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Toward Inclusive Labor Governance: Innovation in Employment Services for Outsourced Worker Protection in Indonesia

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Abstract

The issue of labour protection and supervision is a growing issue. The government has implemented various strategies to address the problem, from developing digital-based services to issuing regulations that adapt to new issues. This study aims to explore the obstacles and public responses to the innovation of the Ministry of Manpower of the Republic of Indonesia in providing protection and supervision services for outsourced workers. This study uses qualitative analysis and a content analysis approach. This study uses primary data from public reviews of the SIAPkerja application on the Google Play Store. NVivo 12 Plus software was used in this study to extract review data for visualisation. This study found that digital-based service innovation has not optimally provided services in the employment sector. Public sentiment towards digital services shows a negative nuance, proving that the SIAPkera application has not provided convenience for workers. Established regulations designed to protect the rights of outsourcing workers have not been appropriately implemented. Several companies still exploit the outsourcing worker system and ignore their obligations. The study concludes that innovation and regulations have not fully addressed the protection and supervision of outsourced workers and the government has not taken firm action against companies that violate the rules. This research provides practical implications: the government must evaluate digital service outputs to ensure they are effective. Theoretical implications: deregulation of labour protection and oversight requires a field-based monitoring approach to assess the effectiveness of the regulations.

Keywords: Digital-based Service Innovation, Labour Protection, Outsourced Workers, Public Sentiment.

Introduction

The development of the world of work, coupled with the advancement of digitalisation, has forced a significant transformation in employment relations patterns. The development of outsourcing systems is a new model that companies use, enabling flexibility in workforce governance (1). Empirically, the outsourcing system faces serious challenges, including protecting workers' rights and legal certainty in employment relationships. The outsourcing system is vulnerable to wage issues, social security issues, occupational safety issues and poor employment status (2). These vulnerabilities require the government's Ministry of Manpower to ensure legal protection and adequate supervision. Conventional supervision patterns face constraints such as limited supervisory resources, geographic area and changing industry dynamics (3). Therefore, the government needs adaptive, technology-based innovations in employment services that comprehensively address the challenges of protecting and supervising outsourced workers. Innovation in employment services can be realised by developing digital systems, integrated employment data and information technology-based applications that enable real-time, transparent and participatory monitoring (4). A collaborative approach between various actors, including the government, companies, labour unions and the community, ensures administrative and substantive legal protection for outsourced workers (5). Fundamentally, employment services are a crucial instrument for realising harmonious and fair industrial relations. Outsourced workers consistently have lower status than contract workers, particularly in their limited access to company benefits (6). Digital-based services in the employment sector are crucial in addressing the challenges of monitoring and protecting

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outsourced workers. Several studies examining service innovation have shown that digitalising public services has become a global trend, aimed at increasing transparency and accountability (7). The development of technologies for monitoring employee performance and reporting is expanding in Indonesia, driven by the need to manage more projects (8). Technology-based supervision facilitates online monitoring of labour conditions and provides workers access to report issues directly (9).

A different perspective from the previous explanation is that research highlights that digital innovation will not be practical without strengthened regulatory and supervisory capacity. The number of inspectors constrains labour inspection activities compared to the number of supervised companies (10). Service innovation in adequate supervision must consider collaborative oversight involving the government, companies, labour unions and the community to ensure compliance with labour regulations (11). Integration of labour data across sectors makes it easier for the government to identify risks of labour rights violations (12). An integrated data system facilitates evidence based policymaking, thus ensuring more targeted worker protection. Indonesia has enacted a Job Creation Law, but a gap remains between legal norms and implementation. Innovation in labour sector services extends not only to technology but also to strengthening law enforcement mechanisms and access to justice for workers. Ultimately, this study aims to analyse how labour service innovation can improve the effectiveness of the protection and supervision of outsourced workers.

