

## **Exploring Governance Structures and Employment Access in Port Development**

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### **Abstract**

Port development projects are widely expected to generate employment opportunities for local communities, yet employment participation in infrastructure development is often shaped by the structure of governance relationships that organize recruitment, workforce preparation, and institutional coordination. This study aims to examine the relationship between collaborative governance arrangements and employment access within a port development system using the collaborative governance framework of Ansell and Gash as the analytical lens. The research adopts a qualitative governance approach with a case study design to analyze institutional relationships and workforce participation mechanisms in port development. Data were collected through interviews, field observations, and document analysis involving stakeholders responsible for governance coordination and employment management. Data analysis was conducted using thematic coding techniques in NVivo 15, including open coding and axial coding, followed by cluster similarity analysis to identify relationships among governance dimensions. Network analysis was subsequently performed using Gephi 0.10.1 to visualize the correlation among actors and the distribution of coordination roles within the governance system. Data validity was ensured through triangulation across interviews, observations, and institutional documents, as well as consistency checks in coding and network mapping procedures. The findings indicate that employment access is closely associated with structured governance relationships in which institutional coordination, workforce readiness, and recruitment procedures operate through formal administrative systems dominated by institutional actors. The study concludes that collaborative governance provides a coordinated mechanism for managing workforce participation in infrastructure development, yet variations in institutional connectivity and stakeholder participation may result in uneven employment access among local communities. This research contributes to the field of governance and infrastructure development by demonstrating how the integration of qualitative coding analysis and network-based visualization can be used to examine the relationship between governance structures and employment participation in large-scale development contexts.

Keywords: Collaborative Governance, Employment Access, Infrastructure Development, Public Governance.

### **Abstrak**

Proyek pengembangan pelabuhan secara luas diharapkan dapat menciptakan peluang kerja bagi masyarakat setempat, namun partisipasi kerja dalam pengembangan infrastruktur sering kali dibentuk oleh struktur hubungan tata kelola yang mengatur perekrutan, persiapan tenaga kerja, dan koordinasi kelembagaan. Studi ini bertujuan untuk meneliti hubungan antara pengaturan tata kelola kolaboratif dan akses kerja dalam sistem pengembangan pelabuhan menggunakan kerangka kerja tata kelola kolaboratif Ansell dan Gash sebagai lensa analitis.

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Penelitian ini mengadopsi pendekatan tata kelola kualitatif dengan desain studi kasus untuk menganalisis hubungan kelembagaan dan mekanisme partisipasi tenaga kerja dalam pengembangan pelabuhan. Data dikumpulkan melalui wawancara, observasi lapangan, dan analisis dokumen yang melibatkan pemangku kepentingan yang bertanggung jawab atas koordinasi tata kelola dan manajemen ketenagakerjaan. Analisis data dilakukan menggunakan teknik pengkodean tematik di NVivo 15, termasuk pengkodean terbuka dan pengkodean aksial, diikuti oleh analisis kesamaan kluster untuk mengidentifikasi hubungan antar dimensi tata kelola. Analisis jaringan kemudian dilakukan menggunakan Gephi 0.10.1 untuk memvisualisasikan korelasi antar aktor dan distribusi peran koordinasi dalam sistem tata kelola. Validitas data dipastikan melalui triangulasi di seluruh wawancara, observasi, dan dokumen kelembagaan, serta pemeriksaan konsistensi dalam prosedur pengkodean dan pemetaan jaringan. Temuan menunjukkan bahwa akses pekerjaan terkait erat dengan hubungan tata kelola terstruktur di mana koordinasi kelembagaan, kesiapan tenaga kerja, dan prosedur perekrutan beroperasi melalui sistem administrasi formal yang didominasi oleh aktor kelembagaan. Studi ini menyimpulkan bahwa tata kelola kolaboratif menyediakan mekanisme terkoordinasi untuk mengelola partisipasi tenaga kerja dalam pembangunan infrastruktur, namun variasi dalam konektivitas kelembagaan dan partisipasi pemangku kepentingan dapat mengakibatkan akses pekerjaan yang tidak merata di antara masyarakat lokal. Penelitian ini berkontribusi pada bidang tata kelola dan pembangunan infrastruktur dengan menunjukkan bagaimana integrasi analisis pengkodean kualitatif dan visualisasi berbasis jaringan dapat digunakan untuk meneliti hubungan antara struktur tata kelola dan partisipasi pekerjaan dalam konteks pembangunan skala besar.

Kata kunci: Tata Kelola Kolaboratif, Akses Pekerjaan, Pembangunan Infrastruktur, Tata Kelola Publik.

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## INTRODUCTION

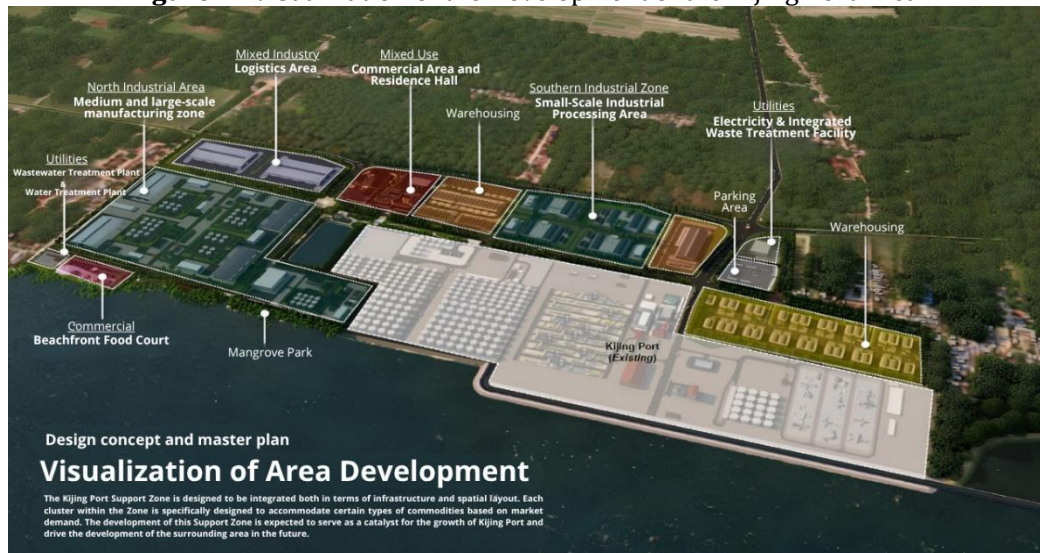
Infrastructure development has become a central instrument in regional economic transformation, particularly in developing countries that seek to strengthen connectivity, expand industrial capacity, and stimulate local economic growth (Amin et al., 2021). In Indonesia, the development of port infrastructure has been positioned as a strategic priority to improve logistics efficiency and support regional competitiveness (Yudhistira & Sofiyandi, 2018). One of the major infrastructure projects implemented in West Kalimantan is the construction of the Kijing International Terminal in Mempawah Regency, which was designated as a national strategic project through Presidential Regulation Number 43 of 2017 to accelerate maritime connectivity and regional development. The establishment of this terminal reflects the government's commitment to enhancing transportation networks and supporting economic activities in surrounding areas (Rahmayati et al., 2023).

