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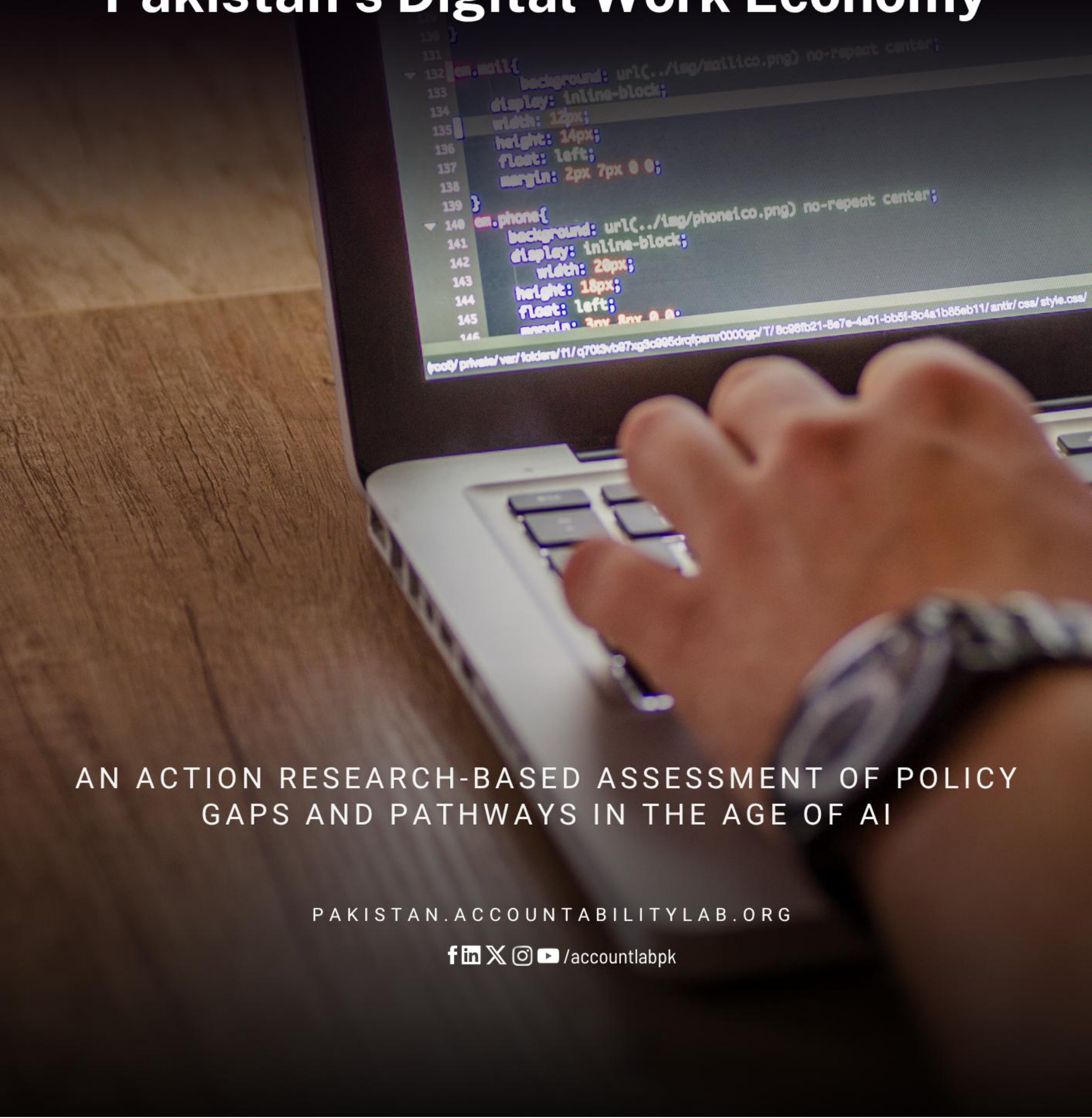
POLICY BRIEF

Pakistan's Digital Work Economy



AN ACTION RESEARCH-BASED ASSESSMENT OF POLICY GAPS AND PATHWAYS IN THE AGE OF AI

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Background

Pakistan's online economy encompassing freelancing, remote employment, digital content creation, and AI-driven startups represents one of the country's most viable pathways to large-scale youth employment and foreign exchange earnings. With almost 161 million broadband subscribers by March 2026 [1] (Pakistan Telecommunication Authority, 2026), a median population age of 19, and an established presence on global freelancing platforms, the infrastructure foundations for a digital workforce economy are real.

The official IT export roadmap envisions revenues rising from approximately USD 3.8 billion to USD 15 billion in the medium term if systemic constraints in skills, banking, taxation, infrastructure, and regulation are addressed together[2] (Tech Destination Pakistan, 2025). Pakistan's freelance market's potential is USD 1 billion[3] (Arab News, 2025).

This potential is being affected by a structural policy gap that has widened since 2022. Generative artificial intelligence (AI) tools have begun compressing global demand for the basic digital services such as content writing, simple design, routine coding, etc. that sustain the majority of Pakistan's online earners. At the same time, AI creates substantial new opportunities in higher-value services that require technical depth the current workforce largely lacks. Pakistan is thus caught between a workforce concentrated in AI-vulnerable niches and an institutional ecosystem that has not yet adapted its legal frameworks, tax architecture, training systems, or coordination mechanisms to the pace of market change.

