



Utilization of Information Technology and the Effectiveness of BPJS Employment Services in Indonesia

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Abstract

The article examines the impact of information technology (IT) application on the effectiveness of services in BPJS BPJS Employment, which is an important institution of public significance serving as an employment social security provider in Indonesia. The quantitative method was used to collect data using questionnaires adapted in a structured design that targeted 120 respondents most of whom were a combination of staff and service users. The product of an inferential statistical procedure such as correlation and linear regression data results, showed that there is a positive correlation between IT utilization and service effectiveness, which was strong and significant. Regression model indicated that IT usage was related to 55.1 percent of the variation in service effectiveness due to the standardized coefficient of 0.742 and the p-value of <0.001. The results of the study show that online registration, automated claims, and mobile platforms increase the value and efficiency of services and have a considerable influence on their manifold dimensions of quality, velocity, and accuracy. The findings emphasize the strategic essence of enhancing IT infrastructure, training of these users and digital literacy in the quest to enhance further provision of the services in the institutions in the public sector.

INTRODUCTION

In the modern centuries of digital transformation, information technology (IT) integration in the process of providing the citizens with various kinds of public services has been a foundational requirement, rather than strategic well-being. Such a transition can be especially noticed in the case of Indonesia as more public institutions are adopting digital tools to elevate the efficiency and responsibility of their operations (Aminah & Saksono, 2021). One of such institutions is the BPJS BPJS Employment (Social Security Administering Body in Employment), which is prominent in supporting the management of different social security programs embedded in employment. Since the institution handles the social protection rights of millions of workers in Indonesia, the quality and efficiency of its services play a vital role in the confidence of the population of the state and the legitimacy of the institution (Sumadi, 2023).

It is clear that the Indonesian government, through the Presidential Regulation No. 95 of 2018, regarding the Electronic-Based Government System (SPBE), has openly required the public service agencies to use information technology to facilitate efficient service delivery, decrease bureaucracy, and maintain transparency. Such digital mandates encompass some institutions like BPJS Employment which will be providing fast and reliable services with ease of services through various IT applications such as registration online, mobile claim systems, and combined customer support systems (Arianto, 2023).

Nevertheless, regardless of such regulatory and infrastructural initiatives, there are still numerous service delivery issues (Mhlanga et al., 2021; Kulal et al., 2024)). Such issues as the delays in processing the claims, no clarity in the use of digital communication, inconsistencies between regional offices regarding service standards have been reported to happen by the participants. These considerations raise the possibility that there might exist a discrepancy between the deployment of IT systems on one hand and the enhancement of service effectiveness on the other hand. The issue is not only whether or not the technology was present or not but whether or not it has been applied well by the institution and the user (Ali et al., 2024).

Traditionally, service effectiveness in the field of public administration is achieved by such dimensions as accuracy, responsiveness, speed, accessibility, and user satisfaction (Widanti, 2022). Information technology implementations ought to improve these dimensions since they should lead to the replacement of manual procedures, minimizing the error that people make, as well as allowing real-time feedback (Behnke et al., 2021). IT is supposed to enhance claim services, registrations, communication among their participants, and data accuracy within the context of BPJS Employment because they are also the most significant contributors to the quality of services (Styrin et al., 2022). However, in most cases those expectations are not met because of the utilization of technology incorrectly, absence of training of the users, or prejudice to the change of personnel.

Furthermore, although BPJS Employment has established a number of digital services including the BPJSTKU mobile application, online ports and self-service kiosks, the degree of user experience usage and system reliability hold considerable differences across subjects (Pratistha & Mahyuni, 2024). A number of studies have shown that the quality of IT usage in the work of the authorities is predetermined not only by the presence of the system, but also by the organizational culture, digital literacy of employees, and the preparation of participants.

The use of IT is more hindered in the public sector organizations as compared to the other sectors of the economy. They comprise the lack of technical capability, bureaucratic stiffness, lack of funding, and poor monitoring procedures (Zhu et al., 2024). In BPJS Employment, the issue is further complicated by the system downtimes, the lack of socialization of new technologies, along with the disparities in the IT infrastructure in various regions. This has led to the situation whereby, even as some regional offices are doing magnificently in service delivery owing to good use of IT, others are far much behind hence the discrepancy in performance of the government to the people (Mathonsi, 2024).