Large-scale infrastructure development is widely recognized as a catalyst for structural changes in local economies and social systems (Rammelt, 2018). The construction of the Kijing International Terminal has resulted in significant land-use transformation from agricultural land, plantations, and residential areas into industrial and logistics zones (Dong et al., 2023). Such spatial changes illustrate how infrastructure development can reshape economic activities and influence community livelihoods through shifts in employment patterns and production systems (Rahmayati et al., 2023).

From a socio-economic perspective, infrastructure projects are expected to generate employment opportunities and improve income levels for local communities (Hussain et al., 2022). Empirical evidence indicates that the development of port infrastructure often stimulates new economic activities, including transportation services, small-scale businesses, and trade-related industries (Keputusan Menteri Perhubungan Republik Indonesia Nomor KP 787 Tahun 2016

Tentang Rencana Induk Pelabuhan Pontianak Provinsi Kalimantan Barat, 2016). Based on field observations and interviews with residents around the Kijing Terminal development area, found that the project created new employment opportunities and business activities, particularly in service sectors such as food stalls, rental housing, and transportation services. At the same time, the study also documented the displacement of traditional livelihoods, especially among farmers and fishermen who experienced changes in land use and access to economic resources.

**Figure 1.** Visualization of the Development of the Kijing Port Area



**Source:** Master Plan Document of PT. Pelindo II, 2024

After reviewing field observations and examining development planning documents, including the port area master plan, the researcher subsequently explored empirical literature to understand how infrastructure investment influences employment dynamics across different regional contexts. A study conducted in the European Union found that improvements in accessibility resulting from transport infrastructure investment are positively associated with regional job growth, although the effects on regional production are not always significant and may vary across regions, particularly in rural areas with limited economic bases (Rokicki & Stępnik, 2018). Research in West Africa similarly reported that the development of transport and energy infrastructure generated short-term employment during the construction phase and longer-term employment opportunities through industrial capacity expansion, yet these benefits were often constrained by skill mismatches and weak policy coordination mechanisms (Akomolehin et al., 2024). These findings indicate that the relationship between infrastructure development and employment opportunities is not automatic but is shaped by labor market conditions and institutional capacity in managing regional economic transitions.

In more advanced regional economic contexts, research on infrastructure construction projects in the United States shows that infrastructure investment can increase employment directly within the local construction sector, particularly in areas with low labor mobility, while its impact on total local employment tends to be relatively small or statistically insignificant (Garin, 2019). Other studies on infrastructure development linked to logistics integration demonstrate that new infrastructure can support industrial integration and more balanced regional economic growth when accompanied by effective policy coordination and adequate levels of digitalization (An et al., 2024). This body of empirical evidence suggests that job creation resulting from infrastructure investment is influenced not only by the scale of development projects but also by

the effectiveness of policy coordination and stakeholder engagement throughout the development process. Consequently, employment conditions in infrastructure development contexts should be understood as outcomes shaped by the interaction between physical investment and governance arrangements that regulate community access to emerging economic opportunities.

Within the field of public administration and development policy, collaborative governance has emerged as a key framework for understanding how complex development programs are implemented through interaction among multiple stakeholders (Vigoda, 2003). Collaborative governance refers to institutional arrangements in which government agencies engage non-state actors, including private organizations and community groups, in collective decision-making processes to address public issues and manage shared resources (Ansell & Gash, 2007). Research on collaborative governance in regional development contexts highlights the importance of trust, commitment, leadership, and institutional coordination in supporting sustainable development outcomes (Biswal, 2021; Dhanshyam & Srivastava, 2021; Gupta & Sharma, 2023).

Despite the growing body of literature on infrastructure development and collaborative governance, previous studies have tended to examine these issues separately rather than as interconnected processes. Studies focusing on port infrastructure development have primarily analyzed socio-economic impacts such as income changes, land-use transformation, and population dynamics without investigating how governance mechanisms shape employment outcomes. For example, Christianto & Made Gede Darma Susila, (2024); Purnama & Chainar, (2022); Rahmayati et al., (2023); Sujendra & Eka, (2022) examined the socio-economic effects of the Kijing Terminal development using descriptive spatial and socio-economic analysis, identifying changes in employment patterns and business activities but not analyzing the role of institutional coordination in determining employment opportunities.

At the same time, studies on collaborative governance have largely concentrated on institutional processes such as stakeholder coordination, policy implementation, and organizational communication without explicitly addressing employment conditions as a policy outcome. A meta-analytical study conducted by, which reviewed multiple empirical studies on collaborative governance in sustainable development, concluded that effective collaboration among stakeholders improves policy implementation through enhanced communication and resource sharing mechanisms (Velby & Yuadi, 2023). However, the study did not specifically examine how collaborative governance influences employment opportunities or labor market transitions in infrastructure development contexts.

Additional evidence from recent empirical studies summarized in the dataset of previous research indicates a similar pattern. Several studies analyzed governance performance in infrastructure development using qualitative approaches, focusing on institutional coordination, stakeholder participation, and policy implementation effectiveness (Katherine A. Daniel & Kay, 2017; Saleh et al., 2021; Yilema & Gianoli, 2018). Other studies examined employment impacts of infrastructure development using quantitative methods, emphasizing job creation, income changes, and labor market mobility (Belloc et al., 2022; Biswal, 2021; Gupta & Sharma, 2023). However, this study rarely integrates governance analysis with employment dynamics in a single analytical framework. The methodological separation between governance analysis and employment analysis has resulted in a limited understanding of how governance structures correlate with employment access and labour market outcomes in infrastructure development settings.

