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Collaborative Governance in Indonesia's Digital Labor Market Policy: Challenges and Policy Implementation

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Abstract
Digital transformation has reshaped Indonesia's labor market by creating new employment opportunities while generating challenges related to skills mismatch, platform-based work, unequal digital access, and worker protection. This study analyzes Indonesia's digital labor market policy through the Collaborative Governance perspective, using the model of Ansell and Gash (2008) as the primary analytical framework. The research employs qualitative library research based on academic literature, policy documents, and reports published between 2019 and 2026. The literature was identified through Scopus, Web of Science, Google Scholar, ScienceDirect, and official publications from international organizations and the Government of Indonesia. The final analytical corpus consisted of 22 relevant sources selected according to predefined inclusion and exclusion criteria. The findings show that skills mismatch, unequal digital infrastructure, employment insecurity, and fragmented policy implementation are interconnected governance challenges. Viewed through Collaborative Governance, these challenges reflect weaknesses in starting conditions, institutional design, facilitative leadership, and sustained collaborative processes. The study argues that effective policy responses require stronger coordination among government institutions, industries, educational institutions, digital platforms, labor organizations, and civil society. Strengthening cross-sector collaboration can support more adaptive, inclusive, and sustainable digital labor market policies in Indonesia.

Keywords
labor market policy, employment, digital transformation, digital economy, Indonesian workforce

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Introduction

The development of digital technology has brought significant changes to the economic structure and labor market in various countries, including Indonesia. Digital transformation, characterized by the increasing use of the internet, artificial intelligence, big data, cloud computing, and digital platforms, has changed the way people work, produce, and interact in economic activities. These changes not only create new job opportunities but also pose challenges such as shifts in skill requirements, changes in employment relations, and the risk of job displacement due to automation. Digitalization has affected almost all economic sectors and fundamentally transformed the labor market structure, requiring the government to formulate policies that are able to accommodate these changes (Alexandro, 2025).

Indonesia, as a country with a large population and an ongoing demographic bonus, has significant opportunities to leverage digital transformation to create more productive and competitive employment. Various government policies have been directed toward accelerating digital transformation through the development of technological infrastructure, improving internet connectivity, digitalization of public services, and the development of the digital economy. The Organization for Economic Co-operation and

Development (OECD) notes that digitalization has the potential to become one of the main drivers of Indonesia's long-term economic growth; however, its success is highly dependent on human resource readiness and the quality of supporting policies for the transformation process (Amory et al., 2025).

Nevertheless, digital technological development also presents various challenges for Indonesia's labor market. One of the main challenges is the skills gap between the needs of the digital industry and the competencies of the available workforce. Rapid technological change requires workers to continuously engage in reskilling and upskilling to adapt to new job demands. Several studies indicate that skills development is a key factor in improving the competitiveness of the Indonesian workforce, particularly in sectors directly affected by digitalization and automation (Destiartono et al., 2025).

In addition to skills issues, digitalization also raises challenges related to worker protection and job quality. The emergence of the platform-based economy (gig economy), remote work, and flexible working arrangements provides wider opportunities for people to earn income (Suhada et al., 2026). However, these conditions are often accompanied by job insecurity, limited social protection, and weak legal protection for digital workers. Therefore, labor market policies are not only required to promote job creation but also to ensure the fulfillment of decent work principles for all workers (Khoerulloh & Aziz, 2024).

On the other hand, the development of artificial intelligence and automation raises concerns about potential job displacement in several occupations. However, various studies also show that technology can create new job opportunities that require medium- to high-level digital skills. Therefore, the main challenge for the government is not to hinder technological development, but to ensure that digital transformation results in an inclusive, adaptive, and sustainable labor market through appropriate policies (Lianingsih et al., 2025).

Despite the growing body of literature on digital transformation and labor market policies in Indonesia, existing studies predominantly examine these issues from economic, technological, or human capital perspectives. Most previous research focuses on digital skills development, employment trends, automation, or the regulatory implications of digitalization. While these studies provide valuable insights, they generally treat government intervention as the primary policy actor and pay limited attention to the governance mechanisms through which multiple stakeholders collectively respond to labor market transformation. Consequently, there remains a limited understanding of how collaboration among government institutions, the private sector, digital platforms, educational institutions, labor organizations, and civil society can strengthen policy formulation and implementation in Indonesia's digital labor market.