This research study can be said to have resulted due to the pressing demand to ascertain whether use of information technology has a statistically quantifiable effect on the effectiveness of services in BPJS Employment. Past studies accessed the relation between IT adoption and citizen satisfaction within the context of different government agencies (Alkrajji, 2021) however very little empirical research was done in the context of BPJS Employment where the largest proportions of interactions between the agency and the citizenry happen, namely, at regional offices.

Moreover, the 2020-2024 National Mid-Term Development Plan (RPJMN) envisioned by Indonesia on the bureaucratic reform prioritizes the digitalization process as its main tool in enhancing the quality of its services in the public section (Alkaf, 2024). Institutions such as BPJS Employment will only achieve these objectives depending on their capacity to use information technology not only as an instrument but as an agent of effective service. Unless we assess the weight of its effects carefully, digitization of public services initiatives could turn into missionary, but not revolutionary, efforts. Against this background, this paper presents quantitative research on how information technology use can determine service effectiveness, in BPJS Employment (Franque et al., 2021). The study will look into obtaining empirical data regarding whether the IT tools play a significant role in improving the delivery of services by analyzing the perceptions gained by the participants and the data related to the operations. The results would provide viable lessons concerning institutional enhancement, tactical policymaking, and gain in the public field.

METHODS

The study will be done by using a quantitative research methodology, an explanative survey design in order to investigate the connections between the use of information technologies and effectiveness of services in BPJS Employment. The choice of using quantitative method was informed by the fact that the objective was to find out how one variable could affect another variable by measuring, explaining, and testing. Based on numerical data, the study can empirically test how IT use as independent variable impacts positively the effectiveness of the delivery of services which is used as the dependent variable. The explanatory design affords the study to do more than describe and give the researcher the capability to test hypotheses to establish causal connection.

The stakeholders of BPJS Employment who form the population of this study are both the internal and external stakeholders. On the internal front, the term means those employees working within service, IT and customer relations departments who have direct contact with IT platforms. Externally it consists of the service users or participants who have used the digital service channels provided by BPJS Employment, including a website, mobile applications (BPJSTKU), or online complaint systems. To be more precise, in order to be more focused and thus manageable, the study was restricted to a few regional BPJS Employment offices where the use of IT-based systems is possible. These offices were chosen on their accessibility and consistency in the supply of digital services.

The study employed purposive sampling method to collect necessary and accurate data. This is one of the methods that were used so as to make sure that only the respondents who have had enough experiences with the BPJS Employment digital platforms were the ones used to perform the analysis. The total number of respondents was 120 derived out of the identified population. The sample size was calculated basing on the availability of respondents and as a requirement in achieving regression analysis so well with the validity of the findings. The two sets of perspective provided by the employees and the participants is a comprehensive way to understand the usage and the perception of IT in service delivery.

The structured questionnaire developed contained close-ended questions on a five-point Likert scale to collect the data. The questionnaire was kept in three major parts. The demographical information (age, gender and experience in service) of the respondents was collected in the first part. The second section was aimed at the measurement of interceding variable information technology utilization. This was measured in terms of factors outlined respectively as system accessibility, ease of use, technological integration, reliability of digital infrastructure, and digital literacy of users. The third part was concentrating on the dependent variable; service

effectiveness which was quantified by the indicators like speed of the service, the accuracy of the service, the responsiveness of the service, the satisfaction of the participant, and the easiness of accessing the service.

A pilot test was undertaken before finalizing the instrument that was used to collect data of 20 respondents during pilot test but they were not part of the main study sample. This piloting study was used to determine the quality of the question (validity and reliability). According to the results of the pilot test, some minor adjustments were made in order to make the questions more understandable and eliminate duplicate questions. Validity and reliability test were then performed on the instrument. Validity was assessed by Pearson Product-Moment Correlation and the values of the correlation of all the items were found to have greater value of the critical r than the 5% significance level and therefore proved that they were valid. In the meantime, the Cronbach Alpha was applied to test the reliability; in the case, reliability of IT utilization variable was 0.873 and the reliability of service effectiveness variable was 0.889. The values were above the recommended cut-off of 0.70 showing that the instrument was internally consistent and could be used in the main study.