This fragmentation in the literature indicates that employment conditions are often treated as automatic consequences of infrastructure investment rather than as outcomes shaped by

governance processes. In practice, employment opportunities are influenced by multiple institutional factors, including recruitment policies, labor allocation mechanisms, stakeholder coordination, and community participation in development programs. Without examining these governance dimensions, policy interventions may fail to address inequalities in employment access or ensure the long-term sustainability of development outcomes (Dencker et al., 2009; Desjardins & Rubenson, 2013; Sartas et al., 2019). The absence of governance-based employment analysis therefore represents a critical gap in the literature on infrastructure development and regional labor markets.

Addressing this gap requires an analytical framework that integrates infrastructure development, governance processes, and employment dynamics within a single conceptual model. Collaborative governance provides such a framework by emphasizing interaction among stakeholders, shared responsibility in policy implementation, and institutional coordination in resource allocation. According to (Ansell & Gash, 2007), collaborative governance involves structured interaction among public institutions, private actors, and community organizations to achieve collective policy goals through consensus-oriented decision-making processes. Within this framework, employment outcomes can be understood as the result of governance interactions rather than purely economic growth.

The present study therefore adopts collaborative governance as the primary theoretical lens for examining the relationship between infrastructure development and employment conditions in Mempawah Regency. By focusing on stakeholder interaction, institutional coordination, and decision-making processes in port development, his study seeks to analyze how governance arrangements relate to employment opportunities and labor market transitions in communities affected by infrastructure expansion. This approach enables a more comprehensive understanding of development outcomes by linking governance structures with socio-economic conditions at the local level.

## **RESEARCH METHOD**

This study adopts a qualitative case study approach to examine governance dynamics and employment access in the development of Kijing Terminal Port in Mempawah Regency, West Kalimantan. A qualitative case study design was selected because the research aims to understand institutional interactions, coordination mechanisms, and actor roles within a specific governance setting rather than to test causal relationships through statistical modeling. Case study research enables an in-depth exploration of complex policy implementation processes in real-life contexts where multiple stakeholders interact within institutional arrangements and governance structures. This design is particularly appropriate for analyzing the governance processes underlying infrastructure development projects that involve government institutions, port authorities, and local communities (Creswell, 2018).

The study utilizes multiple sources of data to ensure analytical rigor and empirical credibility. Primary data were obtained through in-depth semi-structured interviews with participants directly involved in port development governance, labor recruitment mechanisms, and community engagement processes. Field observations were conducted to document coordination practices, employment-related activities, and interactions among institutional actors in the port development area. Secondary data were collected from regional regulations, development plans, institutional reports, and administrative records related to port operations and workforce management. The integration of interviews, observations, and documents enables cross-verification of information

across different sources, thereby strengthening the reliability of qualitative interpretation through data triangulation. Documentary sources are essential in governance research because formal policy documents provide institutional evidence regarding regulatory authority, organizational mandates, and implementation procedures (Denzin, 2017).

Participants were selected based on their institutional authority, involvement in governance processes, and relevance to employment access in the port development area. The selection of participants followed purposive sampling to identify key decision-makers responsible for policy implementation and institutional coordination, followed by snowball sampling to identify community actors with direct experience related to employment opportunities and land acquisition impacts. These sampling strategies are widely applied in qualitative research to ensure that participants possess relevant knowledge and practical experience related to the research problem (Creswell, 2018; Denieffe, 2020). The number of participants was determined based on analytical relevance and data sufficiency, ensuring that each participant contributes directly to the examination of governance coordination and employment access in the port development context.

**Table 3. Research Participants**

No	Participant	Institutional Role	Code
1	Head of Transportation Office of Mempawah Regency	Government Authority	A
2	Head of Industry, Trade, and Manpower Office of Mempawah	Labor and Employment Authority	B
3	Head of Manpower Division	Labor Administration	C
4	Manager of Kijing Terminal Port	Port Authority	D
5	Subdistrict Head of Sungai Kunyit	Local Government	E
6	Village Head of Sungai Kunyit Laut	Local Government	F
7	Member of Regional House of Representatives (DPRD)	Policy Oversight Institution	G
8	Community Leader	Community Representative	H
9	Resident affected by land acquisition	Local Community	I
10	Worker employed at Kijing Terminal	Labor Participant	J

**Source:** Processed by the researcher, 2025

Data collection was conducted between January and June 2024 through face-to-face interviews and direct field observation in the Kijing Terminal development area. Interviews were guided by open-ended questions to capture institutional experiences, coordination practices, and employment dynamics associated with port development. Each interview was conducted with informed consent, recorded, and transcribed verbatim to ensure data accuracy and transparency. Field observations were undertaken to document recruitment procedures, coordination meetings, and interactions between government agencies and community members. Documentary sources were systematically reviewed to provide contextual evidence supporting the interpretation of governance processes. Flexible interview techniques allow researchers to capture detailed institutional experiences and decision-making processes in complex organizational environments (Creswell, 2018).

Data analysis was conducted using a structured thematic procedure supported by NVivo 15 to ensure transparency and analytical consistency. The analysis began with open coding, in which interview transcripts, observation notes, and policy documents were examined line-by-line to identify initial concepts related to governance coordination, labor recruitment mechanisms, institutional authority, and community participation. These initial codes were subsequently refined through axial coding, where related concepts were systematically grouped into broader analytical categories representing key governance dimensions within the port development context. This iterative coding process enables researchers to identify relationships among concepts and develop

coherent thematic structures derived from empirical data (Gösgens et al., 2021; Nvqsrinternational, 2024).

Following the axial coding process, relationships among categories were examined using the Items Clustered by Coding Similarity feature in NVivo 15. This procedure generated a cluster circle graph that visually represents the proximity of categories based on shared coding patterns, enabling the identification of conceptual relationships among governance dimensions. Cluster analysis in qualitative data analysis software supports systematic interpretation of thematic relationships by identifying similarities among coded categories and organizing complex qualitative data into meaningful analytical structures (Gösgens et al., 2021; Nvqsrinternational, 2024).

To complement thematic analysis, the study applied Social Network Analysis (SNA) using Gephi version 0.10.1 to examine interaction patterns among governance actors involved in port development and employment coordination. Relational data were constructed from interview responses and institutional interaction records to identify communication and coordination links among participants. The analysis focused on degree centrality as the primary indicator to measure the number of direct connections maintained by each actor within the governance network. Degree centrality is widely used in social network analysis to identify actors occupying central positions in a network and to determine which individuals or institutions play dominant roles in coordination and information exchange (Scott, 2012). Network analysis has been shown to reveal critical nodes within organizational networks and provide insights into how relationships shape decision-making and governance effectiveness.