The employment relationship patterns created by outsourcing systems and digital platforms present new challenges for governments in protecting workers' rights. Several issues, such as wages, working hours, social security and occupational safety guarantees, are currently being faced by contract work systems, agency workers and gig workers (13). Different approaches to supervision and legal protection are caused by differences in regulations across countries (14). Innovation in digital-based employment sector services is crucial to address as an effort to address gaps in protection (15). Regulation and compliance theory, institutional theory and innovation frameworks are relevant to support research on the protection and supervision of outsourced workers (16). Furthermore, a socio-technical approach can measure how digital systems are implemented with worker actors and supervisory institutions (17). Technology and AI driven monitoring systems can perform automated, real-time inspections, reducing reliance on manual monitoring (18). Another debate concerns blockchain technology and smart contracts, which have been proposed as a means of increasing transparency in the labour supply chain (19). However, significant challenges, including the digital divide, infrastructure limitations and potential algorithmic bias, could weaken worker protection functions (20).

Digital transformation contributes to expanding the reach of oversight and detecting potential violations. Public demand for centralised reporting, increased capacity of labour inspectors and a risk-based approach to monitoring outsourced workers is increasing. High violations regarding working hours and wage costs among outsourced workers are common, necessitating improvements (21). Finally, the existing literature lacks longitudinal and qualitative research that objectively and systematically measures the impact of innovation. There is limited research addressing ethical and privacy issues in adopting artificial intelligence for supervisory purposes. The link between regulation and outsourcing dynamics has not been extensively explored, particularly in relation to public contracts and incentives influencing the behaviour of labour providers.

Methodology

This study uses qualitative analysis methods to develop data-based innovations in the employment services sector. It explains the meaning, patterns, themes and messages in data such as text and images. This study uses a content analysis approach by examining items offered by digital based services. A content analysis approach can evaluate the effectiveness of digital-based information services (22). This study also collects public perceptions contained in the review column on the Google Play Store. Reviews provided by users contribute to the understanding of the experience gained from the digital service (23). In addition to user comments, this study uses a star rating system from 1 to 5, with the lowest value being one and the highest being 5. User review data from the SIAPkerja application systematically

studies ratings and comments to understand service quality and public perception and formulate recommendations for improving government digital services. Comment and rating data obtained from the Google Play Store were processed using NVivo 12 Plus software. The resulting data are presented in charts and statistics as a basis for analysis. Data processed using NVivo 12 Plus software can yield output in the form of images, graphs and numerical data to support the analysis (24). Furthermore, this study uses official government documents such as laws and government regulations relevant to legal protection and labour supervision.

