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# Enhancing State Civil Apparatus (ASN) Competencies at KPU Secretariat through the SiMPEL Application

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***ABSTRACT***

The shift towards a merit-based system in State Civil Apparatus (ASN) management demands integrated learning governance, especially in archipelagic regions. The General Elections Commission (KPU) responded by developing the Training Management Information System (SiMPEL). This study analyzes SiMPEL's utilization for KPU Secretariat ASN in the Bangka Belitung Islands Province, focusing on Learning Hour (JP) fulfillment, cross-agency collaboration, and algorithmic leadership. Using a descriptive mixed-methods approach, data were collected through purposive sampling of 42 ASNs (questionnaires), interviews with HR officials, and document reviews, analyzed using descriptive statistics and content analysis. The results show that SiMPEL is highly effective in operationalizing the merit system, evidenced by a JP monitoring score of 3.64 and a 100% account adoption rate. The availability of 19 cross-agency e-learning clusters successfully eliminated geographical barriers. However, the implementation of algorithmic leadership is hindered by the manual certificate input process, which received a very low score (1.79), potentially causing data incompleteness (garbage in, garbage out). In conclusion, while SiMPEL has successfully digitized mandatory JP fulfillment, it has not fully transformed into a strategic decision-making tool. This study recommends automating system integration and decentralizing data access (Role-Based Access Control) to regional KPU offices.

**Keywords**: Algorithmic leadership; ASN management; Digital employee experience; E-learning systems; SiMPEL.

## Introduction

In the realm of state apparatus human resources management, there is a paradigm shift in State Civil Apparatus (ASN) management based on a merit system that emphasizes qualifications, competencies, and performance achievement. Law No. 20 of 2023 on ASN and State Administration Agency Regulations No. 10 of 2018 and No. 15 of 2020 mandate continuous learning integrated with work, including an obligation of 20 Learning Hours (JP) for Civil Service Personnel (PNS) and 25 JP for Government Employees with Work Agreements (PPPK) per year. This development right is not merely administrative compliance but a manifestation of distributive

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and commutative justice in ASN management to remain relevant to operational demands (Jesus et al. 2024). This mandate signals a paradigm transformation from expensive and bureaucratic training center approaches toward learning governance emphasizing individual ASN's obligation to learn digitally and autonomously.

This obligation represents strategic investment to ensure ASN possesses absolute capability in implementing good governance and preventing abuse of authority (Maisondra and Redi 2025). However, Sudewo (2024) asserts that this transformation will only succeed if supported by an ecosystem and learning culture where learning becomes an intrinsic need for apparatus rather than mere formality. Fundamentally, continuous learning obligation is strategic investment preparing future bureaucratic leaders who are competent and capable of leading transformation toward Indonesia's Golden Vision 2045 (Sumanti 2025).

Field implementation of JP policy faces highly complex structural challenges dependent on each institution's geographic characteristics. Conventional approaches (training centers) prove highly inefficient when confronted with Indonesia's archipelagic geography. In regions like the Mentawai Islands, geographic constraints make transportation time and costs the primary competency fulfillment barrier, forcing ASN to undertake sea voyages lasting up to 168 hours with personal expenses reaching Rp1,000,000 per trip merely to attend training (Wulandari et al. 2024). Similar conditions potentially occur in other remote areas, including the Bangka Belitung Archipelago. Furthermore, findings by Haeranah et al (2025) at grassroots level show that formal apparatus capacity such as high education levels does not necessarily correlate directly with operational digital technical competencies required in system-based governance. This confirms challenges lie not only in physical accessibility but also in digital literacy gaps and uneven infrastructure distribution between urban and remote areas.

Beyond accessibility issues, competency development system failures stem from inadequate technology design. Evaluation of first-generation e-learning found standalone digital platforms without integration with personnel information systems only increase basic knowledge levels but fail to enhance technical skills. On another front, technology-based training unsupported by system reliability triggers technostress, as found at Human Resources Development Agency (BPSDM) West Java where uneven internet networks and divided participant focus hinder effective ASN BerAKHLAK training (Arassy et al. 2024) . Even in Gaol et al. (2026)'s writing adding that without measurable mechanisms such as certification, individual ASN competency improvements tend to be subjective and difficult to measure, impacting bureaucratic stagnation and declining public trust. This confirms technology solutions must be accompanied by integrated

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HR management ecosystem; as proven in various studies, competency empowerment without mediation by clear career development systems won't significantly impact work productivity. Furthermore, without measured approaches like Training Need Analysis (TNA) and synchronization with career development plans, competency training tends to be subjective, undirected, and fails to genuinely improve organizational performance (Arbani 2021).