To ensure the trustworthiness of the research findings, several validation techniques were applied throughout the research process. Data triangulation was conducted by comparing information obtained from interviews, observations, and documents to verify consistency across data sources. Member checking was performed by confirming key interpretations with selected participants to ensure that the findings accurately reflect their perspectives and experiences. An audit trail was maintained to document coding procedures, analytical decisions, and interpretation processes, thereby enhancing transparency and methodological accountability in qualitative research (Denzin, 2017).

## **RESULTS AND DISCUSSION**

This section presents the empirical findings derived from the qualitative analysis of governance processes and employment access in the development of Kijing Terminal Port. The findings are based on data collected between January and June 2024 through interviews, field observations, and document analysis involving key participants representing government institutions, port management authorities, and local communities. The analytical process followed a structured sequence beginning with open coding to identify initial governance-related concepts, followed by axial coding to organize these concepts into broader governance dimensions. The relationships among these dimensions were subsequently examined through cluster similarity analysis using NVivo 15, while interaction patterns among institutional actors were analyzed through Social Network Analysis using degree centrality. This sequence of analysis ensures that the findings presented in this section are grounded in empirical evidence and directly traceable to the methodological procedures applied in the study.

The presentation of findings in this section is guided by the collaborative governance framework developed by Ansell & Gash, (2007), which provides an analytical lens for examining how institutional actors coordinate, communicate, and participate in decision-making processes within a shared governance environment. In this study, the framework is used as an applied theory to structure the identification of governance dimensions such as institutional coordination, stakeholder participation, communication mechanisms, and shared responsibility in employment-related decision-making. The section therefore presents findings in a logical progression beginning with the governance context and institutional roles of participants, followed by the emergence of governance dimensions identified through coding procedures, the examination of relationships among governance categories through cluster similarity analysis, and the mapping of actor coordination through network analysis. Tables and figures are included as they are necessary to clarify institutional relationships, thematic patterns, and network structures, so that readers can follow how empirical observations are organized into systematic governance patterns. This structured presentation serves as the foundation for the subsequent discussion section, where empirical findings will be interpreted in relation to theoretical concepts and policy implications.

### **Interconnected Governance Themes in Collaborative Processes**

The analysis identified several governance dimensions that shape collaborative processes in the development and operation of Kijing Terminal Port. These dimensions emerged from systematic coding procedures and were subsequently organized into interconnected thematic clusters representing the operational structure of governance coordination. The findings indicate that collaborative governance in the port development context is not characterized by a single dominant mechanism but rather by a set of interrelated governance components that operate simultaneously within institutional and operational arrangements. These components include coordination mechanisms among government agencies, institutional authority in managing port operations, workforce preparation and recruitment processes, and communication channels among stakeholders. The interaction among these dimensions reflects how governance activities are structured and implemented within the local development system. The clustering of these governance elements demonstrates that decision-making and implementation processes in port development are influenced by institutional relationships rather than isolated administrative actions. This pattern indicates that governance effectiveness depends on the alignment of institutional roles, operational coordination, and workforce readiness within a shared development framework.

The findings further reveal that coordination mechanisms constitute a central element in the collaborative governance process. Coordination activities were found to involve multiple institutions operating under formal administrative authority, particularly in managing infrastructure development, regulatory compliance, and operational supervision. These coordination arrangements function as the primary mechanism for synchronizing institutional responsibilities across government agencies and port management entities. The analysis shows that coordination is closely associated with communication practices and administrative procedures that regulate the flow of information and decision-making among stakeholders. In practice, coordination activities were conducted through structured communication channels and formal institutional procedures that ensure the continuity of port development operations. This pattern suggests that governance coordination functions as an organizing mechanism that connects institutional authority with operational implementation in the port development process.

Another dimension identified in the analysis relates to institutional authority and role differentiation among stakeholders involved in port development governance. Institutional authority determines how responsibilities are distributed across participating organizations and how operational decisions are implemented within the governance system. The findings indicate that institutional authority is closely linked to regulatory mandates and organizational responsibilities assigned to specific government agencies responsible for transportation and infrastructure management. This institutional arrangement establishes a formal governance structure that defines leadership roles, administrative accountability, and operational supervision within the port development process. The presence of clearly defined institutional roles enables stakeholders to coordinate activities within a structured governance environment and reduces ambiguity in decision-making processes. This structural clarity provides an institutional basis for coordinating development activities and maintaining operational stability in the port governance system.

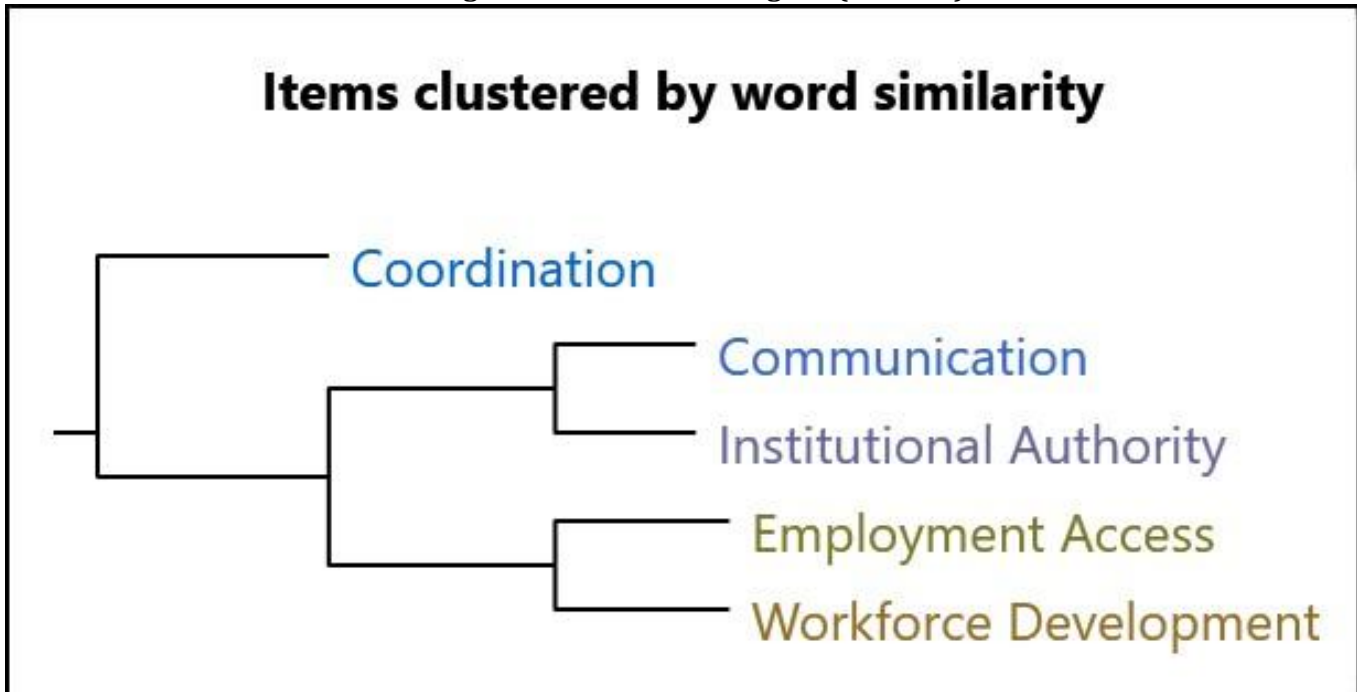
The analysis also identified workforce development and employment preparation as an essential governance dimension within collaborative processes. Workforce readiness was found to influence the capacity of local communities to participate in employment opportunities generated by port development activities. The findings indicate that employment participation is closely associated with the availability of technical skills and professional competencies required by port operations. In several cases, workforce participation was constrained by the mismatch between local labor qualifications and the operational requirements of port management institutions. This condition reflects a structural gap between infrastructure development objectives and workforce readiness within the local labor market. The persistence of this gap suggests that employment outcomes are shaped not only by infrastructure expansion but also by institutional arrangements governing workforce preparation and recruitment systems.