This gap is particularly important because the challenges arising from digital transformation are multidimensional and cannot be effectively addressed through traditional government-centered approaches alone. Issues such as skills mismatches, worker protection in the gig economy, unequal access to digital opportunities, and the rapid evolution of technology require coordinated actions involving diverse actors with complementary roles and resources. Therefore, Collaborative Governance offers a relevant analytical perspective to examine how cross-sector collaboration can enhance policy coherence, institutional coordination, and adaptive capacity in responding to digital labor market challenges.

The contribution of this study is threefold. First, it applies Collaborative Governance as an analytical framework rather than treating collaboration only as a normative policy recommendation. Second, it synthesizes skills mismatch, digital worker protection, digital inequality, workforce development, and labor regulation within the four dimensions of Ansell and Gash's (2008) model. Third, it translates the synthesis into

policy implications concerning institutional coordination, industry-education linkages, worker protection, and equitable digital infrastructure. In this way, the study positions digital labor market policy as a cross-sector governance issue requiring coordinated action among multiple actors.

Based on these conditions, the study of labor market policy in Indonesia has become increasingly important to understand how the government responds to changes in the digital era. This research uses a literature review (library research) method by examining various scientific articles, international reports, regulations, and other relevant sources. The aim of this study is to analyze the challenges and opportunities faced by Indonesia's labor market in the digital era and to identify policy directions needed to improve the quality, productivity, and competitiveness of the national workforce amid rapid technological development.

As the dynamics of digital transformation become increasingly complex, labor market policy challenges can no longer be addressed through sectoral, hierarchical, and centralized approaches. Literature shows that changes in employment structures due to digitalization require a more adaptive, collaborative, and network-based governance model (Fitri, 2021). In this context, collaborative governance becomes an important approach because it integrates the roles of government, private sector, educational institutions, and civil society in the formulation and implementation of labor policies. Collaborative governance is understood as a mechanism that strengthens inter-actor coordination, improves accountability, and enhances the effectiveness of public policies in addressing complex and cross-sectoral problems (Wibowo et al., 2026).

International organizations such as the World Economic Forum (2025) emphasize that the future of work will be highly determined by a country's ability to build a collaborative ecosystem that supports reskilling, upskilling, and continuous technological adaptation. In addition, the OECD (2024) highlights that labor policies in the digital era must shift from a government-centric model toward multi-actor governance to address challenges such as work flexibility, digital divide, and skills inequality. Similarly, the International Labour Organization (ILO) emphasizes the importance of worker protection in the digital economy, which can only be achieved through strong and inclusive cross-sector coordination. Therefore, the collaborative governance approach is not only an analytical framework but also a practical necessity to ensure that Indonesia's labor market policies remain relevant, responsive, and sustainable in the era of digital transformation.

Literature Review

The Recent studies have consistently shown that digital transformation has fundamentally reshaped labor markets by changing employment structures, increasing demand for digital competencies, and expanding platform-based work. However, previous research has produced diverse findings regarding the effectiveness of policy responses. Several studies emphasize that investment in digital skills development through reskilling and upskilling programs is the most critical factor in improving workforce competitiveness and reducing unemployment in the digital economy (Destiartono et al., 2025). In contrast, other studies argue that workforce development alone is insufficient because labor market adaptation also depends on institutional capacity, regulatory flexibility, and coordination among multiple stakeholders responsible for education, employment, and industrial development (Alexandro, 2025).

Similarly, studies on the gig economy and digital employment present differing perspectives. Some researchers highlight that digital platforms create broader employment opportunities, increase labor market flexibility, and encourage innovation in business models (Novianto, 2025). Conversely, other studies report that platform-based employment is frequently associated with income uncertainty, limited social protection,

weak labor rights, and fragmented employment relationships, thereby raising concerns regarding the realization of decent work principles (Rozikin & Muhyiddin, 2025). These contrasting findings suggest that the impact of digitalization is highly dependent on the quality of governance and the policy framework adopted by each country.

Research has also examined the issue of digital inequality from different perspectives. While some studies identify digital infrastructure expansion as the primary determinant of labor market inclusion, others argue that equal access to technology does not automatically improve employment outcomes unless accompanied by digital literacy development, institutional support, and continuous workforce training (Lianingsih et al., 2025). Consequently, the literature indicates that labor market transformation is influenced not only by technological advancement but also by the interaction between public policy, institutional capacity, and stakeholder collaboration.