This brief draws on action research comprising five original surveys conducted by Accountability Lab Pakistan (ALP) in April 2026 with digital workers, university educators, National Incubation Centres (NICs), training program administrators (DigiSkills, E-Rozgaar), export promotion bodies i.e. Pakistan Software Export Board (PSEB), Pakistan Software Houses Association for IT and IT Enabled Services (PASHA) and Ignite, etc., and senior policy practitioners. Together, these surveys cover 82 respondents across qualitative and quantitative instruments. The brief maps the current landscape and diagnoses structural gaps against Pakistan's existing policy commitments, and advances a set of policy and regulatory pathways to strengthen governance of the digital employment ecosystem.

Key Findings of Action Research
AI adoption is already widespread: nearly 70 percent of surveyed digital workers use AI tools regularly, but income gains remain concentrated among higher-skilled workers
73 percent of surveyed digital workers earn below PKR 50,000 per month — insufficient for a sustainable livelihood — and 89 percent operate as solo individuals without firm structure
Entry-level freelancers face the highest displacement risk from AI-driven market compression while skilled specialists are the primary beneficiaries
Policy coordination is largely on paper with skills development, export promotion, taxation, and regulation operating in institutional silos with weak alignment
National Incubation Centers (NICs) are producing AI-native startups but lack follow-on capital, rural reach, and market linkages to achieve scale
Universities are adapting to AI slowly and unevenly; training programs are directionaly correct but insufficient in speed and depth
Youth in conflict-affected regions and rural areas remain almost entirely excluded from digital economy opportunities

[1] https://www.pta.gov.pk/category/telecom-indicators/164
[2] https://techdestination.com/wp-content/uploads/2026/01/Annual-Report-2025-v2-compressed.pdf
[3] https://www.arabnews.com/node/2616787/pakistan

Introduction: From opportunity to uncertainty

The COVID-19 pandemic (2020–2022) acted as a significant accelerator of Pakistan's digital work economy, as lock downs disrupted formal labour markets and prompted workers and households to adopt digital and formal channels of income generation. The period marked a clear expansion in the use of online work and digital financial flows as adaptive responses to economic disruption[4] (World Bank, 2023).

Pakistan was well-positioned to absorb this demand as English literacy rates among university graduates were high, computer science enrolment was expanding rapidly, and the government had already launched digital skilling programs that would collectively train several million individuals. Pakistan ranks among the top five freelancing markets globally, with one of the largest pools of active online workers participating across major platforms such as Upwork, Fiverr, and Freelancer[5] (Arab News, 2025).

The overall IT sector appears to be performing well, at least from the perspective of official planners. A progress report for August 2023 to February 2024 by the Ministry of Information Technology and Telecommunication (MoITT)[6] (MoITT, 2024) presents policy and regulatory measures particularly foreign exchange flexibility and tax facilitation, as central to sectoral gains, alongside ongoing work on data protection and broader digital frameworks. In this context, the report notes that IT export receipts recorded a surge of over 30 percent in a single year, attributing this in part to measures allowing exporters and freelancers to retain up to 35 percent of their export proceeds in foreign currency accounts, and characterizes the IT sector as one of the fastest-growing export segments. It further states that the DigiSkills program had delivered over 3.3 million trainings since its launch and estimates that freelancers contribute between 15 and 20 percent of total IT export earnings, while also referring to the expansion of Software Technology Parks across multiple cities, plans to establish up to 250 e-Rozgaar centers nationwide, and the continued operation of National Incubation Centers.

A news update by the ministry reports that Pakistan's ICT sector continues to show strong momentum, with export remittances increasing by 19.7 percent during the first eight months of FY2025–26[7] (MoITT, 2025). However, questions remain as to whether this growth is commensurate with the sector's potential and whether evolving dynamics particularly the increasing influence of AI on freelancing and other IT segments, are adequately reflected in current policy environment, institutional ecosystem, reporting and outlook assessments of Pakistan's IT sector.

Notwithstanding the impressive growth rates, Pakistan remains a small-base market, with IT exports still under $4 billion, especially when compared to neighboring India, where the sector is approaching the IT exports touching $200 billion mark. The relatively slow alignment of Pakistan's IT ecosystem with the growing influence of artificial intelligence, along with the continued centrality of the state rather than the private sector, are often cited as key constraints limiting the sector's ability to realize its full potential. India moved early with NITI Aayog's 2018 "AI for All" strategy, embedding AI in sectoral priorities and enabling rapid adoption through a hybrid model where the state sets direction but the private sector drives execution, innovation, and scaling. In comparison, Pakistan's AI Policy 2025 is assessed to be a comprehensive but highly conditional framework, combining broad ambition with significant projected economic upside[8] (Pakistan Institute of Development Economics, 2024).