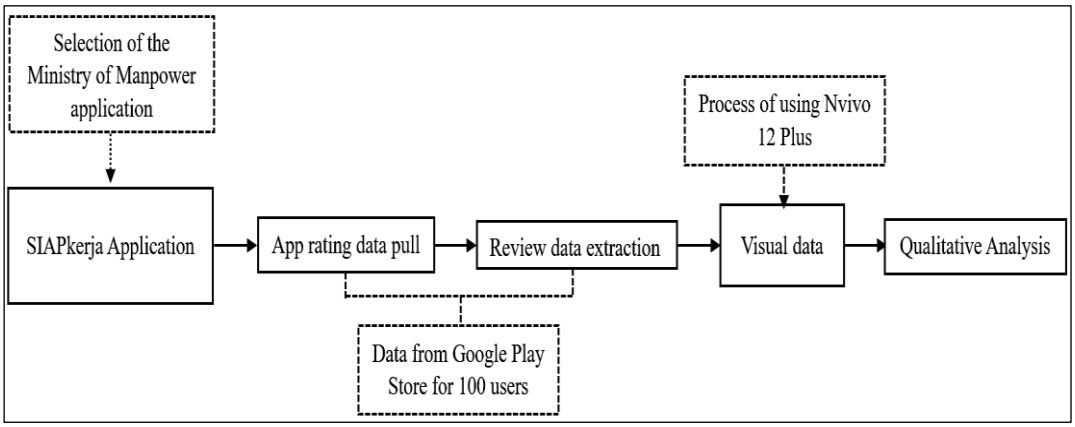


Figure 1: Research Framework

Figure 1 illustrates the research framework, which begins with selecting the government's official employment application, SIAPkerja, as the object of study. Next, app rating data were retrieved from the Google Play Store using a sample of 100 users and covering the 2023–2025 period. Specific data points were extracted to gather information relevant to user reviews. The extracted data were then visualized to help identify emerging patterns and trends. Data visualization and analysis were conducted using NVivo 12 Plus software, enabling a more systematic approach to qualitative data processing. Finally, the framework incorporates qualitative analysis to examine sentiments and public perceptions of the SIAPkerja application, providing a comprehensive overview of user satisfaction and criticisms of this digital service. The software collected review data from 100 users across 2023–2025, based on relevance criteria. The collected review data was formatted as a CSV file and imported into NVivo 12 Plus software for the subsequent coding stage. Nodes were then created to align with the review-criteria categories, while cases were established by year and user-assigned ratings. The study used the NVivo 12 Plus crosstab query tool to generate numerical and visual data representations.

Results

Ministry of Manpower Innovation Scheme and actors involved

The innovation developed by the Indonesian Ministry of Manpower represents a strategic step in improving the quality of public services in the employment sector by adopting digital technology, adaptive regulations and cross-sector collaboration. Several applications have been developed, including digital-based supervision and responsive labour protection programs for modern workers. In its implementation, this innovation involves various actors, including the Ministry of Manpower, which acts as the primary regulator and service provider; regional governments, which support implementation at the regional level; private companies and businesses, as partners in labour absorption; and the community, which serves as the beneficiary and service users. Academics and research institutions contribute scientific input and criticism. Civil society actors regularly contribute by promoting transparency and accountability in each step of the innovation development. Multi-actor involvement in employment service innovation creates a more inclusive, adaptive and sustainable work ecosystem.

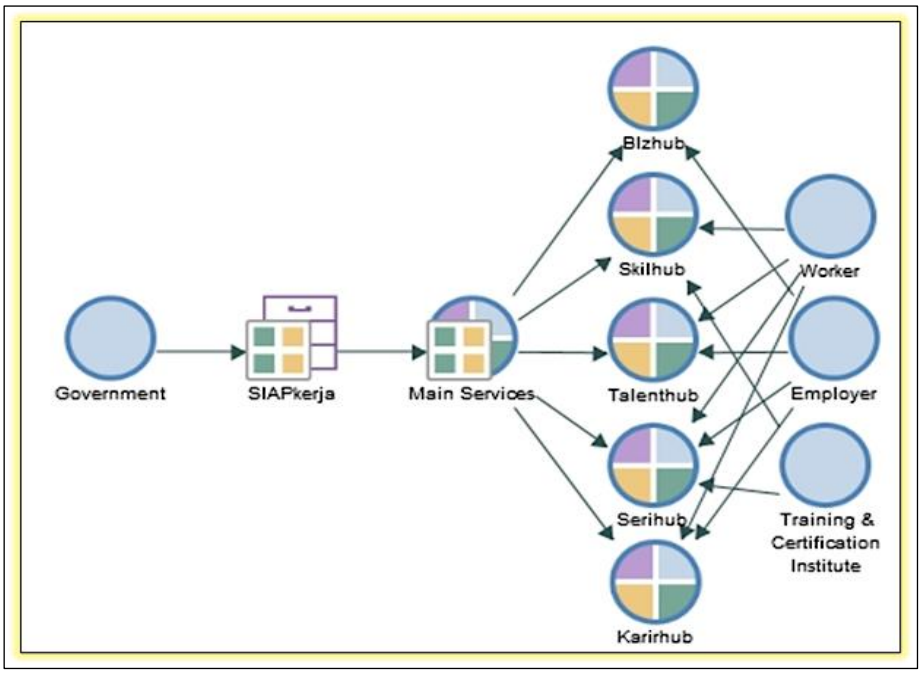


Figure 2: SIAPkerja Innovation Framework and Actors Involved

Figure 2 shows that the Ministry of Manpower has developed an application and website service named SIAPkerja. The services offered include Karirhub, Skillhub, Sertihub, Bizhub and Talenthub, involving key actors in the employment ecosystem. The Ministry of Manpower represents the government, acting as regulator, service provider and supervisor, developing the platform and protecting the workforce legally. As job seekers, the public utilises the Karirhub service to find job openings. The public can use Skillhub to improve their skills and Sertihub to obtain competency certification. Job seekers can use Talenthub to showcase their profiles and potential. Companies or employers contribute by providing vacancies and seeking certified workers. Companies access Talenthub services and are connected to the workforce business ecosystem through Bizhub. Training and certification institutions provide training programs that are available through Skillhub services and issue official certifications through Sertihub services. Finally, academics monitor labour market developments.