Digital transformation in HR management emerges as solution to bridge these gaps through people analytics approaches and information technology optimization (Erliani et al. 2024). This approach's importance is based on empirical evidence that education and training constitute the most dominant variable in improving ASN performance (Sumarni et al. 2023). Technology integration enables organizations to conduct algorithmic control, a form of rational control replacing conventional bureaucratic control (Kellogg et al. 2020). In competency development context, algorithmic control operationalizes through recording mechanisms (digitally documenting training traces) and recommending mechanisms (training recommendations based on pattern recognition) shifting decision-making from supervisory assumptions to evidence-based approaches. However, digital system adoption has dark sides. The Job Demands-Resources (JD-R) framework reminds that user-unfriendly Digital HRM systems transform from resources to job demands triggering digital fatigue rather than enhancing work engagement (Fachilla et al. 2025). Infrastructure and digital literacy gaps in blended learning implementation for ASN training also prove capable of reducing learning effectiveness (Rusmulyani and Riani 2024). Therefore, Digital Employee Experience (DEX) quality becomes key variable determining whether this system optimizes competencies or triggers resistance.

In response to these challenges, the General Elections Commission (KPU), institutionally possessing strong digital footprints through innovations like Electoral Recapitulation Information System (SIREKAP) and Voter Data Information System (SIDALIH) (Cintanesa et al. 2025), developed SiMPEL (Training Management Information System) as digital competency development facility for Indonesia's KPU Secretariat ASN. This application not only records training traces administratively but is designed as merit system enforcement instrument integrated with superior national ASN ecosystem. Particularly in the Bangka Belitung Islands with scattered geographic characteristics, SiMPEL provides access to 19 training clusters across Ministries/Agencies without distance and transportation cost constraints while addressing sectoral ego through cross-institutional e-learning collaboration in unified platform. Similar digital initiatives also developed by other government agencies, such as EIGHT application (Academy for Government Human Capital Management Specialist) integrating Learning Management

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System (LMS) and Knowledge Management System (KMS) facilitating continuous learning access for ASN (Nurmadewi et al. 2025).

This paper reveals how SiMPEL supports evidence-based decision-making principles while offering new perspective on breaking sectoral ego through cross-agency e-learning integration. Based on these gaps and novelty, this study's main research problem is formulated: How does SiMPEL application utilization enhance ASN competencies at KPU Secretariat across Bangka Belitung Islands Province from JP fulfillment, cross-agency e-learning collaboration, and algorithmic leadership application perspectives?

## Research Methodology

This study employs a *mixed-methods* descriptive approach with a concurrent triangulation strategy. The population comprises 235 ASN within the KPU Secretariat across the Bangka Belitung Islands Province, with a sample of 42 respondents determined through *purposive sampling* based on the criteria of having active accounts and ongoing JP target fulfillment processes. The independent variables include SiMPEL application utilization, encompassing access ease, *e-learning* integration, and *algorithmic control* mechanisms, while the dependent variable is ASN competency improvement. Primary data collection was conducted during May 2026 through online questionnaires using a 4-point Likert scale. The instrument was previously tested for validity (Pearson Product Moment) with *r*-values ranging from 0.312 to 0.856 (exceeding the *r*-table value of 0.304) and reliability (Cronbach's Alpha) of 0.842 (exceeding 0.60), thus being declared valid and reliable. In-depth interviews were also conducted with the Head of the HR Section. Secondary data were obtained through a document study of the KPU Secretary-General Decision No. 2032 of 2024. Furthermore, the latest operational implementation is reinforced by the Secretary General's Letter Number 2098/TIK.01-SD/14/2025, which definitively maps 36 cross-Ministry/Institutional training titles available on the SiMPEL application. Quantitative data were analyzed using descriptive statistics, namely frequency tabulation and averages, while qualitative data were analyzed using content analysis. The validity of the findings was maintained through source triangulation.