Built around six pillars i.e. innovation, readiness, infrastructure, security, sectoral transformation, and global partnerships, Pakistan's AI policy envisions substantial gains across key sectors, with estimates suggesting

[4] https://openknowledge.worldbank.org/server/api/core/bitstreams/88560609-72a6-5335-90d3-22b58a41aace/content
[5] https://www.arabnews.com/node/2616787/pakistan
[6] https://moitt.gov.pk/SiteImage/Downloads/MoITT_booklet_Final.pdf
[7] https://moitt.gov.pk/NewsDetail/ZjM1ZWZiZmQtOGUxOS00MGQzLTgyOWYtMTUyMTljZmNiZDYx
[8] https://file.pide.org.pk/pdfpideresearch/kb-136-will-ai-transform-pakistan-assessing-the-2025-national-policy.pd

potential contributions of around $12 billion in agriculture, $5 billion in industry, and $26 billion in services, alongside a possible increase in overall GDP growth toward the end of the decade. The policy is credited with correctly identifying priority domains and aligning with global AI discourse, positioning artificial intelligence as a cross-cutting driver of productivity and competitiveness.

However, the policy entails serious risks as policy's ambitions outpace current institutional, financial, and infrastructural capacities. Key constraints include limited digital infrastructure, energy and connectivity gaps, shortages of skilled human capital, and unclear funding pipelines, alongside regulatory and governance challenges. Without sustained coordination, realistic prioritization, and stronger delivery mechanisms, the policy may remain aspirational rather than transformative (Pakistan Institute of Development Economics, 2024).[9]

The stakeholders interviewed for this brief also describe implementation of AI Policy as lagging behind ambition. Training programs have not been restructured around AI transition needs. While AI is a relatively new determinant in online economy, the online economy's relatively older structural gaps persist, particularly in the legal and institutional recognition of digital workers. Freelancers and gig workers largely operate in a grey zone, with limited formal recognition as workers or businesses, which constrains their access to banking services, credit, dispute resolution, and export facilitation mechanisms. At the same time, social protection frameworks remain unaligned with the realities of platform-based work, leaving a growing segment of the workforce without access to health coverage, income security, or retirement benefits.

The policy window to manage the transition to AI and bridging persisting gaps through structured upskilling, legal reform, financial inclusion, and coordinated institutional action is real but finite. Only a fast-paced transition can ensure that the online workforce remains and thrives in the industry. ALP's action research underpinning this brief suggests that Pakistan can realistically scale digital work into large-scale job creation by expanding quality broadband beyond major cities, equipping workers with marketable digital skills, simplifying cross-border payments and tax compliance for freelancers, enabling the transition from solo freelancers to small export-oriented firms, and targeting high-demand global service niches through focused export promotion. This assessment is grounded in existing capacity as Pakistan already has a broad digital base, with around 161 million broadband subscribers and adult financial inclusion at 67 percent[10] (State Bank of Pakistan, 2025), alongside an official IT growth roadmap that projects export potential rising to $10–18 billion if reforms in skills, banking, taxation, infrastructure, and regulation are pursued in a coordinated manner.

The scope and scale of Pakistan's digital work economy

3.1 The digital work spectrum

Pakistan's online economy is not a monolith. It is a layered ecosystem of at least four distinct worker types, each with different income profiles, vulnerability patterns, and critically different policy needs. Conflating them into a single 'freelancer' category has been one of the persistent weaknesses of policy design to date.

Worker type	Profile
Digital entrepreneurs	Startup founders and digital agency owners building scalable products and services. Growth-oriented but capital-constrained. Primarily served by NICs, Pakistan Software Export Boar (PSEB), and Ignite. Most capable of generating downstream employment if scaling barriers are addressed.

[9] ibid
[10] https://www.sbp.org.pk/pfii/PFI-paper.pdf

Skilled freelancers	Repeat-client specialists in software development, data services and high-value writing or consulting. The most resilient category to AI disruption if continuous upskilling is supported. Often earning above PKR 100,000/month.
Gig-dependent workers	Piecemeal, price-taking platform workers competing for short-cycle tasks. The largest group by headcount and the most exposed to AI-driven wage compression. The primary beneficiary group for legal recognition and training reform.
Content creators / influencers	Earners on YouTube, TikTok, Instagram, and Facebook through monetization and brand partnerships. Significant aggregate earnings, estimated in the hundreds of millions of dollars annually, but almost entirely undocumented, unregulated, and unprotected.

3.2 Scale indicators and structural shallowness

The headline numbers for Pakistan's digital economy may be impressive but beneath these aggregates lie indicators of deep structural shallowness. The primary survey of 44 digital workers reveals that 73 percent of respondents earn below PKR 50,000 per month from online work, a level insufficient for a middle-class urban livelihood and 89 percent operate as solo individuals with no firm structure, partner, or employee. This atomisation severely limits bargaining power, access to high-value contracts, and the ability to absorb or recover from income shocks. Experience levels are also nascent as 70.5 percent of surveyed workers have less than one year of online earning experience, pointing to a pipeline of entry-level workers whose earnings are concentrated precisely in the AI-vulnerable categories.

The measurement gap compounds the policy problem. Pakistan has no official classification of gig workers in its national labour statistics, no dedicated tracking of platform-mediated income flows, and no systematic data on the geographic distribution of digital earners. The creator economy, potentially involving hundreds of thousands of Pakistanis earning from YouTube monetization, TikTok creator funds, and social media brand partnerships, is entirely undocumented in official statistics.