The statistical package social science (SPSS) version 26 was utilized to analyze the data collected through the use of questionnaires. The analysis involved a number of processes. First, the nature of the respondents was summarized by applying descriptive statistics to give a profile of how the respondents answered each indicator. These were in form of means, standard deviations, frequencies and percentages. Second, the testing of assumptions was done, and this entailed normality testing with the Kolmogorov-Smirnov, test and ratio checks with the scatterplots. Such tests provided an assurance that the data has met the criterion of a parametric test.

The simple linear regression analysis was used to check the relation between the independent and dependent variables. This methodology could be used to identify the degree in which information technology use has on the effectiveness of the services. The analysis also provided coefficients indicating how powerful or weak the nature of the relationship was, as well as the coefficient of determination (R^2) that indicated the extent to which the variance in service effectiveness was accounted by IT usage. The procedure involved the use of t-test to establish whether regression coefficient was significant or not at the level of 5 percent (i.e. 0.05). In doing so, it either confirmed or falsified the research hypothesis.

RESULTS AND DISCUSSION

In a time where the public service institutions are more often than not being asked to have their systems digitized to increase transparency, efficiency and responsiveness, it becomes essential to know this relationship. The emergence of online service platform, mobile applications and digital verification systems at BPJS indicate that there is a move towards the implementation of technology-driven service delivery. Nonetheless, the extent to which such tools change service outcomes has never really been tested using empirical and quantitative evidence. The current study fills that gap by means of applying inferential statistical tools to the analysis of how IT adoption leads to the enhancement of the quality, accessibility, and performance of services. The outcomes of this analysis are delivered in the following section, which aims to provide an insight that can be based on the perceptions and experiences of both members of staff and service users.

Descriptive Overview of Respondents and System Use

The research gathered responses from 120 participants, comprising both internal users (BPJS staff) and external users (service participants). The dual perspective

allows a more comprehensive understanding of IT implementation in a public service context. The majority of respondents reported having interacted with the BPJSTKU mobile application, online registration systems, and automated claim processes. The average response on items measuring IT utilization indicated that respondents generally perceived the digital platforms as accessible and functional, although issues of system reliability and uneven literacy across user groups remained evident.

Table 1. Descriptive Characteristics of Respondents and System Utilization

Category	Indicator	Frequency (n = 120)	Percentage (%)	Description
Respondent Type	Internal staff (BPJS employees)	55	45.8	Employees from IT, customer service, and administration departments directly using digital systems
	External users (service participants)	65	54.2	Participants who used BPJS online services such as BPJSTKU and e-claims
Gender	Male	68	56.7	Predominant gender group among respondents
	Female	52	43.3	Representing staff and participant mix in digital interaction
Age Group (years)	21–30	34	28.3	Younger users with higher digital adaptability
	31–40	49	40.8	Largest group using both web and mobile platforms
	41–50	29	24.2	Experienced employees and long-term users
	>50	8	6.7	Senior group with limited IT literacy
Digital Service Used	BPJSTKU mobile app	102	85.0	Main digital platform for claims and membership access
	Online registration portal	87	72.5	Used for new membership and employment verification
	Automated claim system	94	78.3	Used for claim submissions and tracking
	Online complaint system	61	50.8	Used for feedback and issue resolution
Perceived IT Accessibility (Mean)	4.21	—	—	High accessibility to systems and applications

Perceived Reliability (Mean)	3.89	—	—	Moderate reliability due to occasional downtime
Ease of Use (Mean)	4.18	—	—	Digital services considered user-friendly
Digital Literacy Level (Mean)	3.97	—	—	Average literacy indicating need for continuous training
Overall IT Utilization Index (Mean)	4.06	—	—	High level of IT adoption among respondents

The findings resonate with existing scholarship that highlights the uneven and fragmented nature of digital transformation across Indonesian public institutions (Aminah & Saksono, 2021; Arianto, 2023). Although Presidential Regulation No. 95/2018 formally institutionalized the Electronic-Based Government System (SPBE) as a national framework for bureaucratic modernization, its implementation remains contingent upon local infrastructure, managerial capability, and regional policy coherence. This inconsistency underscores a persistent implementation gap between the formal adoption of digital policies and their operational realization. It reflects the broader challenge of translating central directives into localized administrative capacity, a pattern typical of decentralized governance systems where institutional readiness varies significantly across regions.

