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Becoming Digital-Green Civil Servants: A Focused Organizational Ethnography Of Green-Digital HRM, Engagement, And Performance In The Indonesian Civil Service

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Abstract

Digital transformation in public administration increasingly moves beyond the adoption of applications toward the reconfiguration of work routines, talent systems, and sustainability-oriented administrative practices. In Indonesia, the acceleration of electronic-based government systems, national digital service integration, e-Kinerja, electronic signatures, and paperless initiatives has created new expectations for civil servants. Yet the human and organizational processes through which civil servants become digital-green actors remain underexplored. This study examines how Green-Digital HRM is enacted in the Indonesian civil service and how it shapes digital competence, engagement, and performance. Using a focused organizational ethnographic interview design, the study draws on primary data from 19 informants across HR/personnel, leadership, frontline civil servants, IT/SPBE, and green-office functions. The findings show that ASN Digital-Hijau emerges through six interconnected routines: translating policy into HRM practices, modelling digital-green leadership, building uneven digital competence through formal training and informal helpers, negotiating engagement between empowerment and administrative burden, maintaining hybrid paperless routines, and redefining performance beyond e-Kinerja uploads. The

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study contributes to public-sector HRM by showing that digital-green transformation succeeds when HRM, leadership, technology support, and environmental routines converge in everyday work. It also warns that digitalization can reproduce administrative formalism when performance systems reward uploading evidence more than improving service quality.

Keywords: ASN Digital-Hijau; civil service; digital competence; employee engagement; focused organizational ethnography; Green-Digital HRM; public-sector performance

INTRODUCTION

Public administration now faces a dual transition. Governments must digitize services, data flows, and internal work systems while also reducing administrative waste, energy use, and paper dependence. This transition does not concern technology alone. It requires civil servants who can work with digital systems, interpret data responsibly, respond to citizens through online channels, and practice resource-efficient routines in daily bureaucracy. The OECD's recent work on digital skills for government stresses that public-sector digital maturity depends on working environments, leadership practices, and skills development for existing civil servants, not only on new platforms or specialist recruitment (OECD, 2024). Its 2025 analysis of artificial intelligence in civil service reform pushes the debate further by showing how AI and digital tools can reshape recruitment, learning, HR services, productivity, and administrative burden in government (OECD, 2025a).

Indonesia provides a timely setting for examining this issue. The national SPBE agenda has moved from fragmented e-government toward integrated digital government. Presidential Regulation No. 82/2023 directs the acceleration of digital transformation and integration of national digital services through priority SPBE applications, integration, and interoperability (Republic of Indonesia, 2023). The Cabinet Secretariat noted that GovTech Indonesia is expected to accelerate public-service integration and reduce fragmentation across government systems (Cabinet Secretariat of the Republic of Indonesia, 2024). The Ministry of Administrative and Bureaucratic Reform reported that Indonesia's national SPBE index reached 3.12 in 2024, classified as good and exceeding the 2020-2024 RPJMN target (Ministry of PANRB, 2025). These policy signals indicate progress, but they also intensify pressure on civil servants to adapt their work routines.

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The empirical problem has shifted from whether government owns digital systems to how ASN actually use, resist, combine, and translate those systems in everyday work.

Current literature captures several parts of this phenomenon, yet it often leaves the human micro-processes underdeveloped. Studies on digital competence and civil-servant performance show that digital skill affects work performance through service quality, motivation, and engagement mechanisms (Setyawan, 2025; Saleh, 2025; Lestari, 2026). Research on electronic performance systems in Indonesia suggests that e-Kinerja can support monitoring and accountability, but it also risks becoming a compliance ritual when civil servants treat it as an administrative obligation rather than a managerial tool (Tumija, 2023; Umar, 2025). Digital government research adds that public technologies transform public-sector work by standardizing work practices and creating new tensions around service quality, equity, and organizational priorities (Kim et al., 2024). These findings matter, but they do not fully explain how digital competence, engagement, leadership, and green routines come together inside civil-service workplaces.