3.3 The institutional ecosystem: What exists and what is missing

Pakistan has assembled a reasonably dense set of digital economy support institutions over the past decade. PSEB promotes IT exports and facilitates freelancer registration. Ignite funds digital innovation under MoITT. DigiSkills has delivered foundational digital skills training to millions through an online platform operated by Ignite. E-Rozgaar, administered by Punjab Information Technology Board (PITB) under the government of Punjab, has trained hundreds of thousands of individuals and provides training centres across Punjab districts. Khyber Pakhtunkhwa Information Technology Board (KPITB) operates the DigiKhata and related digital economy programs in Khyber Pakhtunkhwa. National Incubation Centres in Islamabad, Lahore, Karachi, Peshawar, and Quetta support startup formation. PASHA is a strong association of the software industry.

The action research insights of experts from PSEB, PASHA, and Ignite consistently characterizes this ecosystem as operating in institutional silos as against in a well-coordinated environment. Programs are designed and delivered independently, with limited sharing of beneficiary data, common metrics, or coordinated sequencing. The institutional density is real, but its collective impact is less than the sum of its parts.

3.4 Political economy of social media platforms

The expansion of Pakistan's creator economy is closely tied to the political economy of social media platforms, where a significant shift in advertising expenditure from traditional media to digital platforms has reconfigured how value is created and captured. Platforms such as YouTube, TikTok, Instagram, and Facebook now act as the primary conduits for advertising, concentrating revenue through algorithm-driven visibility and monetization systems[11] (Reuters Institute for the Study of Journalism, 2025). While this has opened new income streams for a large number of creators, the platforms themselves remain the principal value capturers, with creators receiving only a share of advertising and brand partnership revenues.

The labour implications of this model are equally significant. Work in the creator economy is highly fragmented, with individuals operating independently without formal contracts, predictable earnings, or access to institutional protections. Risk is individualized and income volatility, platform policy changes, and algorithmic shifts directly affect creators' earnings without recourse. The absence of legal recognition and social protection mechanisms further compounds this vulnerability, leaving creators outside conventional labour frameworks. At the same time, social media platforms operate as short-cycle economies driven by constant demand for novelty and engagement. Content lifecycles are increasingly compressed, requiring continuous production to maintain visibility and income. This results in unstable and episodic earnings, limiting the ability of creators to accumulate wealth or transition into more stable business models.

4. AI Disruption: Compression, opportunity, and the skills divide

4.1 How AI is restructuring global digital labour markets

The commercial deployment of generative AI from late 2022 onward represents the most significant structural disruption to digital labour markets since the emergence of the gig economy itself. Large language models such as GPT-4 and Claude, image generation platforms such as Midjourney and DALL-E, and code generation tools such as GitHub Copilot are capable of producing outputs in content writing, basic design, simple programming, and data analysis at marginal costs. This directly undermines the competitive proposition of the entry-level digital services that have historically dominated Pakistani freelancer offerings.

Emerging global evidence increasingly points to a bifurcated impact of AI on freelance and platform work, combining productivity gains with measurable demand compression in routine digital services. Platform-level and academic studies show that generative AI has begun to substitute for tasks in writing, translation, and basic coding: one analysis of online labour markets finds a 21 percent decline in demand for AI-exposed freelance tasks following the release of ChatGPT, particularly in automation-prone categories[12] (Boston University Questrom School of Business, 2024). Complementary platform data indicates that earnings have declined in lower-value segments such as content writing and translation, even as higher-value, AI-augmented work categories have expanded[13] (Upwork, 2023). At the same time, experimental and firm-level evidence suggests that AI tools are increasing worker productivity and enabling task completion at lower cost, effectively compressing the price clients are willing to pay for standardized digital services[14] (SSRN, 2024).

The ALP survey of digital workers captures this moment vividly. Nearly 70 percent of respondents regularly use AI tools, with content creation (46 percent) and coding or automation tasks (41 percent) as the leading use cases. A

[11] https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2025/dnr-executive-summary
[12] https://questromworld.bu.edu/platformstrategy/wp-content/uploads/sites/49/2024/06/PlatStrat2024_paper_119.pdf
[13] https://www.upwork.com/resources/impact-of-generative-ai-on-business
[14] https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5310010

majority (59 percent) report improved productivity and efficiency. Yet only 41 percent report increased income or new opportunities. The remainder report either no major change (27 percent), that it is too early to assess (33 percent), or that AI has reduced demand for their existing skills (21 percent). The gap between productivity gains and income gains is consistent with a market in which AI-enabled efficiency is being competed away through platform saturation and falling per-task rates, rather than captured as a price premium by workers.

4.2 The distributional divide: Who benefits and who is at risk

The ALP survey reveals a sharp distributional picture that must drive the policy design. Surveyed workers identified skilled freelancers and specialists (55 percent) as the primary beneficiaries of AI adoption, followed by content creators with established audiences (30 percent) and digital entrepreneurs or agencies with technical depth (27 percent). By contrast, entry-level or low-skill freelancers (52 percent) and basic content producers (29 percent) are identified as the groups facing the greatest negative impact.

This distributional pattern, AI being force multiplier for the capable and a threat to the basic, has critical implications for policy. It means that a generic 'promote AI adoption' strategy will, without targeted redistribution, deepen inequalities within the digital workforce rather than broadening opportunity. The workers most in need of support are precisely those least positioned to self-navigate the transition.