Public Response to the Ministry of Manpower's Innovations

Public feedback on the Ministry of Manpower's digital services reflects public expectations for improved service quality. Digital-based innovations include employment service applications, online labour inspection systems and technology-based worker protection. Digital services will have positive impacts such as facilitating access to information, accelerating administrative processes, increasing service transparency and allowing the public to provide direct input on technical issues. The diversity of public responses demonstrates that innovation is a positive step by the government and a continuous improvement initiative to meet the needs of workers, companies and the community.

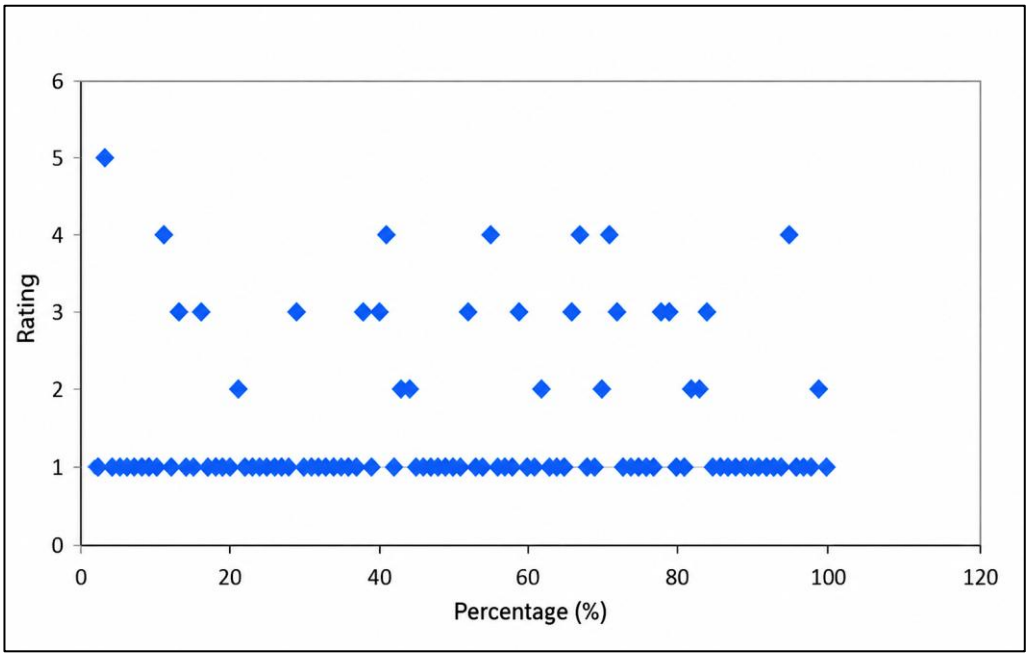


Figure 3: User Assessment in The Form of Ratings

Figure 3 shows user ratings of the SIAPkerja application, with animal scores ranging from 1 to 5. The figure above shows two axes: the horizontal axis displays the respondents who provided the ratings. The vertical axis represents the animal scores given by service users. Several point distributions show that most SIAPkerja application users scored 1 star, indicating that the assessment was centred on the lowest value. Service users also gave scores of 2, 3, 4 and 5 stars, which were far fewer than 1 star, indicating that most of the public felt dissatisfied with the SIAPkerja application.

Public Sentiment from SIAPkerja App Reviews

Public reviews of government-owned applications yielded a variety of sentiments, reflecting the public's assessment of the effectiveness of digital innovation in providing services to the public. Positive reviews were based on easy access to information and integrated service features. Negative sentiment was based on critical issues such as system disruptions, registration difficulties and feature limitations.