A second limitation concerns the sustainability side of public-sector HRM. Green HRM research now links environmental practices with employee engagement, green behavior, and performance (Kania, 2024; Permadi & colleagues, 2025; Pramesti, 2025). Recent Indonesian public-administration work also argues that GHRM can become a future direction for environmental sustainability in government (Rakhma, 2025). Still, most studies treat green practices and digital transformation as parallel agendas. They rarely examine how paperless work, electronic signatures, digital archives, e-Kinerja, cybersecurity discipline, and energy-saving practices become intertwined in civil-service routines. That gap matters because civil servants often work in hybrid conditions: an electronic system exists, yet printed files remain necessary for legal archives, audits, or habitual reassurance.

This article addresses that gap by introducing the empirical idea of ASN Digital-Hijau, or digital-green civil servants. The concept refers to civil servants who do not merely operate applications or obey paperless instructions, but enact a new work identity through digital competence, resource efficiency, accountable reporting, citizen-oriented service, and engagement in public value creation. The study asks: How is Green-Digital HRM enacted in Indonesian civil-service work routines? How do digital competence and engagement shape the process of becoming Digital-Green Civil Servants? How does this process influence perceived ASN performance? The study contributes by moving the debate from digital government as infrastructure to digital-green bureaucracy as a lived work practice.

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The tension is practical rather than semantic. Civil servants now perform many tasks twice: they serve citizens or complete administrative work, and they also prove that work through digital traces, uploaded evidence, dashboards, and electronic signatures. Digital government scholarship increasingly treats these traces as part of the new public-sector workplace, not merely as technical outputs (Kim et al., 2024; OECD, 2024). At the same time, the green agenda asks public organizations to reduce paper, energy use, and resource waste. These demands converge inside everyday routines. A digital letter may still be printed for legal archiving; an e-performance entry may increase accountability while adding clerical labor; a paperless meeting may depend on a leader who refuses printed files. The empirical problem, therefore, lies in how ASN translate policy into work, not in whether digital or green policy exists.

This article responds to that problem by treating ASN Digital-Hijau as an enacted work identity. The term does not describe a finished category of employees. It describes an ongoing transition in which civil servants learn applications, maintain data discipline, reduce reliance on paper, negotiate e-Kinerja obligations, and reinterpret performance under digital monitoring. Recent work on digital skills in government emphasizes that public-sector capability depends on people, organizational arrangements, and learning conditions, not only infrastructure (Welby & Chauvet, 2021; OECD, 2024). Indonesian studies on e-Kinerja and ASN digital competence also show that digital performance systems can strengthen transparency but do not automatically produce substantive service improvement (Tumija, 2023; Setyawan, 2025; Umar, 2025). The gap addressed here is thus specific: existing studies explain readiness, competence, or performance outcomes, but they give less attention to how green-digital HRM becomes a lived routine through leadership example, informal learning, administrative burden, and hybrid paper-digital practices.

LITERATURE REVIEW

Green-Digital HRM in public administration

Green-Digital HRM combines two streams that have often developed separately. Digital HRM emphasizes the use of digital systems, analytics, platforms, and electronic workflows to improve recruitment, learning, performance management, and HR service delivery (Bondarouk & Brewster, 2016; Marler & Parry, 2016; Akbar et al., 2025). Green HRM emphasizes HR practices that encourage environmental awareness, resource efficiency, green behavior, and sustainability-oriented organizational culture (Renwick et al., 2013; Kania, 2024; Pramesti, 2025). In civil-service settings, these two streams

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increasingly intersect because e-Kinerja, electronic signatures, digital archives, online learning, and paperless work shape both human capability and environmental routines.