To provide a systematic explanation of labor market governance in the digital era, this study adopts the Collaborative Governance model developed by Ansell and Gash (2008) as its primary analytical framework. Ansell and Gash conceptualize collaborative governance as a process in which public agencies engage non-state stakeholders in a formal, consensus-oriented, and deliberative process for policy formulation and implementation. Emerson, Nabatchi, and Balogh (2012) further broaden the collaborative governance literature through an integrative framework that emphasizes system context, collaborative governance regimes, collaborative dynamics, actions, impacts, and adaptation. The present study uses Ansell and Gash because its four-dimensional model provides a more direct structure for organizing the literature on Indonesia's digital labor market policy.

Ansell and Gash identify four interrelated dimensions that determine the effectiveness of collaborative governance: starting conditions, institutional design, facilitative leadership, and the collaborative process. Starting conditions refer to the initial context that motivates stakeholders to collaborate, including resource imbalances, conflicting interests, and shared policy problems. Institutional design concerns the formal rules, legal frameworks, and governance arrangements that facilitate stakeholder participation. Facilitative leadership highlights the government's role in coordinating actors, building trust, and resolving conflicts. Meanwhile, the collaborative process involves face-to-face dialogue, trust building, commitment to shared objectives, mutual understanding, and collective decision-making, ultimately leading to collaborative outcomes.

In the context of Indonesia's digital labor market policy, these dimensions provide a comprehensive analytical framework for understanding how multiple stakeholders respond to the challenges of digital transformation. The starting conditions are reflected in skills mismatches, unequal digital access, labor market uncertainty, and the rapid adoption of artificial intelligence and digital platforms. Institutional design encompasses labor regulations, digital economy policies, workforce development programs, and inter-agency coordination mechanisms. Facilitative leadership is represented by the government's capacity to coordinate ministries, private sector actors, educational institutions, digital platforms, labor organizations, and civil society. Finally, the collaborative process is examined through the interaction and coordination among these stakeholders in designing policies that promote workforce competitiveness, digital inclusion, worker protection, and sustainable employment. By applying this framework, the study analyzes Indonesia's digital labor market policy not only from the perspective of policy substance but also from the governance processes that shape policy effectiveness in the era of digital transformation.

Method

This study employs a qualitative literature review (library research) to examine Indonesia's digital labor market policy through the Collaborative Governance perspective. A literature review was selected because it enables a systematic synthesis of previous studies, policy documents, and institutional reports to explain complex governance issues without relying on primary field data. The review was conducted using a structured search strategy to ensure transparency, consistency, and replicability throughout the research process.

The literature search was conducted using four major academic databases, namely Scopus, Web of Science (WoS), Google Scholar, and ScienceDirect, complemented by official publications from the International Labour Organization (ILO), the Organization for Economic Co-operation and Development (OECD), the World Economic Forum (WEF), the World Bank, and the Government of Indonesia. The search employed combinations of the following keywords: "digital labor market", "digital employment policy", "collaborative governance", "future of work", "digital transformation", "gig economy", "skills mismatch", "workforce development", and "Indonesia". Boolean operators (AND, OR) were used to refine the search and improve the relevance of retrieved publications.

The literature selection followed predefined inclusion and exclusion criteria. Publications were included if they (1) discussed digital labor markets, labor policies, collaborative governance, or workforce transformation; (2) were published between 2019 and 2026 to capture recent developments in digital transformation; (3) were peer-reviewed journal articles, conference proceedings, official reports, or government policy documents; and (4) were written in English or Indonesian. Publications were excluded if they were duplicates, lacked full-text access, consisted only of opinion pieces or news articles, or did not directly address the research objectives.

The literature search and screening process resulted in a final analytical corpus of 22 relevant sources. These sources consisted of peer-reviewed journal articles, international policy reports, national regulations, and institutional publications that met the stated inclusion criteria and directly addressed Indonesia’s digital labor market, labor policy, workforce transformation, or collaborative governance. Because this study uses a qualitative library-review design, the analysis focuses on the final eligible corpus rather than treating database hit counts as a substantive research outcome.