Communication practices were identified as another dimension that connects coordination mechanisms with workforce participation in the collaborative governance process. Communication channels were found to facilitate information exchange among stakeholders regarding operational planning, employment opportunities, and regulatory compliance. These communication processes function as a mechanism for aligning institutional decisions with community participation in development activities. The findings indicate that communication practices influence how employment information is disseminated and how recruitment decisions are coordinated among institutions. Effective communication arrangements were associated with smoother coordination processes and more consistent implementation of governance decisions. Conversely, limited communication capacity was associated with delays in information dissemination and reduced participation of local stakeholders in employment opportunities.

The relationships among governance dimensions identified in the analysis are visually represented through cluster similarity mapping generated using NVivo 15 analytical tools. The cluster similarity analysis illustrates how coordination, institutional authority, workforce readiness, and communication practices form interconnected governance structures within the port development system. The visualization demonstrates that governance dimensions do not operate independently but are linked through functional relationships that shape decision-making and operational processes. The strength of connections among these dimensions indicates the

degree of interaction among governance mechanisms and reflects the structural organization of collaborative governance in practice.

Figure 1. Horizontal Dendrogram (Nvivo 15)



Source: Authors' analysis using NVivo 15 based on primary research data, 2026

The cluster visualization provides empirical evidence of the relational structure of governance processes and clarifies how governance dimensions interact to influence employment access outcomes. The dendrogram indicates that communication practices are closely associated with institutional authority, suggesting that administrative roles and regulatory responsibilities are operationalized through structured communication mechanisms among stakeholders.

In addition, the analysis shows that employment access is strongly linked to workforce development, indicating that participation in employment opportunities depends significantly on the availability of job training and technical competency within the local labor force. This relationship reflects a functional connection between workforce preparation and employment participation in the port development context. Coordination appears as a higher-level governance mechanism that connects these operational components, linking institutional communication processes with workforce preparation activities. This configuration demonstrates that collaborative governance operates as an integrated system in which coordination structures facilitate communication and workforce development processes that ultimately shape employment access outcomes.

### Distribution of Actor Influence in Collaborative Governance

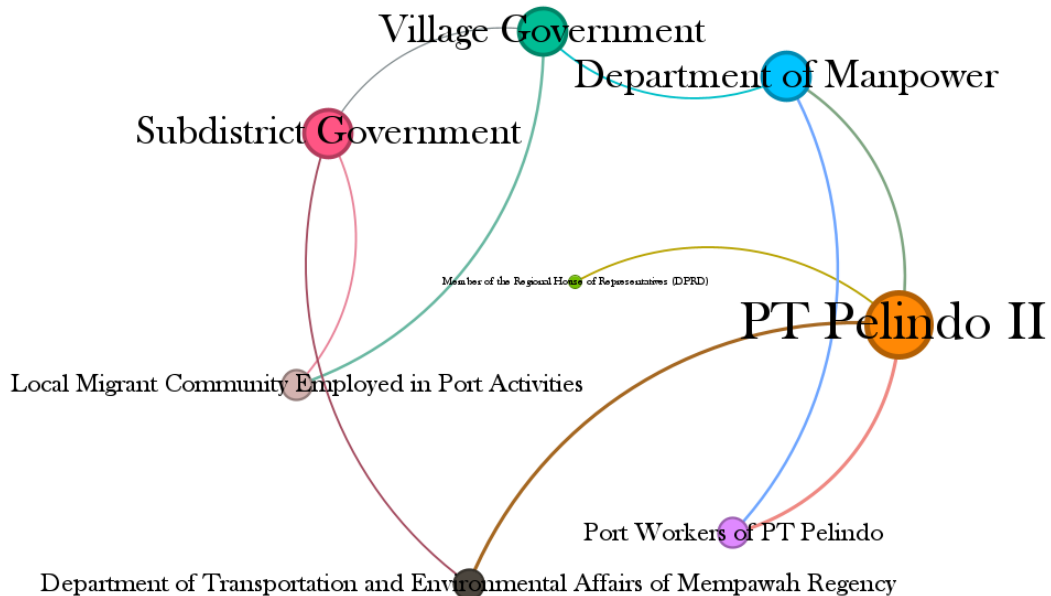
The distribution of actor influence within the collaborative governance system was examined through Social Network Analysis using the degree centrality metric to identify the relative position of each stakeholder in the coordination network. The analysis indicates that the governance structure of port development is characterized by a moderately differentiated distribution of relational influence among participating institutions rather than an extreme concentration of authority. This pattern reflects the operational nature of collaborative governance in infrastructure

development, where coordination responsibilities are shared across multiple institutions while remaining structured around key coordinating actors.