## Results and Discussion

This study examines SiMPEL application utilization within KPU Secretariat across Bangka Belitung Islands Province. The region with archipelagic characteristics presents unique challenges in conducting face-to-face training. As merit system strengthening instrument, SiMPEL integrated with superior national ASN ecosystem aims to develop competent ASN. Research

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results demonstrate this system implementation proves highly effective in managing training programs similar to those at LAN (Malika et al. 2024). This effectiveness visualized through successful training implementation and massive participant capacity increase. Ultimately, this initiative directly impacts ASN performance improvement, as competency gaps that previously hindered performance can be identified and fulfilled systematically based on data.

**Table 1. Number of ASN at KPU Secretariat across Bangka Belitung Islands**

| No | Work Unit (Province, City/District) | Types of ASN | | Echelon Positions | | | JF | |
|---|---|---|---|---|---|---|---|---|
| | | PNS/ CPNS | PPPK | II | III | IV | JFT | JFU |
| 1 | Bangka Belitung Islands | 37 | 27 | 1 | 3 | 7 | 25 | 28 |
| 2 | Pangkalpinang | 18 | 9 | | 1 | 4 | 9 | 13 |
| 3 | Bangka | 16 | 9 | | 1 | 4 | 11 | 9 |
| 4 | Central Bangka | 16 | 8 | | 1 | 4 | 9 | 10 |
| 5 | South Bangka | 16 | 11 | | 1 | 4 | 11 | 11 |
| 6 | West Bangka | 14 | 8 | | 1 | 2 | 9 | 10 |
| 7 | Belitung | 17 | 6 | | 1 | 3 | 5 | 14 |
| 8 | East Belitung | 14 | 9 | | 1 | 2 | 4 | 16 |
| | Total | 148 | 87 | 1 | 10 | 30 | 83 | 111 |

*Source: PPID KPU of Bangka Belitung Islands Province, 2026*

The General Elections Commission Secretary-General Decision No. 2032 Year 2024 regarding Technical Guidelines for State Civil Apparatus Competency Development within the General Elections Commission establishes legal foundation mandating SiMPEL as operational competency development instrument, transforming normative provisions into measurable practices. General overview of research location shows geographic challenges in Bangka Belitung archipelago requiring digital solutions. Data in Table 1 reveals distribution of 235 ASNs within KPU Secretariat across Bangka Belitung Islands Province across 8 work units with highly diverse demographic characteristics. Analysis of this composition reveals three critical phenomena requiring Algorithmic Leadership implementation through strengthening digital access at regional level.

First, asymmetric job demands pressure due to 25 JP target burden for PPPK. From total 235 ASNs, there exist 87 PPPKs (37%) distributed across all work units, with highest concentration at Provincial KPU (27 personnel) and South Bangka District KPU (11 personnel). Based on Job Demands-Resources (JD-R) framework, 25 JP annual fulfillment obligation for PPPK compared to 20 JP for PNS places this group under higher job demands pressure. In

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archipelago ecosystem with face-to-face training access limitations, this 25 JP target can only efficiently be fulfilled through digital resources provided by SiMPEL (Fachilla et al. 2025). Without data-based monitoring (Wulandari et al. 2024), this PPPK group potentially experiences digital fatigue or becomes trapped in JP fulfillment as mere formality.

Second, large JFU proportion and need for personalized training based on People Analytics. Table 1 shows significant proportion in Implementer Position (JFU) totaling 111 personnel (47.2%), followed by Specific Functional Positions (JFT) of 83 personnel (35.3%), and structural officials of 41 personnel (17.5%). Majority of these JFU work in administration, finance, and logistics. From People Analytics perspective (Retnowati et al. 2025), JFU group composition requires precise personalized training pathway. Without algorithm-assisted monitoring, leaders will struggle ensuring 111 JFU take training clusters truly bridging competency gaps (e.g., clusters C, G, and M) or merely take most easily accessible training to chase JP numbers. Here SiMPEL's pattern recognition becomes vital for mapping competency gaps massively.