4.3 AI as opportunity: The higher-value niches

The same forces compressing low-end work are generating substantial global demand for higher-value AI-adjacent services. Businesses worldwide are actively seeking workers who can build, configure, and maintain AI-powered workflows; develop sector-specific AI applications; create AI-augmented content at quality levels above automated outputs; and integrate AI tools into client-facing products and services. These represent accessible opportunities for a Pakistani digital workforce that can be upskilled.

Evidence from NICs survey confirms that Pakistan's startup ecosystem is already responding to these signals. Earlier NIC cohorts were dominated by e-commerce platforms and basic mobile apps. Current cohorts increasingly feature AI automation platforms, HealthTech AI diagnostics, robotics ventures such as Strydex Robotics, AI-based enterprise solutions, and climate-tech with predictive analytics. NIC respondents describe a pivot from 'AI as tool for efficiency' toward 'AI as core business model' — a shift that is real but unevenly distributed across incubators and still constrained by access to capital, data, and technical talent.

4.4 The dual skills gap: Technical and professional

The ALP action research insights from DigiSkills, E-Rozgaar, and university educators identifies a skills deficit with two equally weighted dimensions that are often addressed separately in policy design but need to be resolved together.

The first is the technical AI skills gap. Training programs are adapting — new AI literacy modules are being introduced, faculty are experimenting with AI tools in classroom settings, and some institutions are revising computing curricula — but adaptation is described as slow, uneven, and insufficiently deep. The gap between what training programs currently produce and what the global market for AI-adjacent services now requires is widening, not narrowing.

The second, equally critical, is the professional and client-facing competency gap. In the primary worker survey, 'weak communication and client handling' ranks alongside 'lack of AI-related skills' as a top barrier to income growth — not as a secondary concern. Pakistani digital workers frequently underperform on adherence to deadlines, proposal quality, portfolio presentation, and long-term client relationship management. These are the soft infrastructure of a professional service reputation, and their absence prevents even technically capable workers from moving into the higher-value, repeat-client relationships that generate sustainable income. Any training reform that addresses AI skills without simultaneously addressing professional competencies will be incomplete.

4.5 Advanced capabilities through free and low-cost AI tools

The rapid diffusion of free and low-cost AI tools has significantly lowered entry barriers into digital work, enabling a large number of young Pakistanis to begin earning online with minimal upfront investment. As the survey evidence shows, nearly 70 percent of workers are already using AI tools in content creation, coding, and automation tasks, and a majority report productivity gains. This has created pathways for early earnings, particularly in entry-level digital services. However, these pathways remain shallow. Workers are able to perform tasks and generate income, but often without structured career trajectories, formal recognition of skills, or access to certification mechanisms that signal credibility in global markets.

As a result, skills acquired through AI-assisted work remain largely informal and difficult to translate into stable employment or enterprise growth. This disconnect is reinforced by the absence of institutional bridges between platform work and the formal economy. Freelancers and gig workers operate without employer references, standardized performance records, or structured career ladders, making upward mobility difficult even for those who accumulate experience. The ALP action research findings further highlight that productivity gains enabled by AI are not translating proportionately into income gains, pointing to a system where efficiency is absorbed by market competition rather than rewarded. In practical terms, workers may complete more tasks faster, but face declining per-task rates and limited opportunities to move into higher-value roles. This creates a persistent transition barrier between entry-level participation and sustainable, higher-income engagement.

The implications extend beyond economic outcomes into psychological and social dimensions. Income volatility, already a defining feature of platform work, is intensified in an AI-mediated environment where demand shifts rapidly and competition deepens. Workers face growing disillusionment as initial entry into digital work does not translate into predictable progression, while the absence of formal recognition creates ambiguity around identity, oscillating between being "employed," "self-employed," or effectively underemployed.

4.6 Digital work and youth in conflict-affected regions

Digital work holds particular relevance for youth in conflict-affected and peripheral regions, where conventional labour markets are constrained and education pathways are frequently disrupted. In such settings, online work can serve as a rare low-barrier entry point into income generation, bypassing geographic and mobility constraints. However, survey evidence suggests that access alone does not translate into equitable participation. Youth in these regions face compounded disadvantages such as limited connectivity, weaker educational foundations, and minimal exposure to digital ecosystems, which restrict their ability to move beyond low-value, task-based work.

As a result, there is a risk that digital work in fragile contexts becomes concentrated in high-risk, low-return segments, particularly entry-level freelancing and basic content production, which are already identified as the most vulnerable to AI-driven disruption. The interaction between platform volatility and AI-induced demand shifts has multiplying effects in such regions, where workers lack the skills, networks, and financial buffers to adapt quickly. Limited access to quality training, finance, and legal protection further entrenches this vulnerability, while exposure to fraud and exploitative practices is often higher due to weak institutional oversight and low awareness.

Despite these challenges, digital work remains underutilized as a resilience and stabilization pathway. With targeted investment in connectivity, localized skills development, and market integration, it has the potential to provide scalable livelihood opportunities in contexts where traditional employment generation is structurally constrained. The responses by policy experts in ALP's action research are explicit and consistent on this point that the digital economy is an underutilized stabilization and resilience tool in conflict-affected regions. Pakistan's counter-terrorism and stabilization investment would benefit from alignment with digital economy programming, because economic inclusion, particularly for youth, is one of the best-evidenced drivers of reduced extremism vulnerability.