The network results identify PT Pelindo II as the most central actor within the governance system, maintaining the highest number of direct connections among stakeholders. This position indicates that PT Pelindo II functions as the primary coordination hub responsible for linking government agencies, workforce institutions, and community representatives involved in port development activities. The centrality of PT Pelindo II reflects its institutional mandate as the main operational authority in port management and its responsibility for coordinating employment-related activities and infrastructure implementation. The prominence of this actor within the network demonstrates that governance coordination in port development is anchored in institutions with operational authority and implementation responsibilities.

The overall structure of the governance network is further reflected in the network density value of 0.357, indicating a moderately connected coordination system in which institutional relationships are sufficiently developed to support collaboration while maintaining clear administrative boundaries. This density level suggests that governance coordination relies on structured institutional interactions rather than diffuse or fragmented communication patterns. In addition, the network diameter value of four indicates that communication between stakeholders can be achieved through relatively short coordination pathways, suggesting an efficient flow of information across institutional levels involved in port development.

The relationships among actors identified in the network analysis are visually represented through the stakeholder network generated using the Gephi analytical platform. The visualization illustrates the structural configuration of stakeholder relationships and highlights the relative position of each actor within the governance system. The distribution of connections shown in the network map provides empirical evidence of how coordination responsibilities are organized across institutions involved in port development.



**Figure 2. Stakeholder Network Based on Degree Centrality**

Source: Authors' network analysis using Gephi 0.10.1 based on primary research data, 2026

Following the visualization presented in Figure 2, the network configuration reveals the presence of intermediary actors that play a bridging role in maintaining connectivity among

stakeholders. Institutions such as the Department of Manpower, Village Government, and Subdistrict Government occupy intermediate positions within the network, linking central authorities with community-level actors and facilitating the flow of information between operational and administrative units. These intermediary actors contribute to coordination stability by ensuring that workforce requirements, regulatory directives, and operational decisions are communicated effectively across institutional boundaries.

Another important feature of the governance structure is the presence of peripheral actors characterized by a limited number of direct connections within the coordination network. Actors such as the Member of the Regional House of Representatives (DPRD) and the Local Migrant Community Employed in Port Activities participate in governance processes through indirect coordination channels and maintain more specialized roles within the system. The limited connectivity associated with these actors reflects their functional responsibilities in oversight and operational participation rather than direct coordination authority. This pattern demonstrates that collaborative governance involves multiple levels of participation in which influence varies according to institutional mandates and operational responsibilities.

The structural arrangement of the network presented in Figure 2 indicates a semi-centralized governance configuration in which coordination authority is concentrated around key operational institutions while implementation responsibilities are distributed across supporting administrative units. Actors occupying central positions maintain a higher number of coordination links compared to peripheral actors, indicating a greater capacity to manage communication and coordinate activities across institutional boundaries. This configuration demonstrates that collaborative governance in port development operates through a structured network of institutional relationships in which influence is determined by the position of actors within the coordination system.

### **Governance Structure and Employment Access Outcomes**

The analysis indicates that the structure of collaborative governance in port development is directly associated with patterns of employment access among local communities. The governance system established to support port operations involves coordinated interaction among government agencies, port management institutions, and community-level actors responsible for managing recruitment and workforce participation. These institutional relationships determine how employment opportunities are distributed and how local labor resources are integrated into operational activities. The findings demonstrate that employment access is shaped not only by labor availability but also by the structure of governance coordination that regulates workforce participation within the port development system.

The distribution of employment opportunities within the port development environment reflects differences in workforce readiness and institutional capacity across stakeholder groups. Port operations require specific technical competencies related to equipment handling, logistics coordination, operational maintenance, and security services. These technical requirements create a structured labor demand that prioritizes workers with certified competencies and relevant professional experience. As a result, employment participation among local residents depends on the availability of training programs and institutional mechanisms that prepare individuals to meet operational standards. In contexts where workforce preparation mechanisms are limited, employment participation tends to be lower due to the mismatch between labor qualifications and institutional requirements.

Another important finding relates to the institutional organization of recruitment procedures within the governance system. Employment roles in the port environment are structured according to operational responsibilities and administrative authority, resulting in differentiated recruitment pathways for various categories of workers. Recruitment decisions are managed through formal institutional processes involving coordination between port management and government agencies responsible for workforce regulation. This arrangement indicates that employment allocation is governed by organizational procedures designed to maintain operational efficiency and service reliability. Consequently, employment participation is determined by institutional decision-making mechanisms rather than informal recruitment practices within local communities.

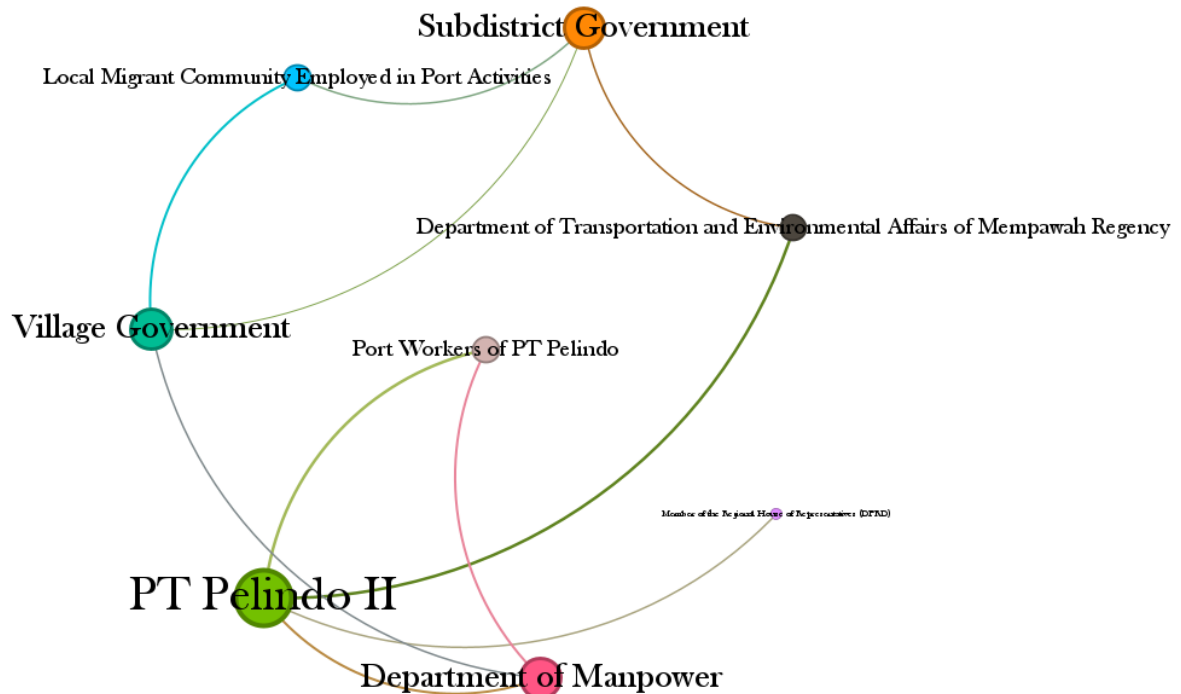
Communication and information dissemination mechanisms also play a significant role in shaping employment access within the governance system. Access to employment opportunities depends on the availability of clear information regarding recruitment procedures, eligibility requirements, and application processes. Institutions that maintain regular communication channels with community stakeholders facilitate greater participation in employment programs by improving awareness of available job opportunities. Conversely, limited communication capacity may reduce community engagement in recruitment processes due to restricted access to employment information. This pattern demonstrates that employment access is influenced not only by workforce capacity but also by the effectiveness of institutional communication mechanisms within the governance structure.