The selected literature was analyzed using qualitative content analysis. The procedure involved four stages: (1) identifying key themes related to digital labor market transformation; (2) classifying findings according to the four dimensions of the Collaborative Governance framework proposed by Ansell and Gash (2008), namely starting conditions, institutional design, facilitative leadership, and collaborative process; (3) comparing findings across sources to identify convergent, divergent, and complementary patterns; and (4) synthesizing the evidence to formulate conclusions and policy implications regarding collaborative governance in Indonesia’s digital labor market.

Data analysis was conducted using qualitative content analysis techniques, consisting of data reduction, data presentation, and conclusion drawing. In the data reduction stage, relevant information is selected and simplified according to the research objectives. The next stage involves presenting the data in a systematic descriptive form to facilitate interpretation. Finally, conclusions are drawn through a synthesis process of various findings from the reviewed literature (Sari et al., 2022). Using this method, the study is expected to provide an in-depth overview of labor market policy in Indonesia, as well as the challenges and opportunities faced in the digital era.

Results

The Condition of Indonesia's Labor Market in the Digital Era

The Digital transformation has become one of the main factors influencing the development of the labor market in Indonesia. The advancement of information and communication technology, the widespread use of the internet, and the increasing adoption of digital technology across various economic sectors have changed work relationships and the required workforce competencies. Digitalization not only drives efficiency and productivity in companies but also creates various new types of jobs that were previously unknown, such as data analysts, application developers, digital marketing specialists, social media managers, and other technology-based professions (Sarbini et al., 2025).

These changes indicate that Indonesia's labor market is shifting from routine-based jobs toward occupations that require digital skills, critical thinking abilities, creativity, and adaptability to technological change. However, this transformation also creates challenges, as not all workers possess the competencies required by the digital industry. As a result, a gap emerges between labor demand and the availability of skilled workers in the technology sector (Sari & Nugroho, 2024).

In addition, the development of the digital economy has encouraged the emergence of new work models such as freelancing, remote working, and the gig economy. The presence of digital platforms provides opportunities for people to access more flexible employment without being restricted by location or working hours. This condition shows that digitalization has transformed the labor market structure into a more dynamic and competitive system (Suryani & Firmansyah, 2025).

Indonesia has a significant opportunity to benefit from its demographic bonus, which is projected to continue until 2035. The dominance of the productive-age population is an important asset in supporting digital transformation, provided that it is accompanied by adequate human resource quality. However, the demographic bonus may turn into a burden if the creation of quality jobs fails to keep pace with labor force growth (Badan Pusat Statistik, 2025).

Data from the Central Bureau of Statistics (BPS) shows that Indonesia's labor force participation rate has continued to increase along with improving post-pandemic economic activity. At the same time, the information and communication sector, professional services, e-commerce, and the digital creative industry have experienced relatively higher employment growth compared to conventional sectors. This phenomenon indicates that digitalization has become a key driver of changes in Indonesia's employment structure (BPS, 2025).

On the other hand, the development of the digital economy has given rise to various new forms of employment relationships, such as platform workers, freelancers, remote workers, and digital creative workers. These work models offer greater flexibility for both workers and companies, as they are no longer constrained by space and time. However, this flexibility also creates challenges such as income uncertainty, weak social protection, and unclear employment status, requiring adjustments in labor policy (ILO, 2024).

In addition to changes in employment structure, digitalization has also increased the demand for workers with digital competencies. According to the World Economic Forum, most future jobs will require a combination of hard skills and soft skills, such as adaptability, critical thinking, communication, and lifelong learning abilities. Therefore, Indonesia's education and training systems must be able to produce graduates who match the needs of the digital industry to avoid skills mismatch (World Economic Forum, 2025).

These conditions indicate that Indonesia's labor market is currently in a transition toward a digital economy. This transformation offers significant opportunities to improve national productivity, but its success depends heavily on human resource readiness, the

quality of labor regulations, and the government's ability to create an inclusive and sustainable digital ecosystem (Organization for Economic Co-operation and Development, 2024).

Challenges of Labor Market Policy in the Digital Era

Starting Conditions: Structural Challenges in Indonesia's Digital Labor Market

Literature consistently indicates that Indonesia's digital labor market is characterized by interconnected structural challenges rather than isolated problems. Skills mismatch is closely associated with the rapid adoption of automation and artificial intelligence, while unequal digital infrastructure further limits workers' ability to acquire new competencies. At the same time, the expansion of platform-based employment has increased labor market flexibility but also exposed workers to greater employment insecurity. These findings suggest that the principal challenge is not merely technological change itself but the limited institutional capacity to coordinate workforce development, labor protection, and digital inclusion simultaneously (Prasetyo & Hidayat, 2024).