Third, structural monitoring capacity gap and RBAC urgency. Data shows 41 structural officials (Eselon II, III, and IV) serving as work unit leaders. By regulation (KPU Secretary-General Decision No. 2032/2024), these structural officials bear responsibility for subordinate competency strengthening. However, access limitation restrictions in SiMPEL prevent structural officials at district/city level from independently and real-time monitoring 20/25 JP progress. For example, East Belitung District KPU with only 3 structural officials must monitor 23 ASN (14 PNS, 9 PPPK); or South Bangka District KPU with 5 structural officials for 27 ASN (16 PNS, 11 PPPK). Archipelago geographic conditions separating these 8 work units further complicate centralized monitoring process by SiMPEL Admin at Provincial level.

Therefore, demographic composition in Table 1 becomes empirical justification why granting access authority through Role-Based Access Control (RBAC) is urgent necessity. Decentralizing regional dashboard access will enable structural officials at each District/City KPU to oversee PPPK group job demands pressure, analyze training selection trends by JFU, and implement evidence-based policy intervention directly at their respective work units. This demographic condition becomes empirical justification why digitalization through SiMPEL is urgent necessity in remote areas to support KPU Secretariat institutional duties (Surbakti 2024).

**Table 2. Training Clusters Available in SiMPEL Application**

| No | Category | Training Cluster |
|---|---|---|
| 1 | A | HR Development Management |

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| | | |
|---|---|---|
| 2 | B | Legal Affairs |
| 3 | C | Programs and Budget |
| 4 | D | Leadership |
| 5 | E | Goods/Services Procurement |
| 6 | F | Communication and Public Relations |
| 7 | G | State Treasury |
| 8 | H | Government Internal Control System |
| 9 | I | Excellent Service |
| 10 | J | Information Technology (IT) |
| 11 | K | Training Administration and Analysis |
| 12 | L | Training Development Procedures and Analysis |
| 13 | M | Office Management |
| 14 | N | Performance Accountability |
| 15 | O | Instructors |
| 16 | P | Election Implementation Management (Stage Activities, IT) |
| 17 | Q | Election Law (Advocacy, Disputes) |
| 18 | R | Election Administration (Finance, Logistics) |
| 19 | S | Electoral System |

*Source : Simpel.kpu.go.id, 2026*

The existence of 19 training clusters in SiMPEL application as presented in Table 2 becomes primary foundation for Algorithmic Leadership implementation within KPU. Specifically, the last four clusters namely Election Implementation Management (P), Election Law (Q), Election Administration (R), and Electoral System (S) become differentiation distinguishing KPU training ecosystem from other government agencies. These four clusters ensure 20/25 JP fulfillment target not merely chasing quantitative figures but directed toward strengthening core competency of election organizers.