Recent policy and research developments justify treating this intersection as a contemporary public-sector issue rather than a managerial fashion. OECD (2024) argues that digital government requires existing civil servants to develop relevant skills within supportive working environments. OECD (2025b) adds that governments need HRM indicators capable of tracking workforce capability, performance, and management quality in public administration. The Indonesian SPBE agenda, especially after Perpres 82/2023, pushes agencies toward integrated digital services and interoperable systems (Republic of Indonesia, 2023; Ministry of PANRB, 2025). Green-Digital HRM therefore refers to HR routines that train, evaluate, support, and discipline ASN to work digitally while reducing resource waste and strengthening public value.

Digital competence, informal learning, and public-sector capability

Digital competence in government cannot be reduced to operating software. It includes data literacy, digital communication, cybersecurity awareness, problem solving, adaptation to new workflows, and the ability to translate digital tools into better public service (OECD, 2021; OECD, 2024; Setyawan, 2025). Indonesian studies increasingly link ASN digital competence to individual performance, public-service performance, and adaptive work behavior (Saleh, 2025; Lestari, 2026; Setyawan, 2025). Yet digital competence remains uneven across age groups, work units, and infrastructure conditions. This unevenness creates informal learning arrangements that rarely appear in formal HRM models.

Public-sector digital transformation research supports this point. Haug et al. (2023) show that digitally induced change in public administration produces incremental and transformational shifts in implementation processes and outcomes. Ciancarini et al. (2023) argue that digital transformation in public administration rests on data, ICT technologies, digital skills, and agile processes, and that technology alone cannot deliver transformation without organizational change. Kim et al. (2024) demonstrate that public technologies standardize work practices while generating tensions for public employees and service users. These studies suggest that competence formation unfolds through daily interaction with systems, colleagues, citizens, and administrative constraints.

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Engagement and the digital administrative burden

Work engagement refers to the energetic, dedicated, and absorbed involvement of employees in their work (Schaufeli et al., 2002). Public-sector engagement links strongly with meaningful service, leadership support, fairness, and the perceived usefulness of organizational change. Digitalization can strengthen engagement when systems reduce repetitive work, improve service quality, and make performance transparent. It can also weaken engagement when systems create overload, duplicate reporting, or excessive surveillance. This ambivalence appears in recent e-Kinerja research. Electronic performance systems can improve monitoring and accountability, but some Indonesian studies warn that users may treat e-Kinerja as a routine administrative requirement rather than a source of managerial learning (Tumija, 2023; Umar, 2025).

The engagement problem has become sharper in the AI era. OECD (2025a) notes that AI can personalize HR services, accelerate learning, and reduce administrative burden, but its effect on civil servants depends on governance, transparency, and organizational capability. UNESCO (2025) also frames AI and digital transformation as capacity challenges for public servants, not merely technical upgrades. For this article, engagement functions as the bridge between capability and performance. ASN become digital-green not when they only comply with system requirements, but when they understand why digital and green routines improve service, accountability, and responsible resource use.

Digital leadership, cybersecurity behavior, and green office routines

Digital leadership in public administration refers to the ability of leaders to make sense of technological change, model digital work, support learning, manage resistance, and align digital systems with public value (Mergel et al., 2019; Oktapiani, 2025). In civil-service settings, leadership matters because employees often read digital transformation through the behavior of superiors. If leaders demand printed files while announcing paperless policy, employees receive conflicting signals. If leaders consistently use electronic signatures, digital meeting materials, and system-based monitoring, digital-green routines gain legitimacy.

Digital leadership also interacts with cybersecurity behavior and sustainability. NIST CSF 2.0 positions cybersecurity as a governance and risk-management issue for government agencies as well as private organizations (NIST, 2024). This emphasis fits civil-service workplaces where weak passwords, shared accounts, personal devices, and informal workarounds can undermine digital trust. At the same time, green-office routines

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such as paperless correspondence and electronic archiving require legal, cultural, and infrastructural alignment. Green-Digital HRM therefore operates within a practical tension: the office must become digital enough to reduce waste, but secure and legally compliant enough to protect data, accountability, and auditability.