The relationship between governance coordination and employment access becomes more evident when examining the structural configuration of stakeholder relationships identified in the network analysis. Actors occupying central positions within the governance network maintain a higher number of coordination links and play a more significant role in organizing recruitment processes, allocating workforce resources, and supervising operational activities. In the network structure, PT Pelindo II occupies the most central position and maintains direct connections with government institutions responsible for workforce regulation and local administrative coordination. This position indicates that employment opportunities are largely coordinated through institutional actors that possess operational authority and decision-making capacity within the governance system.

The integration of governance structure and employment outcomes is visually represented through the relationship between stakeholder connectivity and workforce participation identified in the network analysis. The visualization demonstrates how institutional relationships shape employment allocation patterns and how coordination mechanisms influence workforce distribution across operational units. Actors with higher connectivity maintain stronger coordination capacity and are more directly involved in employment decision-making processes, while actors with fewer connections participate primarily through indirect coordination channels. This structural arrangement provides empirical evidence of the link between governance coordination and employment participation within the port development environment.

The visual representation of this relationship is presented in Figure 3, which illustrates the distribution of stakeholder connections and employment roles within the governance network. The

figure was generated using the Gephi analytical platform and is stored immediately after this paragraph in the Results section as the primary visualization for Subsection 3.



**Figure 3. Degree Centrality and Employment Outcome in Port Development Governance Network**

Source: Authors' network analysis using Gephi 0.10.1 based on primary research data, 2026

Following the visualization presented in Figure 3, the network configuration clarifies that employment access within the port development system is influenced by the interaction between institutional coordination, workforce readiness, and recruitment procedures. Areas of the network characterized by stronger institutional connections, such as those involving port management and workforce regulation agencies are associated with more structured recruitment processes and clearer operational responsibilities. In contrast, actors located at the periphery of the network maintain fewer coordination links and participate in employment processes primarily through indirect institutional channels.

This configuration demonstrates that employment outcomes in infrastructure development are shaped by the structure of governance relationships and the capacity of institutions to coordinate workforce participation effectively within a regulated operational environment. The findings confirm that employment access is not determined solely by labor supply conditions but is significantly influenced by the strength of institutional coordination and the organizational capacity of governance actors responsible for managing recruitment and workforce integration within the port development system.

## **DISCUSSION**

The findings of this study indicate that employment access within the port development system is closely connected to the structure of governance relationships among institutional actors. As illustrated in Figure 1. Horizontal Dendrogram, governance processes related to employment are organized around interconnected dimensions, including coordination, communication, institutional authority, workforce preparation, and recruitment procedures. These dimensions collectively shape the way employment opportunities are distributed within the development system. Previous studies on infrastructure and logistics governance have similarly shown that employment outcomes are rarely determined solely by labor market supply but are instead embedded within institutional arrangements designed to manage operational risks and regulatory compliance (Notteboom & Yang, 2017; Wang & Ran, 2021).

From one perspective, the structured nature of governance coordination observed in this study can be interpreted as a necessary mechanism for ensuring stability in complex infrastructure environments. Large-scale port development projects involve safety standards, technical procedures, and regulatory oversight that require clear lines of authority and accountability. In such contexts, centralized coordination among government agencies and state-owned enterprises is often considered essential for maintaining operational efficiency and minimizing risks associated with infrastructure management (Gibson, 2014; Rozikin & Sofwani, 2023). This interpretation suggests that the dominance of institutional actors within the governance network may reflect functional requirements rather than governance imbalance.

However, alternative interpretations emphasize that strong institutional dominance may also create structural limitations for community participation and employment inclusion. Studies examining collaborative governance in regional development have reported that centralized decision-making structures can unintentionally reduce opportunities for local actors to influence employment allocation, particularly when recruitment systems are controlled by formal institutions (Fatman et al., 2023; Riyanti et al., 2024). In such cases, collaboration may exist formally but remain uneven in terms of participation and benefit distribution. This perspective highlights the possibility that governance arrangements designed to enhance coordination may simultaneously constrain inclusiveness.

In the context of this study, both interpretations appear relevant. As shown in Figure 2. Stakeholder Network Based on Degree Centrality (Gephi 0.10.1), institutional actors occupy central positions within the governance network, indicating their significant role in coordinating employment-related activities. At the same time, community actors and operational-level participants tend to occupy peripheral positions, suggesting a more limited influence in strategic decision-making processes. Rather than indicating exclusion, this pattern may reflect the differentiated roles typically observed in collaborative governance systems, where authority and responsibility are distributed according to institutional mandates and operational functions. Similar governance configurations have been identified in infrastructure development studies, where collaboration is shaped by regulatory responsibilities and resource control rather than by equal participation among stakeholders (La Grouw et al., 2024; Tomo et al., 2020).

The relationship between governance structure and employment outcomes becomes more evident when examining the interaction between institutional coordination and workforce participation. As illustrated in Figure 3. Degree Centrality and Employment Outcome in Port Development Governance Network (Gephi 0.10.1), employment access appears to be closely associated with actors responsible for recruitment, regulation, and workforce management. This

analysis supports research in labor governance and industrial employment systems, which indicates that employment opportunities in infrastructure projects are often distributed through formal recruitment procedures designed to ensure technical competence and operational reliability (Chandra & Hillegersberg, 2018; Nugraha et al., 2024).