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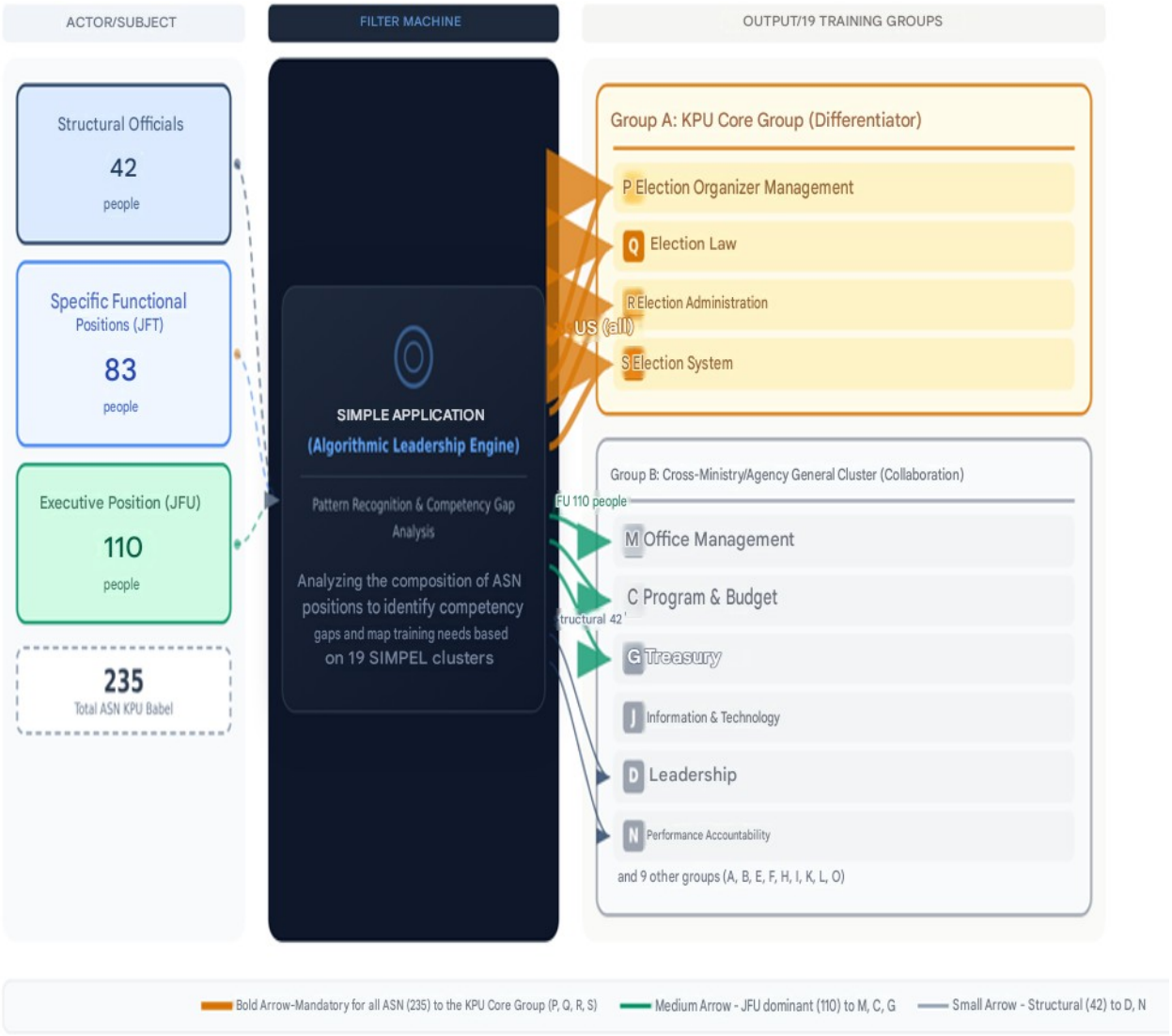


*Source: Processed by the author, 2026*

**Figure 1. Mapping the Composition of ASN Positions in the Babel KPU Against 19 SiMPEL Training Clusters from an Algorithmic Leadership Perspective**

As visualized in Figure 1, from Algorithmic Leadership perspective, integration between position demographic profile (JFU, JFT, and Structural) with 19 training clusters produces pattern recognition crucial for leadership. Specifically, existence of four core KPU clusters (P, Q, R, S) becomes primary differentiator ensuring all 235 KPU ASN, regardless of position background, remain rooted in strengthening core competency of election administration. Meanwhile, distribution pattern of cross-agency clusters (A-O) should form proportional pattern according to each position's workload. For example, ideal pattern according to system is when majority JFU (111 personnel) working in administration and logistics map training needs primarily on cluster M

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(Office Management), C (Programs and Budget), and R (Election Administration). Conversely, structural officials should show strengthening pattern on cluster D (Leadership) and N (Performance Accountability).

If SiMPEL dashboard shows anomaly, for example JFU taking cluster D (Leadership) while cluster M remains untouched, then system successfully performed diagnostic function. Unfortunately, as identified in this research, monitoring access limitations (RBAC) at regional level cause such anomaly patterns cannot be intervened quickly by HR Section Head at respective districts/cities. Figure 1 confirms that without data access decentralization, 19 training clusters will merely be utilized as JP number fulfillment tool, not strategic algorithmic leadership instrument directing ASN career development appropriately.

In People Analytics context (Retnowati et al. 2025), data distribution of training selection from 19 clusters produces crucial pattern recognition. For example, if SiMPEL data shows ASN in Finance Sub-section more frequently take cluster C (Programs and Budget) and G (State Treasury) than cluster R (Election Administration), system can identify competency gap or misalignment between training profile and position demands. Conversely, training selection pattern focused on clusters P through S shows competitive readiness in facing election stages. Thus, this 19-cluster diversity transforms SiMPEL from mere training repository into diagnostic instrument enabling leaders conduct evidence-based decision making for targeted ASN capacity strengthening. These four clusters ensure 20/25 JP fulfillment target not merely chasing quantitative figures but directed toward strengthening core competency of election organizers. Digital training effectiveness empirically proven capable significantly improving ASN competencies(Cahyadi et al. 2026), thus 19 training cluster integration in SiMPEL represents real investment in capacity improvement rather than mere formality.