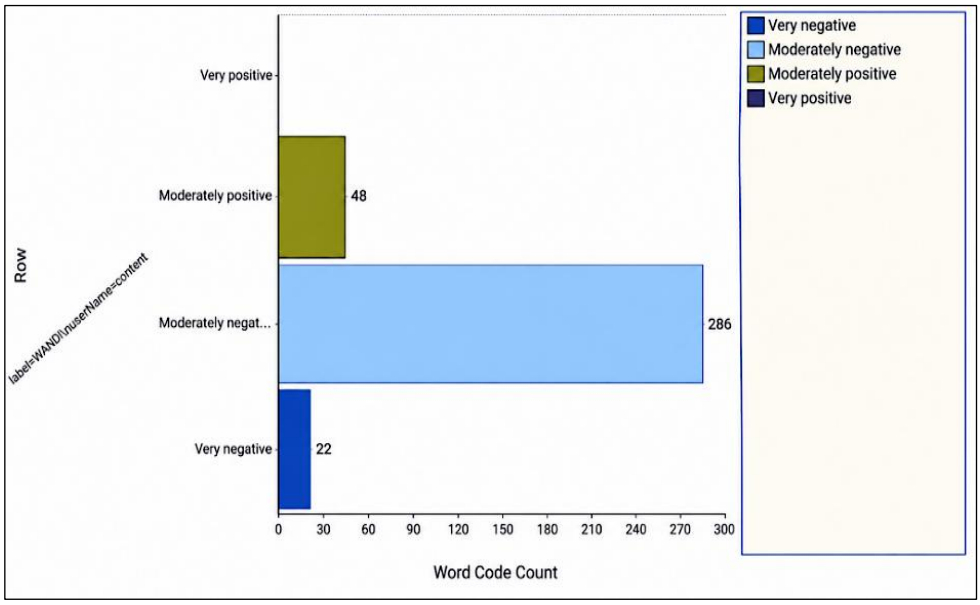


Figure 4: Public Sentiment Towards The Development of The Siapkerja Application

Figure 4 the results of the public sentiment analysis regarding the SIAP Kerja app indicate that most user responses tend to be negative. The data shows that 286 words fall into the moderately negative category and 22 are very negative, indicating dissatisfaction and a negative user experience. Furthermore, only 48 words were identified as moderately positive and no responses indicated a positive sentiment. This data confirms that public perception of the SIAPkerja app remains predominantly negative.

A Review Focusing on Issues Concerning Outsourced Workers

Outsourced workers provide feedback to the government regarding the challenges they face via the review section on the Play Store. The Play Store provides this review platform for all applications including government owned ones to bridge the gap between app developers and users. Specifically regarding the Siapkerja app, several outsourced workers have shared significant feedback based on their experiences on the app's review page. Figure 5 below illustrates the issues outsourced workers face.