Comparable insights were articulated by Zhu et al. (2024), who demonstrated that infrastructural disparities serve as key determinants of bureaucratic capacity and service consistency in China. The present study mirrors this dynamic, revealing that disparities in BPJS Employment's regional digital infrastructure and human resource preparedness directly affect the quality of IT-enabled services. This indicates that technological innovation, while nationally mandated, is unevenly embedded across institutional contexts. Consequently, digital transformation within BPJS Employment should not be viewed as a uniform process but as a differentiated trajectory shaped by structural inequalities, local administrative competence, and the depth of institutional commitment to reform.

Regression Analysis and Model Fit

Table 1 illustrates the regression model summary, where the correlation coefficient ($R = 0.742$) indicates a strong positive relationship between IT utilization and service effectiveness. The coefficient of determination ($R^2 = 0.551$) suggests that 55.1% of the variation in service effectiveness is explained by IT utilization, with the remaining 44.9% attributable to other variables not included in the model, such as human resources, policy consistency, or organizational culture.

Table 2. Model Summary (Regression Output)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.742	0.551	0.547	3.615

The study's regression model's robustness is consistent with the larger body of empirical evidence that suggests information technology integration is a structural mechanism that enhances institutional performance. Through real-time data monitoring, Behnke et al. (2021) showed how IT-enabled automation in health systems improves precision, lowers human error, and increases accountability. This convergence highlights the fact that the performance improvements seen in BPJS Employment are not contextually unique; rather, they are a component of a broader shift in how digital platforms alter the way public organizations operate. IT

transforms bureaucratic complexity into quantifiable efficiency improvements through underlying processes of automation, standardization, and data reliability.

Furthermore, Stylin et al. (2022) expand the significance of these outcomes beyond operational measures toward the realm of citizen experience by arguing that IT platforms improve service accessibility and reliability. Faster service delivery and a redefining of equality and inclusivity in the public's access to government services are both signs of improved accessibility. By reducing ambiguity and inconsistency across service channels, reliability in turn strengthens public trust. These studies support the notion that BPJS Employment's digital initiatives are part of a larger paradigm shift in public administration, whereby technological systems transform from auxiliary tools into institutional infrastructures that maintain legitimacy, responsiveness, and transparency in the provision of public services.

ANOVA and Significance of the Model

The ANOVA test, presented in Table 3, further validates the significance of the regression model ($F = 113.541$, $p < 0.001$). This finding confirms that IT utilization contributes meaningfully to predicting the effectiveness of BPJS Employment services.

Table 3. ANOVA (Analysis of Variance)

Model	Sum of Squares	df	Mean Square	F	Sig. (p-value)
Regression	1485.372	1	1485.372	113.541	0.000
Residual	1207.128	118	10.228		
Total	2692.500	119			

The statistical significance of the model reinforces the theoretical proposition that technology-driven service mechanisms possess demonstrable capacity to improve public sector performance. Beyond numerical validation, this finding signals the institutional maturity of BPJS Employment in aligning technological infrastructure with service objectives. The evidence confirms that digitalization is not a superficial modernization effort but a measurable governance instrument capable of transforming administrative efficiency into public value. As Franque et al. (2021) observed, technology acceptance and utilization operate as systemic determinants of service quality because they influence how citizens perceive responsiveness, transparency, and procedural fairness within digital governance environments.

In the context of BPJS Employment, these dynamics materialize through the institution's ability to deliver timely claim processing, seamless online registration, and remote access to essential benefits via mobile and web-based applications. Such accessibility embodies the operational translation of trust, where reliability of service reinforces legitimacy of the institution itself. The empirical significance of the model therefore illustrates that technological adoption is not merely a managerial choice but a foundational strategy for cultivating accountability and strengthening citizen confidence in state institutions. In this way, BPJS Employment exemplifies how digital transformation, when strategically embedded, can bridge the gap between administrative efficiency and perceived public trust in governance.

Regression Coefficients and Interpretation

The coefficient table below reveals the direct effect of IT utilization on service effectiveness.

Table 4. Coefficients (Regression Equation Output)

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig. (p-value)
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Constant	21.475	1.963	—	10.940	—
IT Utilization	0.682	0.064	0.742	10.646	0.000

From this model, the regression equation is derived as:

$$Y = 21.475 + 0.682X$$

This equation signifies that for every one-unit increase in IT utilization, the service effectiveness score increases by 0.682 units, holding other factors constant. The p-value of 0.000 (< 0.05) indicates a statistically significant relationship. These findings empirically confirm that IT adoption substantially contributes to enhancing service performance in BPJS Employment.