Institutional Responses and Policy Coordination

The reviewed literature consistently demonstrates that no single institution possesses sufficient capacity to address the multidimensional consequences of digital transformation. Government agencies regulate labor markets, educational institutions develop human capital, industries identify emerging skill requirements, while digital platforms shape new employment patterns (Alexandro, 2025). Therefore, effective labor market policy depends on collaborative governance mechanisms capable of integrating these complementary roles through continuous dialogue, joint policy formulation, and shared responsibility.

Collaborative Outcomes

The reviewed literature identifies a number of interconnected challenges resulting from digital transformation, particularly skills mismatches, the gig economy, the digital divide, and workforce development. These findings highlight the importance of institutional collaboration in formulating responsive and inclusive labor policies. A synthesis of the key findings and their implications for collaborative governance is presented in Table 1.

Tabel 1.
Synthesis Table

Theme	Main Findings	Relationship Between Findings	Collaborative Governance Implication
Skills mismatch	Most studies report shortage of digital skills	Related to education-industry mismatch	Joint curriculum development
Gig economy	Flexible employment but weak protection	Linked with labor regulation	Government-platform collaboration
Digital divide	Infrastructure inequality	Limits workforce participation	Multi-level government coordination
Workforce development	Upskilling improves competitiveness	Requires industry participation	Public-private partnership

Sources: Amory et al. (2025)

Table 1 demonstrates that the challenges of digital transformation are interrelated and cannot be addressed by a single institution. Effective responses require collaboration

among government, educational institutions, industry, and other relevant actors through joint policy development, coordinated regulation, and public–private partnerships.

Inequality in Access to Technology

Another challenge is the continuing inequality in access to technology between urban and rural areas. Uneven digital infrastructure prevents some communities from taking advantage of employment opportunities available in the digital economy. Inequality in internet access, technological devices, and digital literacy can widen economic and social gaps if not addressed seriously. Therefore, equitable digital infrastructure development is an important prerequisite for creating an inclusive labor market in the digital era (Siregar et al., 2024).

Opportunities in the Digital Labor Market

Creation of New Job Opportunities

Digital transformation does not only eliminate certain types of jobs but also creates various new professions with high added value. Fields such as information technology, artificial intelligence, cybersecurity, data analysis, cloud computing, and digital marketing have shown rapid growth in recent years. These developments open opportunities for Indonesian workers to access more productive and highly competitive jobs. With a large productive-age population, Indonesia has the potential to become one of the leading digital talent hubs in Southeast Asia (Reljic et al., 2025).

Increased Labor Productivity

Digitalization enables companies to improve operational efficiency through the use of technology. The application of digital systems in business management, communication, production, and marketing can enhance labor productivity while expanding market access (Wilianti et al., 2025). This increase in productivity can ultimately drive economic growth, improve workers' income, and strengthen national competitiveness in the global market (Destiartono et al., 2025).

Work Flexibility and Inclusiveness

Technological advancement allows people to work from various locations through remote working systems. This condition provides broader opportunities for groups that previously had limited access to formal employment, such as women, persons with disabilities, and people living in remote areas. Thus, digitalization can serve as a tool to enhance labor market inclusiveness while expanding workforce participation in economic activities (Khoerulloh & Aziz, 2024).

Development of the National Digital Economy

The continuous growth of Indonesia's digital economy creates significant opportunities for job creation. The expansion of e-commerce, financial technology *(fintech*), startups, and the digital creative industry has opened various new business opportunities and employment sectors. If supported by appropriate policies, the digital economy can become a strategic sector capable of absorbing a large workforce and improving public welfare (Wihardja et al., 2024).

Analysis of Labor Market Policy in Indonesia in Facing the Digital Era

The synthesized evidence indicates that Indonesia has shifted from conventional employment policies toward digital workforce development. However, the literature consistently reveals that policy fragmentation remains a major constraint. Although competency development programs, digital infrastructure expansion, and labor

regulations have been implemented, these initiatives are often administered independently by different institutions. From the perspective of Collaborative Governance, this fragmentation weakens policy coherence because successful digital labor market transformation depends on continuous interaction among government agencies, industries, higher education institutions, digital platforms, labor organizations, and civil society. Consequently, policy effectiveness is determined not only by the quality of individual programs but also by the capacity to establish institutional collaboration that supports adaptive and inclusive labor market governance (Rahmawati & Kurnia, 2024).