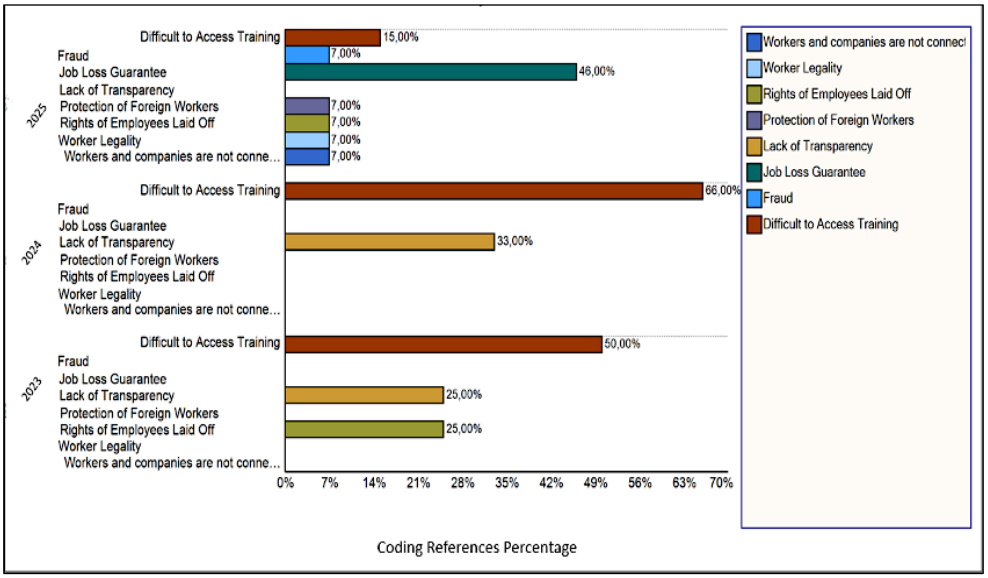


Figure 5: Data on Reviews of Outsourced Workers For the Government

Figure 5 presents data regarding criticisms leveled by outsourced workers against the government, based on reviews from the Siapkerja application. In 2023, several issues emerged: 50% of outsourced workers reported difficulty accessing job training facilities; 25% cited a lack of government transparency in managing outsourced workers; and 25% raised concerns about the rights of laid-off employees. Data from 2024 showed an increase in these figures, with 66% of outsourced workers reporting difficulties in obtaining job training and 33% citing a lack of government transparency in regulation. Finally, in 2025, the most critical issue identified was the lack of government-provided job loss guarantees for outsourced workers, affecting 46% of the group. Recurring issues identified in outsourced worker reviews over the years include job loss guarantees, lack of transparency, protection of foreign workers, rights of laid-off employees, worker legality and a lack of connection between workers and companies.

A Review Focusing on The Functions of the Siapkerja Application

The government's labor sector developed the SiapKerja application to facilitate communication between Indonesian workers and the government on matters such as protection, regulations, reporting and oversight. In practice, however, the application has fallen short of providing the intended level of convenience. Figure 6. Data on user reviews regarding the performance of the SiapKerja application.

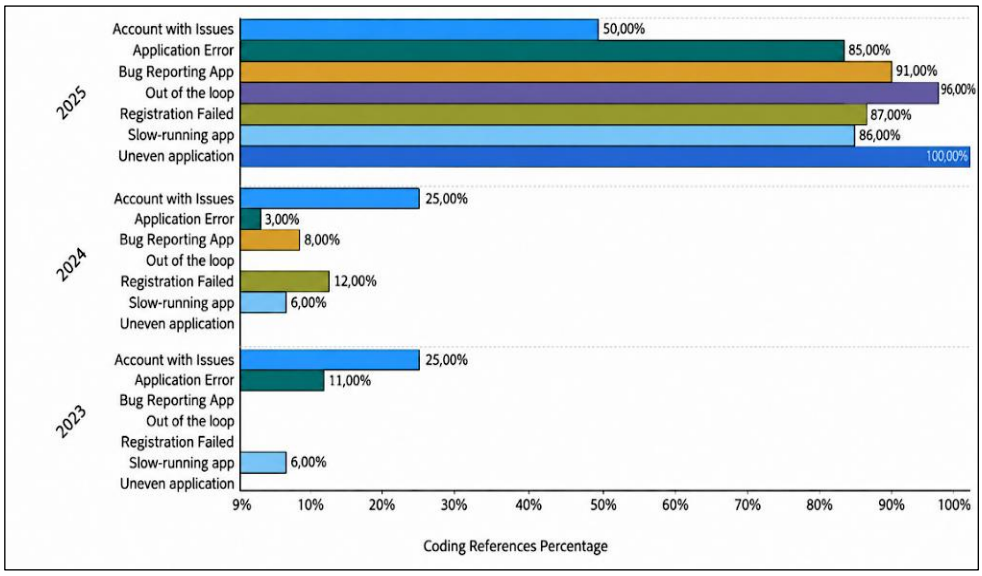


Figure 6: Data on Worker Reviews of The Siapkerja Application

Figure 6 presents data regarding worker reviews of the SiapKerja application. Users highlighted several performance issues: account-related problems (25%), frequent application errors (11%) and consistently slow processing speeds (5%). By 2024, the distribution of user complaints shifted: account issues dropped to 12%, bugs accounted for 8%, slow performance was cited by 6% and general errors by 3%. In 2025, a major shift occurred: 91% of users reported bugs, 87% experienced registration failures, 86% noted slow processing speeds and 85% encountered errors. Meanwhile, the most significant issue affecting 100% of cases was the lack of comprehensive service coverage across regions in Indonesia.