The result resonates with previous research by Chi et al. (2022) and Qiu et al. (2022), who established that the alignment between technological tools and organizational purpose leads to improved subjective and objective performance indicators. Similarly, the study extends Duraimutharasan et al. (2025) who noted that human-machine collaboration enhances decision accuracy and efficiency in service contexts, reaffirming that BPJS's IT integration is both operationally and strategically impactful.

The findings of this study provide a clear indication that the utilization of information technology plays a vital role in improving service effectiveness within BPJS Employment. The statistical results presented earlier establish a strong positive association between IT utilization and service performance, yet the significance of these findings extends far beyond numerical validation. This discussion interprets the implications of the results in theoretical, institutional, and policy contexts, emphasizing how technology contributes to a deeper transformation of Indonesia's public administration toward a more responsive and citizen-oriented system.

The results reaffirm that public service effectiveness in the digital era cannot be understood solely in operational terms but must be seen as a multidimensional construct shaped by technological capacity, organizational readiness, and citizen interaction. In Indonesia, where bureaucratic systems have historically been rigid and hierarchical, the adoption of information technology represents a transformative shift from administrative control to participatory service governance. This change reflects the idea proposed by Behnke et al. (2021), who explained that digital integration enables institutions to enhance accountability and transparency through embedded technological systems. Within BPJS Employment, digital platforms such as online registration, mobile-based claims, and automated verification have not only improved operational efficiency but also reshaped institutional culture by fostering openness and service responsiveness.

Theoretically, these findings align with the Technology-Organization-Environment framework, which highlights that the success of digital transformation depends on the alignment between institutional capability, technological infrastructure, and environmental demands. In the context of BPJS Employment, information technology functions as an adaptive mechanism that allows the organization to respond to increasing public expectations for efficiency and transparency. Furthermore, the study supports the Resource-Based View perspective, which positions information systems as strategic organizational resources that create sustainable advantages when they are valuable, unique, and difficult to replicate (David et al., 2023). BPJS Employment's investment in digital platforms has enabled the institution to develop unique operational capabilities that enhance service delivery, data accuracy, and user satisfaction.

The evidence from this study also reveals that information technology does more than automate processes; it restructures the relationship between citizens and the state.

As Stylin et al. (2022) emphasized, technology redefines governance by introducing a platform logic that promotes participatory and integrated service provision. Through digital platforms, BPJS Employment has facilitated real-time communication between users and administrators, creating an interactive service environment that enhances trust and accessibility. The findings therefore contribute to the growing understanding that information technology functions not merely as an instrument of efficiency but as an institutional enabler of democratic service delivery.

However, while the regression results confirm that IT utilization explains more than half of the variation in service effectiveness, the remaining 44.9 percent demonstrates that technology alone is not sufficient to guarantee optimal performance. The findings echo the arguments of Zhu et al. (2024) and Mathonsi (2024), who observed that digital transformation is inherently socio-technical in nature. Its success depends not only on the availability of technology but also on human readiness, leadership commitment, and cultural adaptability. Within BPJS Employment, significant variations were observed across regional offices, where differences in infrastructure, digital literacy, and managerial coordination affected performance outcomes. This indicates that technological modernization must be complemented by investments in human capital, continuous training, and adaptive leadership.

This insight resonates with the conclusions of Kulal et al. (2024), who asserted that digital efficiency in public organizations can only be achieved when technology is supported by skilled and motivated personnel. The presence of digital infrastructure does not automatically translate into improved service quality if employees are not equipped with the competencies to use it effectively. Therefore, BPJS Employment's experience demonstrates that organizational learning and capacity building are crucial dimensions of digital reform. Digital transformation must be understood not only as a technical innovation but also as a process of cultural renewal that promotes openness, accountability, and a sense of shared responsibility among employees.