Nevertheless, the reliance on formal recruitment systems may also produce unintended consequences for employment inclusion. Some studies have shown that standardized recruitment procedures can disadvantage local communities that lack access to training, certification, or information about employment requirements (Komarudin & Sartika, 2024; Prasetyo et al., 2024). In such situations, employment exclusion does not necessarily result from deliberate policy decisions but from structural mismatches between workforce readiness and institutional expectations. This interpretation suggests that employment outcomes in infrastructure development are shaped not only by governance decisions but also by the capacity of local communities to meet institutional standards.

Another important insight emerging from the findings relates to the role of communication and information dissemination in shaping employment participation. The interconnected governance dimensions identified in Figure 1 indicate that communication mechanisms function as a bridge between institutional coordination and workforce engagement. When recruitment procedures and eligibility requirements are communicated clearly, local communities are more likely to participate in employment programs. Conversely, limited communication capacity may reduce participation by restricting access to information about job opportunities. Research on governance transparency has similarly emphasized that access to information is a critical factor influencing stakeholder engagement in development programs (La Grouw et al., 2024; Tomo et al., 2020).

From a theoretical standpoint, the patterns observed in this study can be interpreted through the collaborative governance framework proposed by Ansell & Gash, (2007), particularly regarding the importance of starting conditions, institutional design, and facilitative leadership in shaping collaboration outcomes. The findings suggest that collaborative governance in port development is present but operates within structured institutional arrangements that define the roles and responsibilities of participating actors. In such settings, collaboration tends to focus on coordination and implementation rather than on shared authority across all stakeholder groups. Empirical research on collaborative governance has shown that unequal participation among actors is a common feature of governance systems where differences in resources, authority, and organizational capacity exist (Hendra et al., 2024; Prasetyo et al., 2024).

At the same time, some scholars argue that collaboration should not be evaluated solely based on participation equality but rather on the effectiveness of coordination in achieving policy objectives. In infrastructure development contexts, governance systems are often judged by their ability to deliver projects on time, maintain safety standards, and ensure service continuity (Notteboom & Yang, 2017; Wang & Ran, 2021). From this perspective, uneven participation may be considered a practical consequence of operational complexity rather than a governance failure. This argument suggests that collaborative governance effectiveness should be assessed in relation to both efficiency and inclusiveness rather than through a single performance dimension.

The findings of this study indicate that governance effectiveness in employment allocation depends on the balance between institutional coordination and stakeholder participation capacity. As reflected across Figures 1, 2, and 3, employment opportunities are influenced by the interaction between governance structure, workforce readiness, and recruitment procedures operating within

a regulated operational environment. When coordination mechanisms function effectively but participation capacity remains limited, employment outcomes may appear stable but unevenly distributed among stakeholders. Similar patterns have been observed in regional development programs where institutional coordination improved project implementation while community participation remained constrained by structural barriers (Fatman et al., 2023; Rozikin & Sofwani, 2023).

In terms of social and policy implications, the findings suggest that improving employment access in infrastructure development requires interventions that strengthen both institutional coordination and workforce readiness. Evidence from labor governance studies indicates that employment inclusion can be enhanced through integrated workforce training programs, transparent recruitment procedures, and structured communication channels connecting institutions with local communities (Chandra & Hillegersberg, 2018; Nugraha et al., 2024). These measures help align institutional requirements with local labor capacity while maintaining the operational standards necessary for infrastructure development. At the same time, governance reforms that expand community participation in planning and monitoring processes may help reduce participation inequality without undermining coordination efficiency (Komarudin & Sartika, 2024; Prasetyo et al., 2024).

The discussion demonstrates that employment access in port development is shaped by governance structures rather than by labor market dynamics alone. The findings, as reflected in Figure 1, Figure 2, and Figure 3, indicate that collaborative governance provides a framework for coordinating workforce participation but does not automatically guarantee equitable employment outcomes. The effectiveness of collaborative governance therefore depends on the capacity of institutions to balance operational coordination with inclusive participation mechanisms. This interpretation contributes to the broader understanding of governance effectiveness in infrastructure development by emphasizing that collaboration should be evaluated not only in terms of coordination performance but also in terms of its ability to support sustainable and inclusive employment participation for local communities.

## **CONCLUSION**

This study finds that employment access in port development is primarily shaped by the structure of institutional coordination and the formal mechanisms through which recruitment and workforce participation are organized. Governance processes related to employment are structured around interconnected dimensions, including communication, regulatory authority, workforce preparation, and recruitment procedures that operate within a regulated operational environment. Institutional actors such as government agencies and port management organizations play a central role in coordinating employment activities and defining operational responsibilities, while community actors and local workers participate mainly within implementation-level functions. Although collaborative arrangements exist among stakeholders, participation and influence are not evenly distributed across actors. Employment opportunities are therefore generated through structured institutional processes rather than through open labor market dynamics, resulting in relatively stable employment outcomes but limited flexibility for broader community participation.

This study contributes to the field of collaborative governance and infrastructure development by providing empirical evidence on how governance structures influence employment allocation within a large-scale port development context. Rather than treating employment outcomes as a function of market demand alone, the study demonstrates that employment access is embedded within institutional

relationships, regulatory procedures, and organizational coordination mechanisms. By integrating governance analysis with network-based visualization, the research offers a more operational understanding of how actor influence and institutional roles shape workforce participation in infrastructure projects. The findings also extend existing discussions on collaborative governance by showing that the presence of collaboration does not necessarily lead to equal participation or equitable employment outcomes. Instead, governance effectiveness appears to depend on the ability of institutions to coordinate workforce participation while maintaining compliance with technical and regulatory requirements.

Future research may further examine how variations in governance arrangements influence employment inclusion across different infrastructure sectors or regional development contexts. Comparative studies involving multiple development projects could help identify institutional conditions that support more balanced participation and wider employment access for local communities. Longitudinal research designs may also provide insights into how governance relationships and workforce participation evolve over time as infrastructure projects transition from construction to operational phases. In addition, future studies may benefit from integrating workforce capability indicators, training program outcomes, and recruitment performance data to better understand the interaction between institutional coordination and labor readiness. Such research directions would contribute to the development of governance models that are capable of maintaining operational reliability while expanding opportunities for inclusive employment participation.

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