**Table 3. Summary of ASN Perception at KPU Secretariat across Bangka Belitung Islands**

| No | Main Indicator | Average Score | Category |
|---|---|---|---|
| 1. | Login ease and user interface | 3.57 | Excellent |
| 2. | Merit system application | 3.34 | Good |
| 3. | Effectiveness of 20/25 JP monitoring | 3.64 | Excellent |
| 4. | Benefit of cross-agency e-learning integration | 3.29 | Good |
| 5. | Manual certificate input process | 1.79 | Very Poor |

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| | | | |
|---|---|---|---|
| 6. | Data utilization for career recommendation | 3.17 | Good |

*Source: Questionnaire Results Data, 2026*

**Learning Hours (JP) Fulfillment and Merit System Operationalization**

Quantitative findings demonstrate that 20/25 JP monitoring effectiveness indicator through SiMPEL achieved average score of 3.64 (Excellent Category) in Table 3. This achievement confirms SiMPEL successfully operationalized Law No. 20 of 2023 ASN mandate. Through Job Demands-Resources (JD-R) framework lens, this success shows SiMPEL functions optimally as digital resource successfully neutralizing geographic job demands including transportation access and cost limitations previously becoming primary competency fulfillment barrier in remote areas (Wulandari et al. 2024).

Empirical evidence from SiMPEL dashboard in Table 4 strengthens these perception findings and demonstrates practical significance of system implementation. System adoption rate reached 100% (235 ASNs possess active accounts), with total JP accumulation reaching 24,343 hours, or average of 103.5 JP per ASN. This figure drastically far exceeds minimum regulatory threshold (20 JP for PNS and 25 JP for PPPK). This finding confirms SiMPEL highly succeeds at digitalization stage (converting manual processes to digital) facilitating ASN obligation fulfillment. However, People Analytics analysis of per-region average JP disparity reveals interesting pattern recognition becoming input for Algorithmic Leadership. There exists extremely wide gap between regions. From Algorithmic Leadership perspective, this disparity not merely statistical figure but early signal indicating difference in system utilization intensity, independent learning motivation, or potential "JP chasing formality" in certain regions. This condition proves that despite centralized monitoring, without active role and data access (RBAC) for regional leaders, this digital engagement inequality difficult to intervene or further evaluate. This disparity is arguably influenced by urban-rural infrastructure gradients Pangkal Pinang City, as the provincial capital, inherently possesses superior digital infrastructure and closer administrative proximity to provincial IT support compared to outer island districts like East Belitung or Bangka District.

**Table 4. Summary of Learning Hours (JP) Data for ASN at KPU Secretariat across Bangka Belitung Islands Province**

| Province/District/City | Number of ASN | Number with SiMPEL Account | Learning Hours (JP) |
|---|---|---|---|
| Bangka Belitung Islands | 64 | 64 | 4.868 |

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| | | | |
|---|---|---|---|
| Bangka District | 25 | 25 | 1.239 |
| West Bangka District | 22 | 22 | 2.126 |
| South Bangka District | 27 | 27 | 2.225 |
| Central Bangka District | 24 | 24 | 4.058 |
| Belitung District | 23 | 23 | 1.520 |
| East Belitung District | 23 | 23 | 1.679 |
| Pangkal Pinang City | 27 | 27 | 6.628 |
| Total | 235 | 235 | 24.343 |

*Source : PPID KPU RI, 2026*

**Cross-Agency E-Learning Collaboration (K/L)**

The core scientific novelty of this research lies in effort testing SiMPEL not merely as data warehouse but as Algorithmic Control instrument (Kellogg et al. 2020). Unlike standalone digital training systems merely increasing basic knowledge levels (Lukito and Haryono 2020), SiMPEL designed to execute recording function namely documenting 20/25 JP traces and recommending function or directing training cluster selection. Salafudin et al. (2025) findings prove competency empowerment without mediation by clear career development system won't impact productivity; here lies SiMPEL's recommending mechanism role.