4.7 Digital entrepreneurship: Opportunities and constraints

The expansion of digital work has also catalyzed a parallel rise in digital entrepreneurship, particularly among youth, driven by low entry barriers, export-oriented demand, and the availability of global platforms. ALP survey evidence and stakeholder insights consistently point to the fact that despite the overwhelmingly individual nature of online work, Pakistan's young workforce is increasingly willing to engage in freelance-to-enterprise pathways, with a growing interest in moving beyond solo work toward building digital businesses. The survey shows that 89 percent of respondents operate as individuals, yet there is a clear demand for progression reflected in strong emphasis on entrepreneurship support, market access, and higher-value client acquisition as key priorities for scaling income and impact. This indicates that while the current structure of digital work remains atomized, it is not an endpoint as it represents an entry stage in a broader, but still weakly supported, transition toward enterprise formation and export-oriented growth.

However, this transition from participation to scale remains constrained by structural factors. Limited access to financing, weak integration into global value chains beyond platform-based work, and fragmented institutional support systems restrict the ability of digital entrepreneurs to grow beyond early-stage operations. At the same time, the underlying business model is marked by high levels of risk and volatility. Income streams across freelancing and content creation are unstable, heavily dependent on platform algorithms, and subject to rapid shifts in demand. Workers and entrepreneurs operate without predictable policy environments, face exposure to financial scams and digital fraud, and often lack legal awareness or enforceable protections.

5 Structural policy gaps

5.1 Absent legal framework for online workers

Pakistan has no legal classification for gig workers, freelancers, or digital content creators. This is not a technicality. It means that the approximately 10–15 million Pakistanis who earn income through digital platforms operate in a legal grey zone entirely outside the protections of the Labour Act, Workers' Welfare Fund (WWF) and Employees' Old-Age Benefits Institution (EOBI). They have no legal basis for health insurance access, pension contribution, contract enforcement, or dispute resolution when platform payments are withheld or reversed.

The expert insights during action research identify absent legal status as the single most frequently cited structural barrier, described by respondents from PSEB, PASHA, and Ignite as the foundational gap that makes every other policy intervention less effective. Without formal status, online earners cannot prove income for mortgage or visa applications, cannot formally register their work with PSEB for export credit, and have no recourse when targeted by the digital financial crimes such fraudulent Amazon store schemes, payment scams, and platform disputes, to which the survey confirms they are disproportionately exposed. The absence of legal recognition also makes measurement impossible. Government cannot count, track, or design targeted policy for a workforce that does not formally exist in its statistical architecture.

5.2 A taxation regime that excludes those it intends to support

Pakistan has extended significant tax relief to IT exporters and freelancers in recent years, most notably through zero-rated or reduced income tax on IT export earnings. However, the design of these relief instruments creates a structural barrier that excludes the majority of the workers they are intended to benefit. The action research findings are consistent on this point: tax policies are described as 'unclear, complex, and not tailored to the realities of digital income flows.' Accessing relief requires formal business registration with the Securities and Exchange Commission of Pakistan (SECP), a National Tax Number (NTN) linked to formal accounts, documentation of export earnings through registered banking channels, and navigation of a Federal Board of Revenue (FBR) portal system that was not designed for individual informal earners.

An online worker earning PKR 30,000 per month through Fiverr, below the tax threshold but unable to access the freelancer-specific relief, lacks the documentation infrastructure, financial literacy, and institutional access to comply, let alone benefit. The practical result is a tax architecture that, in principle, supports IT exports while, in practice, serving the formal software industry almost exclusively. Small earners operate informally, their contributions go unmeasured, and the government loses the visibility it needs to support them.

5.3 Disconnection from export policy

Pakistan's online economy is the country's largest unrecognised export sector. Individual freelancers and content creators remit hundreds of millions of dollars annually in foreign exchange but it enters Pakistan through the same remittance channels as personal transfers from overseas workers. The more favourable treatment, documentation support, and institutional outreach accorded to registered IT exporters under PSEB does not extend to individual online earners, who formally lack the 'exporter' status required to access those benefits.

State Bank of Pakistan (SBP) regulations governing foreign exchange receipts, while improved in recent years, continue to create friction for individual earners. Requirements for documentation of the service transaction underlying a payment are difficult for small-scale freelancers to satisfy, and the conversion rates and account structures available to registered exporters remain inaccessible to unregistered individuals. This means Pakistan is effectively taxing its own digital export growth through regulatory friction rather than incentivizing it.

5.4 Financial exclusion and cross-border payment friction

Adult financial inclusion reached 67 percent nationally by 2026 but aggregate inclusion masks the specific gaps relevant to digital earners. The financial products available to online workers, receiving international payments, converting at competitive rates, accessing working capital against demonstrated platform earnings, are not well-served by the existing bank product suite. PayPal's limited functionality in Pakistan (it does not support receiving payments), the inconsistent availability of alternative payment platforms, and the absence of a dedicated 'digital earner account' product mean that many workers use informal *hawala* channels or third-party intermediaries, incurring both cost and legal exposure.

