacity, price dispersion, and winner-take-most concentration; the practical task is to calibrate governance so that matching, curation, contracting, payments, and data governance deliver results aligned with SDG 8/9/5/10/16/13 (Stigler Committee on Digital Platforms, 2019; *Unlocking Digital Competition*, 2019).

A U.S.–EU contrast clarifies the stakes: the U.S. pursues a liberal, classification-centred model that prizes flexibility and entrepreneurial framing but leaves algorithmic accountability and social protection largely to private ordering, with high-stakes status battles (AB 5; Proposition 22) setting the baseline (Dubal, 2021, 2022; Prassl, 2018). The EU adopts a compliance-oriented stack that couples intermediation with enforceable information rights and auditability, complemented by competition-era tools that target structural power (DMA) and reinforce intermediary accountability (with the DSA) (*Regulation (EU) 2022/1925*, 2022). Rather than dynamism versus bureaucracy, the policy frontier is governance that internalises risks—via transparency, due process, and contributions-at-source—without suppressing innovation (Kenney & Zysman, 2016; Silva, 2023).

Policy implications are clear: treat algorithmic transparency and contestability—explainability, audit trails, and appeal rights—as core infrastructure (Edwards & Veale, 2017; Kellogg et al., 2020). Benefits, portability, and contributions at source should match multi-client, intermittent work patterns (Adăscăliței, 2022; Fernández-Macías et al., 2018). Interoperability and data portability are needed to curb lock-in and enable complementary ecosystems of training, verification, and analytics (*Stigler Committee on Digital Platforms*, 2019). Privacy-preserving measurement architectures must track decent-work outcomes and environmental footprints, acknowledging telework’s context-dependent climate effects and ICT loads (Andrae, 2020; Masanet et al., 2020). Overall, platforms’ long-run contribution hinges on institutional design that balances innovation with equity, flexibility with security, and efficiency with environmental stewardship (Adăscăliței, 2022; Silva, 2023).

6. Conclusion

Freelance platforms have moved to the core of digital labour infrastructure, encoding matching, reputation, contracting, and payments in code across borders. The exact mechanisms that widen access and cut coordination costs can also externalise risk, entrench asymmetries, and diffuse environmental burdens. Fiverr typifies a global, market-driven model that scales via standardisation and algorithmic curation but relies on private ordering, with volatility and distributional risks; Useme exemplifies a regional, compliance-oriented model that couples intermediation with legal contracting, invoicing, and social-contribution rails, strengthening accountability at the expense of scale. Technology alone does not guarantee sustainable or inclusive outcomes: calibrated governance—enforceable information rights, due process, benefits portability, interoperability, and contestable algorithms—determines whether platform affordances advance the SDGs.

Sustainability requires balancing platform flexibility with protections suited to multi-client, intermittent incomes. When frameworks ensure transparent ranking/moderation, contributions-at-source, and data-rights compliance, platforms can advance SDG 8/9 without reproducing SDG 5/10 inequalities and while reinforcing SDG 16; net climate effects (SDG 13) hinge on pairing remote-work gains with decarbonised, efficient digital infrastructure. The bottom line is that freelance platforms are socio-technical infrastructures, and their long-run SDG contribution depends on governance that turns scale and speed into inclusion, security, and accountability.

7. Recommendations

Recommendations are organised around governance levers that directly condition SDG outcomes: transparency and due process in platform governance; benefits and contributions suited to multi-client work; portability and interoperability to reduce lock-in; and climate accountability for digital operations.

Public authorities and regulators (SDG 16/17): Set enforceable baseline rules for algorithmic management (meaningful transparency, auditability, and appeal rights for moderation and deactivation) and clarify worker-status tests to reduce misclassification incentives. Enable benefits portability and contributions-at-source for multi-client work,

improve cross-border dispute-resolution pathways, and use procurement and investment policy to accelerate efficient, low-carbon digital infrastructure so remote-work gains are not offset by ICT energy growth (SDG 13).

Platforms (SDG 8/9/13): Treat fairness and sustainability as product features: publish clear ranking and fee logic, provide explainable recommendations, and implement due-process workflows with timely human review. Support portable portfolios and reputation exports via standard APIs, and integrate compliance-by-design for payments, taxes, and (where applicable) social contributions. Publish energy and carbon accounts (including material Scope 3 categories) and pursue efficiency targets for cloud and data usage, paired with credible verification.

Businesses and buyers (SDG 12/17): Reset incentives through procurement by requiring due-process standards, transparent fees, and compliance assurances (contracting, invoicing, taxes). Reward inclusive hiring practices (bias-aware shortlisting, structured evaluation) and prefer vendors that report environmental performance for digital delivery. Where feasible, embed these requirements into master service agreements and request interoperable reputation exports to reduce lock-in and improve contestability.

Education, worker organisations, and civil society (SDG 4/5/10): Close capability gaps with stackable micro-credentials in platform literacy (portfolio, pricing, ranking dynamics, dispute navigation) and online safety. Pair training with mentoring and sponsorship for women and marginalised workers, and with accessible reporting channels. In lower-connectivity settings, support trusted payment on-ramps, connectivity stipends, and partnerships with universities/TVET providers to prevent path-dependent exclusion.

Design illustration - Bordo.space: As introduced in the Methodology, Bordo.space can be read as an experimental prototype that operationalises these levers by design, combining transparent governance, worker-support features, and capability development with responsible data practices. Its role is illustrative: it shows how platform architecture can translate policy and governance requirements into user-facing protections and inclusion mechanisms.

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