This strengthens argument that SiMPEL must function beyond mere JP fulfillment transaction but as integrated career mediation tool. Theoretically, every JP history from 235 ASNs in Bangka Belitung Islands should produce pattern recognition shifting training decision-making from supervisor assumption to evidence-based approach (Retnowati et al. 2025). However, Table 3 reveals critical discrepancy. On one hand, SiMPEL highly succeeds executing basic recording function (JP Monitoring Score 3.64). Yet on other hand, data utilization indicator for career recommendation merely achieved score 3.17 (Good), and merit system application score 3.34 (Good). Primary cause hindering this recommending mechanism lies in operational friction triggering garbage in, garbage out phenomenon. Manual certificate input process indicator achieved lowest score (1.79 - Very Troublesome). Based on JD-R framework non-automatic input mechanism transforms into technological job demands triggering digital fatigue (Fachilla et al. 2025). When ASN reluctant inputting external certificates due to troublesome process, SiMPEL's pattern recognition data becomes incomplete. Consequently, regional leaders cannot fully utilize algorithmic control potential for unbiased HR decision-making, and system reverts to initial condition where competency assessment remains subjective and difficult to quantify (Mutamimah et al. 2024).

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The finding of a very low score on the manual certificate input process indicator (1.79) is procedurally confirmed through the 2025 SiMPEL Usage Guide. Based on the guide (Chapter VIII), the cross-agency e-learning mechanism requires ASN to carry out a multi-stage process that triggers operational friction: (1) ASN must log in to the external K/L portal (e.g.: klc2.kemenkeu.go.id or asn.futureskills.id); (2) complete the training; (3) download the certificate manually; (4) log back in to SiMPEL; (5) fill out the 'Training History' form manually; and (6) upload the certificate file. This guide even explicitly states that 'SiMPEL Admins cannot be involved in every Ministry/Institution website' (Chapter VIII, point 5). This disconnected integration mechanism is what technically triggers the garbage in, garbage out phenomenon, because the delay or reluctance of ASN to upload manually causes the pattern recognition data on the SiMPEL dashboard to be incomplete.

Specifically, based on the Letter of the Secretary General of the General Elections Commission (KPU) Number 2098/TIK.01-SD/14/2025, SiMPEL not only provides technical election training (P-S Cluster), but also integrates 36 superior training subjects from various Ministries/Institutions. For example, Cluster G (State Finance) is fulfilled by the 'Performance-Based Budgeting' training from the Ministry of Finance; Cluster E (Procurement of Goods/Services) is accommodated through the 'PBJP Level-1 Competency' from the LKPP; and Cluster I (Excellent Service) is fulfilled by the 'Introduction to Empathy Enhancement' from the Ministry of Maritime Affairs and Fisheries. In fact, the 'Basic Anti-Corruption Knowledge and Integrity' training from the Corruption Eradication Commission (KPK) is also integrated. This proves that SiMPEL is truly breaking down sectoral egos by making one platform as a single entry point for the development of national ASN competencies.

The absence of Role Based Access Control (RBAC) mechanism for structural officials at district/city level exacerbates this. Without authority to independently draw analytical reports, regional leaders cannot intervene when subordinate training selection patterns misalign with position competency gaps. This condition supports Salafudin et al. (2025) finding that ASN empowerment through digital systems without stakeholder accessibility support won't significantly impact productivity.

One SiMPEL's competitive advantage becoming research novelty is capacity breaking bureaucratic sectoral ego. Table 2 shows availability of 19 training clusters integrated with e-learning portals from other government agencies (LAN, Finance Ministry, Anti-Corruption Commission, up to National Research Agency). These four specific KPU clusters (P, Q, R, S) become differentiator ensuring JP fulfillment not merely chasing quantitative figures but directed

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toward strengthening election organizer core competency. ASN perception regarding cross-agency integration benefit achieved average score 3.29 (Good) in Table 3. Integration menu adding quality training access received high score (3.52; Excellent), proving cross-agency collaboration spirit felt concretely beneficial. Nevertheless, discussion with HR Sub-Section informants revealed technical redirect process between portals (from SiMPEL to external K/L portals) still received complaints from several ASNs. This finding indicates technical interoperability between government system backends still requires strengthening ensuring user experience not disrupted by operational friction (Salafudin et al. 2025).