The research insights identify payment friction as a binding constraint that undermines otherwise effective training investment. Workers can develop skills but cannot efficiently monetize them through the formal financial system. Working capital access is also nearly absent as no commercial bank offers a product using platform earnings history as collateral, even though this data is objective and verifiable.

5.5 Geographic exclusion: Rural areas and conflict-affected regions

Pakistan's digital economy is deeply urbanized in a country where over 60 percent of the population lives in rural or peri-urban areas. NICs are concentrated in major cities. Quality broadband, the basic prerequisite for digital work, remains unreliable and expensive outside major urban centers.

The compounded disadvantage faced by youth in conflict-affected areas deserves particular attention. Khyber Pakhtunkhwa, the former Federally Administered Tribal Areas (now merged districts), and parts of Balochistan combine infrastructure deficits with disrupted education pathways, security constraints on movement, reduced institutional presence, and social norms that limit female participation in digital work. Exclusion from the digital economy is not merely an economic cost in these regions. For youth whose alternative pathways include low-wage inland or Gulf labour migration, digital income opportunities represent a stabilization and resilience tool that is being almost entirely unutilized.

5.6 Pakistan's National AI Policy 2025: Strengths and implementation risks

As noted above, the National AI Policy 2025, launched by MoITT, represents a genuine and substantive attempt to position Pakistan for the AI era. Its six pillars i.e. AI Innovation Ecosystem, Awareness and Readiness, Secure AI Ecosystem, Transformation and Evolution, AI Infrastructure, and International Partnerships, are coherent. The National AI Fund (NAIF), Centres of Excellence in AI (CoE-AI) planned for major cities, and targets for training 200,000 individuals annually and launching 20,000 stipend-based internships are meaningful commitments. Pakistan's AI Policy 2025 presents an ambitious, ecosystem-building framework with clearly articulated targets, but its implementation architecture remains uneven and underdeveloped.

The policy adopts a centralized governance model anchored in federal institutions and recognizes the private sector as a key stakeholder; however, in practice, delivery remains state-led with limited formal accountability for private actors and weak operational integration of provincial bodies. Core instruments such as CoE for AI and the NAIF are still in formative stages, rendering key targets, particularly large-scale human capital development, high-risk in the absence of sequencing and linkage with existing training systems. Similarly, data governance remains incomplete, with privacy frameworks referenced but not fully enacted, creating uncertainty for AI-driven enterprises. Most notably, despite the policy's broad scope, it does not explicitly anchor the online workforce, freelancers, gig workers, and creators, as a defined beneficiary group, even though they represent the segment most immediately exposed to and affected by AI-driven labour market shifts.

5.7 The NIC ecosystem: Transition and constraints

Pakistan's National Incubation Centres, established from 2017 onward under MoITT and Ignite, represent the most institutionally developed component of the digital startup ecosystem. NICs in Islamabad, Lahore, Karachi, Peshawar, and Quetta have collectively incubated several hundred ventures and produced a growing number of commercially active companies in IT services, e-commerce, and increasingly, AI-driven applications.

The ALP action research confirms a meaningful shift in the character of startups being incubated. Early NIC cohorts were dominated by e-commerce platforms, basic mobile applications, and service marketplaces, models that required limited technical depth and were oriented toward the domestic market. Current cohorts increasingly feature AI automation platforms for enterprise workflows, robotics ventures, AI-based diagnostics in health and agriculture, and climate-tech products with predictive analytics components. This pivot demonstrates that Pakistani founders are reading global market signals correctly and integrating AI into their value propositions. Strydex Robotics, highlighted by NIC respondents, is illustrative of a new generation of technically ambitious ventures emerging from the ecosystem.

The same action research, however, identifies a consistent and critical structural gap i.e. the NIC ecosystem is well-designed for early-stage incubation but provides almost no structured support for the growth stage, the transition from a validated startup to a scalable business with revenue, a team, and market presence. This is the stage at which the majority of AI ventures globally fail. Pakistan's institutional infrastructure offers little to address the four interacting constraints that create the 'valley of death' between incubation and scale:

Scaling constraints identified by respondents from NICs
Finance: Venture capital concentrated at pre-seed and seed stage; post-seed, pre-Series A ('growth stage') capital almost entirely absent. Currency instability and risk aversion among local institutional investors compound the problem.
Market Access: Small domestic market with low digital adoption outside urban centers; weak global linkages beyond platform-based work; limited structured support for enterprise sales into international markets.
Regulation: Unclear data privacy law (Personal Data Protection Act pending) creates uncertainty for AI ventures handling user data; complex licensing; inconsistent policy signals on cryptocurrency and fintech create planning risk.
Geography: NICs in five cities; satellite centers envisioned in the National AI Policy but not yet operationalized; Balochistan and merged districts of KP have effectively no NIC presence.
Talent: Gaps in advanced AI engineering and machine learning skills; brain drain of top technical graduates to Gulf, UK, and North America; limited industry-academia research collaboration.
Infrastructure: Intermittent power supply outside major cities; limited access to high-performance computing required for AI model development and training.