However, several challenges still require serious attention. Existing policies need to be more integrated across the education sector, job training, industry, and labor regulations to produce a workforce that matches labor market demands. In addition, protection for digital workers must be strengthened through regulations that are adaptive to the development of new work models (Kurniawan & Aruan, 2021).

In this context, labor market policy should not only focus on job creation but also ensure improvements in workforce quality, adequate social protection, and equal access to digital economic opportunities (Lianingsih et al., 2025). Thus, digital transformation can become an opportunity to enhance Indonesia's workforce competitiveness while promoting inclusive and sustainable economic growth.

Based on the literature review, labor market policy in Indonesia has demonstrated considerable progress in responding to digital transformation. The government has developed various strategic programs such as strengthening vocational education, improving competencies through job training, competency certification, the Pre-Employment Card Program *(Kartu Prakerja)*, Digital Talent Scholarship, and various digital talent development initiatives. These programs aim to improve the quality of human resources so they can meet the increasingly digitalized needs of industries (Ministry of Communication and Digital Affairs of the Republic of Indonesia, 2024).

In addition to workforce competency development, the government has also expanded access to digital infrastructure through the development of national internet networks, equal distribution of information technology access, and acceleration of digital transformation in both public and private sectors. Digital infrastructure is a crucial prerequisite for creating a more inclusive labor market because it enables people across regions to access information, education, and digital-based employment opportunities (OECD, 2024).

Nevertheless, the effectiveness of labor market policies still faces several obstacles. One major issue is the lack of optimal alignment between the education system and industry needs. Formal education curricula often lag behind technological developments, resulting in graduates who do not fully possess the competencies required by the labor market. This condition leads to skills mismatch, contributing to relatively high educated unemployment in Indonesia (ILO, 2024).

Another issue relates to labor regulations that have not fully accommodated the development of digital work models. The increasing number of platform-based workers highlights the need for a more adaptive social protection system to ensure access to health insurance, employment injury protection, pension schemes, and job security without limiting the flexibility of digital business models. Therefore, labor regulation reform must be directed toward balancing worker protection and digital economic innovation (ILO, 2024).

From a public policy perspective, the development of the digital labor market also requires cross-sector coordination. Policies in education, employment, investment, industry, and digital transformation cannot be implemented in isolation but must be integrated to produce a competitive workforce aligned with national development needs.

Synergy among government, business sectors, universities, and training institutions is a key factor in building a sustainable employment ecosystem (OECD, 2024).

Thus, future labor market policies in Indonesia should not only focus on job creation but also on improving employment quality, social protection, equal employment opportunities, and workforce productivity. This approach will strengthen national competitiveness while ensuring that the benefits of digital transformation are distributed more evenly across all segments of society (World Economic Forum, 2025).

Discussion

The synthesized findings demonstrate that Indonesia's digital labor market is characterized by interconnected challenges that extend beyond technological transformation itself. The increasing demand for digital skills, the expansion of platform-based employment, automation, and unequal access to digital infrastructure collectively indicate that labor market transformation is a complex governance issue rather than merely an economic or technological phenomenon. From the perspective of Collaborative Governance, these conditions represent the starting conditions described by Ansell and Gash (2008), where resource asymmetries, institutional fragmentation, and differing stakeholder interests create the need for collaborative policy responses. The findings therefore suggest that the principal challenge lies not only in adapting workers to technological change but also in strengthening institutional coordination among actors responsible for workforce development (Sarbini et al., 2025).

This finding is also consistent with Destiartono et al. (2025) and Wihardja et al. (2024). The findings further reveal that existing labor market policies, including vocational education reform, competency certification, digital talent development, and digital infrastructure expansion, have contributed positively to workforce readiness. However, the literature consistently indicates that these initiatives are frequently implemented through sectoral approaches with limited coordination among ministries, educational institutions, industries, digital platforms, and labor organizations. From the Collaborative Governance perspective, this reflects weaknesses in institutional design, where collaboration mechanisms, shared responsibilities, and integrated policy implementation remain insufficient to address multidimensional labor market challenges (Izzati & Kwang, 2025). Consequently, policy effectiveness depends not only on the availability of programs but also on governance arrangements that facilitate sustained inter-organizational collaboration.