**Further Analysis Based on Employment Status**

Further analysis based on employment status shows interesting phenomenon where PPPK possess highest overall perception score average (3.40) compared to PNS (3.25) and CPNS (3.24). This difference explainable by higher job demands pressure on PPPK (25 JP), thus they more intensively utilize platform and feel benefits more significantly. Meanwhile from work unit perspective, score disparity between regions (highest in Pangkal Pinang City 3.57; lowest in South Bangka District 2.95) likely related to socialization quality and technical infrastructure support at each work unit. Managerially, the Central KPU needs to immediately implement technical updates by changing the manual pull-based upload mechanism to a push-based API integration. Based on the portal directory listed in the official guidelines, priority API integration should be immediately implemented on the domains that contribute the most to the JP, such as: klc2.kemenkeu.go.id (Ministry of Finance), asn.futureskills.id (LAN), elearning.lkpp.go.id (LKPP), and newlearning.kpk.go.id (KPK). Thus, when a KPU ASN completes the 'Commitment Making Officer' training on the Ministry of Finance portal, their JP data and certificate will automatically sync into the SiMPEL database, eliminating the operational friction that has triggered Garbage In, Garbage Out (GIGO).

**Research Limitations**

This research possesses several limitations requiring consideration in interpreting findings. First, descriptive approach used only capable depicting perception at specific time point, unable measuring causality relationship between SiMPEL application and actual ASN performance improvement during election stages. Second, quantitative data heavily dependent on respondent subjective perception of interface and administrative processes, possibly not fully reflecting actual competency improvement. Third, Bangka Belitung Islands context with unique geographic challenges possibly prevents complete finding generalization to KPU Work Units in urban areas

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possessing adequate digital infrastructure and face-to-face training access. Finally, the codified absence of Role-Based Access Control (RBAC) in the SiMPEL system architecture creates a decoupling effect, preventing regional structural officials from translating centralized data into local algorithmic leadership interventions (Kurniawan et al. 2020).

## Conclusion

This study aims analyzing SiMPEL application utilization in enhancing ASN competencies at KPU Secretariat across Bangka Belitung Islands Province examined from JP fulfillment, cross-agency collaboration, and algorithmic leadership application. Generally, this application provides positive benefit with overall average score of 3.20 (from 4.00 scale), proving SiMPEL successfully functioned as effective digital resource operationalizing merit system. Application successfully eliminates archipelago geographic barriers for fulfilling 20/25 JP obligation and breaks sectoral ego through 19 cross-agency e-learning cluster integration. Theoretically, findings strengthen Job Demands-Resources (JD-R) framework concept proving accessible digital systems capable neutralizing work demands, yet user-unfriendly features transform into work burden triggering digital fatigue.

Nevertheless, algorithmic leadership implementation remains hindered at digitalization stage not yet reaching decision-making transformation phase due to operational friction from manual certificate input causing data incompleteness (garbage in, garbage out) and absence of Role-Based Access Control (RBAC) mechanism. These limitations of RBAC are not merely perceptions, but are codified in the system design. The SiMPEL 2025 User Guide indicates that the entire training needs selection process must go through a stage of being 'validated based on gap groups by the SiMPEL admin'. There is no self-service dashboard mechanism for the Head of the Human Resources Sub-Division at the Regency/City KPU level to extract real-time data regarding training selection anomalies by the JFU in their region. This centralization of validation leads to decoupling, where regional structural officials (as seen in Table 1) bear the burden of accountability for the performance of their subordinates, but are not given the authority to access data to carry out algorithmic leadership interventions.

Managerially, central KPU needs immediately conducting technical updates automating system integration (API) for absorbing training certificates from external agencies eliminating manual input burden for ASN. Additionally, granting access authority through RBAC mechanism for structural officials at regional level becomes absolute prerequisite enabling real-time competency gap monitoring dashboard access supporting targeted career development decision-

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making. For future researchers, conducting quantitative causal or experimental study measuring direct impact (effect size) from SiMPEL application on actual ASN performance improvement during election stages recommended, and testing finding generalization on KPU Work Units in non-archipelago regions possessing different digital infrastructure characteristics.

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