6. Policy pathways

6.1 Reframing digital work as an export sector

Digital work must be repositioned from a peripheral employment activity to a core export sector. Current policy frameworks separate formal IT exports from individual online earners, resulting in fragmented incentives, regulatory friction, and under-counted foreign exchange flows. Extending exporter recognition, facilitation mechanisms, and incentives to freelancers, content creators, and small digital firms would align policy with the actual structure of the digital economy and strengthen export outcomes.

6.2 Closing the legal and regulatory vacuum and building data systems

The absence of formal legal recognition for gig workers, freelancers, and digital content creators remains the foundational constraint. Establishing a clear legal classification within labour and economic frameworks would enable contract enforcement, dispute resolution, financial inclusion, and access to social protection. Alongside legal recognition, Pakistan requires dedicated data systems to track digital labour—platform income flows, workforce size, and geographic distribution—so that policy is grounded in measurable realities rather than estimates. Parallel reforms in taxation and foreign exchange regimes are required to simplify compliance and align incentives with the realities of digital income flows.

6.3 From training supply to AI-aligned capability systems

Training systems must shift from volume-based delivery to market-aligned capability development. This includes explicitly enabling the transition from low-end, automation-prone services toward higher-value, AI-integrated work, positioning AI adoption as an income multiplier rather than a generic skill. Public–private partnerships in training are essential to ensure speed and relevance, while workforce credibility—communication, reliability, adherence to deadlines, and client trust—must be treated as core economic capabilities. Without integrating technical and professional competencies, workers will remain confined to low-margin segments despite increased productivity.

6.4 Bridging the gap from freelancers to firms

The transition from individual freelancing to scalable enterprise remains underdeveloped. Policy must address this "missing middle" by supporting aggregation, team formation, and business formalization, alongside providing access to growth-stage financing and structured entry into higher-value global markets. Without this transition, the digital economy will remain atomized, limiting both income growth and employment generation.

6.5 Fixing payment systems and financial inclusion

Despite improvements in overall financial inclusion, digital earners face persistent barriers in cross-border payments, currency conversion, and access to credit. Dedicated financial products tailored to platform-based income, alongside simplified international payment systems, are essential to enable monetization and reduce reliance on informal channels. Leveraging verifiable platform earnings data for credit access can unlock working capital and support enterprise growth.

6.6 Addressing platform asymmetry and algorithmic control

Global platforms shape both access to work and income outcomes, yet national policy engagement remains limited. A structured engagement strategy is required, including dialogue with platforms, improved data visibility, and baseline worker protection standards. Particular attention must be paid to algorithmic control over visibility and monetization, which creates volatility and dependency for workers. Without addressing these asymmetries, value will continue to be captured disproportionately by platforms rather than producers.

6.7 Building certification, recognition, and career pathways

The absence of formal recognition for skills acquired through digital work constrains mobility. National accreditation systems, recognition of prior learning based on freelancing experience, and linkages with formal employers can enable workers to convert platform experience into credible labour market signals. This is essential for transitioning from episodic income toward structured career progression.

6.8 Strengthening digital entrepreneurship with local capability depth

While digital entrepreneurship is expanding, it remains constrained by financing gaps, weak global integration beyond platforms, and limited scaling support. Policy must enable export-oriented incentives, improve access to growth capital, and strengthen linkages with international markets. At the same time, reliance on AI tools and platforms trained on external data ecosystems highlights the need to develop local capability depth, including access to datasets, computing infrastructure, and context-relevant innovation.

6.9 Protecting against online financial crime and market abuse

The expansion of digital work has been accompanied by rising exposure to financial fraud, including payment scams, fraudulent “Amazon store” schemes, and digital swindling targeting new entrants. Policy responses should include regulatory oversight of digital marketplaces, targeted awareness campaigns, and strengthened cybercrime enforcement. Improving legal awareness and enforcement capacity is essential to protect workers and sustain trust in the system.

6.10 Targeted inclusion of conflict-affected youth as a stabilization strategy

Digital work should be explicitly integrated into regional inclusion and stabilization strategies, particularly for conflict-affected areas. This requires developing remote work pipelines, establishing decentralized training hubs, subsidizing connectivity and devices, and enabling access to platforms and financial systems. Given constrained local labour markets, digital livelihoods represent one of the few scalable pathways for youth in fragile contexts, but require deliberate, place-based policy design.

6.11 Managing macro and external risks through coordinated policy

Finally, the sustainability of digital work growth is shaped by broader macroeconomic and external risks, including a weak domestic labour market and uncertainty in overseas employment demand. These factors increase pressure on the digital economy as an alternative livelihood pathway. Coordinated policy sequencing—linking skills development, market access, enterprise growth, and regulatory reform—is essential to ensure that digital work evolves into a stable and competitive sector rather than a residual coping mechanism for labour market stress.

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Annexure:

ALP Action Research evidence summary

Survey	Sample and method
AI in Pakistan's Digital Workforce	Respondents=44; quantitative survey; young digital workers on freelancing platforms, content creation, and remote employment
DigiSkills, E-Rozgaar & Universities	Respondents=20; qualitative survey; 70 percent university faculty, 25 percent students, remainder government professionals
National Incubation Centres	Respondents=8; qualitative survey; NIC directors, research heads, and incubatees
Experts: PSEB, PASHA, Ignite	Respondents=7; qualitative expert survey; government, industry, and academia representatives
Policy Experts	Respondents=3; qualitative expert interviews; senior officials