Another important finding concerns the government's role as a facilitative leader in coordinating diverse stakeholders. Digital labor market transformation requires government institutions not only to formulate regulations but also to create collaborative platforms that encourage dialogue, trust building, and consensus among employers, educational institutions, technology companies, labor unions, digital platform providers, and civil society organizations. This interpretation supports previous studies emphasizing that workforce competitiveness depends on cross-sector partnerships rather than isolated government interventions. Therefore, facilitative leadership becomes essential for aligning workforce development programs with rapidly evolving industrial needs while ensuring adequate worker protection.

Furthermore, the literature suggests that effective labor market governance depends on an ongoing collaborative process involving information sharing, joint decision-making, and collective responsibility among stakeholders. The persistence of skills mismatches, unequal digital access, and limited protection for platform workers demonstrates that fragmented policy implementation is insufficient to address the complexity of digital transformation (Siregar et al., 2024). Therefore, equal distribution of digital infrastructure

and improvement of digital literacy are essential components of labor market policy in the digital era.

Instead, continuous collaboration enables stakeholders to integrate educational reforms, labor regulations, technological innovation, and social protection into coherent policy responses. This finding extends previous discussions by demonstrating that labor market resilience is shaped not only by technological capability but also by the quality of collaborative governance supporting policy implementation (OECD, 2024; World Economic Forum, 2025).

Conclusion

This study concludes that digital transformation has fundamentally reshaped Indonesia's labor market by creating new employment opportunities while simultaneously generating complex challenges, including skills mismatches, the expansion of platform-based work, unequal access to digital infrastructure, and insufficient protection for digital workers. The synthesis of previous studies demonstrates that these challenges are interconnected and cannot be effectively addressed through conventional sectoral policies or government-centered interventions alone. Instead, they require an integrated governance approach that coordinates workforce development, labor regulation, technological innovation, and social protection.

From a theoretical perspective, this study contributes to the literature by positioning the Collaborative Governance framework as the primary analytical lens for understanding digital labor market policy in Indonesia. The findings show that effective policy responses depend on collaboration among government agencies, private industries, educational institutions, digital platform providers, labor organizations, and civil society. This perspective extends previous studies that have generally examined digital labor market issues separately by demonstrating that policy effectiveness is determined not only by technological readiness or human capital development but also by the quality of cross-sector collaboration and institutional coordination.

The findings also provide important policy implications. The Government of Indonesia should strengthen institutional collaboration through integrated workforce development strategies, industry-oriented education and training, adaptive labor regulations for digital workers, and equitable expansion of digital infrastructure. Establishing formal mechanisms for collaboration among public institutions, industry, higher education institutions, and digital platforms is essential to ensure that labor market policies remain adaptive, inclusive, and responsive to the rapid evolution of digital technologies.

This study is limited by its reliance on a qualitative literature review, which does not provide direct empirical evidence regarding stakeholder interactions or policy implementation. Future research is therefore encouraged to employ qualitative case studies, interviews, mixed-methods approaches, or comparative analyses across sectors or countries to examine how collaborative governance mechanisms operate in practice and how they influence the effectiveness of digital labor market policies in Indonesia.

Research Contributions

The study contributes theoretically by applying Ansell and Gash’s (2008) Collaborative Governance framework as the primary analytical lens for interpreting Indonesia’s digital labor market policy. This shifts the analysis from a predominantly technology-, skills-, or regulation-centered view toward an examination of institutional coordination and cross-sector collaboration.

Conceptually, the study integrates skills mismatch, digital worker protection, digital inequality, workforce development, and labor regulation within a single governance-

oriented framework. The synthesis shows that these issues are interconnected and cannot be adequately addressed through isolated sectoral interventions.

Practically, the study recommends strengthening formal coordination among government agencies, educational institutions, private industries, digital platforms, labor organizations, and civil society. These arrangements can support joint workforce development, adaptive labor regulation, broader social protection, and more equitable access to digital employment opportunities.

The study therefore adds value by demonstrating how Collaborative Governance can be used to interpret the institutional conditions and collaborative processes underlying digital labor market policy in Indonesia, while also identifying areas for future empirical research on how such collaboration operates in practice.

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The author declares that there is no conflict of interest in the preparation of this article. All stages of writing, analysis, and conclusion were conducted independently based on a literature review from various relevant academic sources.

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