Regulation of Legal Protection and Supervision of Outsourcing Workers

Regulations on legal protection and oversight of outsourced workers in Indonesia are becoming increasingly important issues as the world of work continues to change. Outsourced workers, employed by third-party companies to work for other companies, often face challenges regarding their rights, such as fair wages, decent working conditions and social protection. Therefore, the Indonesian government has issued various regulations to ensure the protection of outsourced workers' rights and to oversee the implementation of this employment system.

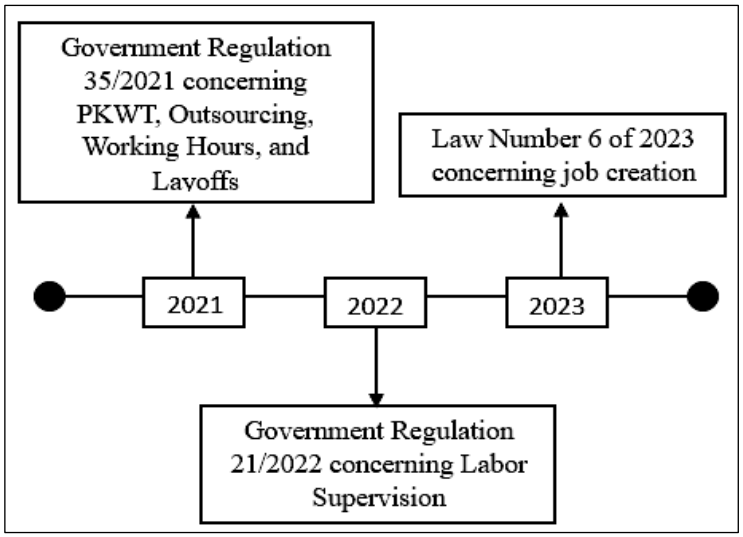


Figure 7: Regarding Regulations that Support Legal Protection and Supervision of Outsourcing Workers

Figure 7 shows the integrated regulation of government regulations and laws governing outsourcing workers in Indonesia, issued between 2021 and 2023. In 2021, Government Regulation

No. 35 of 2021 was issued, which regulates fixed-term employment agreements, outsourcing, working hours and termination of employment. Substantively, the above government regulation regulates aspects of employment relations, provisions for work with fixed-term contracts, outsourcing and regulations regarding termination of employment. In 2022, Government Regulation No. 21 of 2022 was issued, focusing on work supervision and aiming to improve oversight of workers' rights and ensure optimal protection for them in the workplace. In 2023, the Indonesian government issued Law No. 6 of 2023, concentrating on job creation to reduce unemployment and create employment opportunities for the community.

Discussion

Multi-actor involvement in digital-based government services in the employment sector is crucial for creating an efficient, transparent and inclusive ecosystem (25). The SIAPkerja application, one of the Indonesian government's digital services, provides labour protection and supervision services. The contribution and support of multiple actors optimise employment services. Collaboration across institutions and actors is crucial for achieving optimal services penting (26). The success of each institution in integrating data further optimises services (27). Digital platforms automate many aspects, such as candidate screening and accelerating recruitment (28). Digital-based services pioneered by the Ministry of Manpower have positively impacted the advancement of legal protection and labour supervision.

Public assessment of government services is crucial feedback (29). The government's success in providing public services depends on public satisfaction and feedback in ratings (30). Digital-based services make it easy for the public to provide direct feedback on the quality of service received (31). There are two types of feedback provided by the public: first, a rating in the form of 1-5 stars (one indicating the worst rating and five indicating the best rating) (32). Second, ratings in the form of comments that users can write in the comments column (33). Both types of feedback can be found on the Google Play Store (Android) and the App Store (iOS OS) (34). The SIAPkerja app received predominantly one-star ratings, indicating public dissatisfaction with the app. Poor ratings are typically caused by limited content. Users gave low ratings due to a single negative experience (35). Technical issues prevented the app from functioning optimally (36). App developers were less responsive to user feedback and users felt their complaints were ignored, leading to negative reviews (37).