The broader implication of this study is that BPJS Employment represents a turning point in Indonesia's digital governance trajectory. The empirical evidence demonstrates that information technology has moved beyond symbolic or procedural implementation to produce measurable improvements in service effectiveness. This challenges earlier studies, such as those by Turner et al. (2022), which characterized Indonesian bureaucratic reform as largely procedural and fragmented. BPJS Employment's success indicates that targeted digital adoption, supported by adequate infrastructure and policy commitment, can generate tangible outcomes in public service delivery. Furthermore, this transformation aligns with the global discourse on digital governance, where technology functions as a strategic tool for achieving transparency, responsiveness, and citizen empowerment (Chen et al., 2024).

From a policy standpoint, these findings provide strong justification for continuing the national digitalization agenda embodied in the Electronic-Based Government System policy and the National Medium-Term Development Plan 2020–2024 (Alkaf, 2024). The study empirically validates that investment in IT infrastructure contributes directly to service performance, offering policymakers evidence to guide future budget allocations and program designs. However, as Aminah and Saksono (2021) emphasized, technological investment must be accompanied by institutional reforms that foster innovation and adaptability. Digital governance will only succeed if it is embedded in an organizational culture that values collaboration, accountability, and continuous improvement.

Moreover, interagency data integration remains a critical challenge that requires attention. The experience of BPJS Employment demonstrates the benefits of cross-

platform coordination, where claims, membership, and compliance information can be accessed in real time across departments. Expanding this interoperability across government institutions could significantly enhance public sector efficiency. Similar recommendations were made by Mhlanga et al. (2021), who highlighted the importance of networked governance structures in realizing the full potential of digital transformation.

Another dimension that emerges from this discussion concerns digital inclusion and ethics. As Van Nguyen and Nguyen (2024) and Sahal et al. (2022) noted, the pandemic accelerated the adoption of contactless and online services, yet not all citizens have equal access to technology or the skills to use it effectively. In Indonesia, digital inequality persists between urban and rural areas, which may lead to unequal benefits from public digital programs. To address this, BPJS Employment and similar institutions should adopt inclusive strategies such as public education campaigns, mobile service units, and simplified application interfaces. Equally important is the establishment of strong ethical and data protection frameworks. Ensuring data security, privacy, and transparency in information handling will be essential to maintaining citizen trust in digital systems.

This study also contributes methodologically to the growing body of research on digital governance. Most previous works on e-government in Indonesia relied on qualitative analysis or descriptive evaluation (Febriyanti et al., 2025; Pesämaa et al., 2021). By employing regression analysis, this research introduces empirical rigor that quantifies the effect of IT utilization on measurable performance outcomes. Such an approach enhances the reliability of policy recommendations and demonstrates that the effects of digital transformation can be objectively evaluated. It also situates BPJS Employment as a case study for evidence-based governance reform in developing countries.

For future research, it is recommended that studies incorporate additional variables such as leadership quality, organizational learning, and citizen engagement to capture the complex interactions that shape digital performance. Comparative studies across public institutions or longitudinal analyses could further clarify how technological and cultural factors evolve over time. Furthermore, qualitative approaches could complement quantitative data by exploring how employees and users perceive the social and emotional dimensions of digital transformation.

CONCLUSION

This study concludes that the utilization of information technology has a substantial and statistically significant impact on the effectiveness of services in BPJS Employment. The findings reveal that IT utilization accounts for more than half of the variation in service effectiveness, indicating that digital platforms such as online registration, automated claims, and mobile applications contribute directly to improving efficiency, accuracy, and user satisfaction. These outcomes confirm that the integration of digital systems is not only an operational enhancement but also a strategic institutional reform that supports transparency and accountability in public service delivery. The results advance theoretical understanding by empirically validating the Technology Organization Environment framework and the Resource-Based View in the context of Indonesian public administration. Information technology has proven to function as a strategic resource that enables adaptability, responsiveness, and citizen engagement.

However, the findings also highlight that technology alone cannot ensure effective service delivery without parallel investments in human capital, organizational learning, and ethical governance. From a policy perspective, the study underscores the importance of sustaining digital transformation initiatives under Indonesia's Electronic-Based Government System framework and the National Medium-Term

Development Plan 2020–2024. Strengthening digital infrastructure, enhancing employee competencies, and expanding digital inclusion across regions are essential for sustaining reform outcomes. Ultimately, the BPJS Employment experience demonstrates that effective utilization of information technology represents a critical pathway toward realizing a more efficient, transparent, and citizen-centered public administration in Indonesia.

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