Public sentiment toward app-based government services can also be measured using direct reviews from the public on the Google Play Store. These comments can be used as data to reduce their meaning, generating positive and negative sentiments (38). The SIAPkerja application service received unfavourable comments. This research data shows that negative sentiment was found in public reviews. Several factors contribute to negative sentiment, such as applications that are not intuitive and difficult to control, which leads users to leave negative comments (39). A lack of fast and responsive service will influence the passing of negative comments. The application often experiences reliability issues or crashes (40). Users will be influenced by other users who leave negative reviews. Substantially, the SIAPkerja application does not meet the public's needs for free or easily accessible jobs and competency development information. The SIAPkerja app fails to meet user expectations regarding job vacancy information (41). The public expects apps to provide real solutions, but apps that merely provide information are perceived as less valuable, leading to user dissatisfaction (42).

Regulations supporting legal protection and oversight of outsourced workers must align with technology-based service innovation. Established employment services without reliable regulatory support will hamper labour reform in Indonesia (43). Regulations relevant to protection and oversight in Indonesia have been issued. Substantively, the regulations must be consistent to ensure well-being, equality and freedom from discriminatory practices for outsourced workers (44). Outsourced workers tend not to receive legal protection from the government (45). Workers' rights are often neglected under the outsourcing status (46). Companies must adapt quickly and comply with existing regulations (47). In fact, there is a lack of clarity regarding workers' status in employment contracts regarding leave rights and health insurance (48). Certain companies misuse

the outsourcing system to avoid minimum wage and social security obligations (49).

Conclusion

This research explores the performance of the Indonesian Ministry of Manpower in realizing innovation in the public service sector. Digital-based services are a new strategy developed by developing countries to interact with the public. Integrated data connected with technology will facilitate the public in managing administrative matters. The government will be assisted if digital services run optimally. In its development, the application designed by the Indonesian Ministry of Manpower, called SIAPKerja, has not fully addressed the community's needs in the employment sector. The unresponsive application provides a negative experience for the public. The goal of facilitating access to legal protection for workers through the application has ultimately gone unanswered. Online-based supervision has not been achieved as a form of contemporary innovation. This study found data on user assessments in the form of very low ratings. Low ratings represent a poor user experience, but users are reluctant to leave any comments. This study found data on sentiment that tends to be negative towards the SIAPkerja application. Negative sentiment represents user experience expressed in the form of comments. The SIAPkerja application was bombarded with dissatisfied comments from users. The innovation developed by the Ministry of Manpower as a strategy to improve service quality has not yet been achieved. The government has also issued well-established regulations to protect and oversee outsourced workers, but they have not yet been implemented effectively. Unscrupulous companies continue to ignore the rights of outsourced workers. The government's lack of enforcement has resulted in a one-way regulation that fails to address outsourced labour violations. Ultimately, this study focuses on public response to application performance and does not reflect offline public interaction with the Ministry of Manpower's performance. Future research should analyze the Ministry of Manpower's digital innovation design planning.

Abbreviations

SIAPkerja: Sistem Informasi dan Aplikasi Pelayanan Ketenagakerjaan.

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Author Contributions

Wandi: Conceptualization, Methodology, Data Curation, Formal Analysis, Investigation, Writing – Original Draft, Project Administration, Ilyas: Conceptualization, Investigation, Data Curation, Writing – Review and Editing, Validation, Ardiansyah: Methodology, Formal Analysis, Supervision, Writing – Review and Editing, Project Administration.

Conflict of Interest

The authors declare that they have no financial, personal, professional, or institutional conflicts of interest that could have influenced the conduct of this research, the analysis and interpretation of the findings, or the decision to publish this article.

Data Availability

The data used in this study were obtained from publicly accessible Google Play Store reviews of the SIAPkerja application, including user ratings and comments, as well as official government laws and regulations on employment protection and labor supervision. Due to the public, dynamic and platform-dependent nature of the review data, the raw dataset is not publicly deposited. The data sources and analytical procedures are described sufficiently to support transparency and reproducibility.

Declaration of Artificial Intelligence (AI) Assistance Process

Throughout the manuscript preparation process, the authors utilized artificial intelligence solely to enhance language, grammar, clarity and readability. The AI tools were employed strictly for linguistic and editorial support. The authors accept full responsibility for the content, accuracy, interpretation, analysis and conclusions presented in this manuscript.

Ethics Approval

Ethical review was waived for this study, as it involved no human or animal subjects.

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