Becoming Digital-Green Civil Servants: from compliance to work identity

The phrase becoming digital-green civil servants helps connect digital HRM, Green HRM, engagement, and performance without treating them as separate administrative programs. Digital HRM tends to emphasize systems, analytics, e-performance, and electronic HR processes, while Green HRM emphasizes environmentally responsible behavior, resource efficiency, and pro-environmental work practices (Bondarouk & Brewster, 2016; Renwick et al., 2013; Rakhma, 2025). In civil-service settings, the two streams meet in concrete routines: electronic signatures, e-Kinerja, digital archives, online service platforms, paperless meetings, and energy-saving office practices. The relevant question is not whether these instruments exist, but whether they change how ASN understand their role, prove their performance, cooperate with colleagues, and serve citizens.

A work-identity lens also prevents a narrow reading of digital competence. Competence is not only the ability to operate an application. It includes confidence to learn new systems, judgment about data security, willingness to help colleagues, and capacity to distinguish substantive performance from mere digital reporting (OECD, 2021; Saleh, 2025; Setyawan, 2025). Engagement then becomes the affective bridge between capability and performance. When digital systems reduce friction and make service delivery more transparent, civil servants can experience digitalization as empowerment. When systems become slow, fragmented, or evidence-heavy, they can experience the same transformation as surveillance or administrative intensification (Kim et al., 2024; Umar, 2025). Becoming digital-green is therefore uneven: it develops through formal training, leadership cues, peer assistance, legal constraints, and everyday decisions about whether to use, avoid, print, upload, or repair digital routines.

Methodology

The study used a focused organizational ethnographic interview design. Focused ethnography suits contemporary organizational settings in which researchers examine a defined phenomenon, a bounded work context, and specific routines within a shorter data-collection period than conventional long-term ethnography (Knoblauch, 2005; Pink

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& Morgan, 2013). This design fits the article because the study focuses on the enactment of Green-Digital HRM in civil-service work routines rather than on the entire cultural life of one organization.

The empirical material consists of primary interview data from 19 informants across five functional clusters: HR/personnel management, leadership, ASN frontline and implementing staff, IT/SPBE, and green-office/general administration. The study intentionally used cross-functional informants because ASN Digital-Hijau emerges across HR training, leadership example, application use, e-Kinerja routines, cybersecurity behavior, and paperless practice. No secondary empirical data were used as the basis of findings. The analysis relied on cross-informant comparison to strengthen credibility, especially by comparing HR claims with frontline experiences, IT accounts, leadership practices, and green-office evidence.

Interviews followed a structured but open format. Questions focused on the meaning of ASN Digital-Hijau, Green-Digital HRM routines, digital competence, engagement, performance, barriers, workarounds, and improvement priorities. The approach allowed informants to answer consistently across clusters while still providing examples from their own work functions. The analysis followed ethnographic thematic analysis: the researcher read the interview summaries repeatedly, coded recurring work practices, compared codes across clusters, and developed themes around the relationship between policy translation, workplace routines, engagement, and performance. Insider access created a methodological advantage because the research team could reach informants across relevant functions. That said, the study treated power relations carefully by anonymizing informant codes and avoiding names of specific individuals or offices.

The design deliberately relied on primary interview data rather than document triangulation. This decision matches the target and scope of the article: the study investigates how actors inside the civil service narrate and compare their work routines, not whether policy documents formally prescribe those routines. To strengthen trustworthiness, the study used cross-informant comparison across five functions. HR informants explained how training, mentoring, and performance indicators were designed; leaders explained how they modelled digital and green behavior; frontline ASN explained how systems affected service work; IT/SPBE informants described infrastructure, user behavior, and workarounds; and green-office informants described paperless and energy-efficiency practices. Convergence and divergence across these clusters became the main analytic basis.

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Analysis followed an abductive ethnographic logic. First, interview summaries were read within each cluster to identify repeated accounts of digital competence, engagement, performance, and green work. Second, comparisons across clusters identified contradictions, such as leaders claiming paperless discipline while ASN still printed legal documents, or HR describing behavior-oriented training while frontline staff described e-Kinerja as evidence-uploading labor. Third, themes were refined around practices rather than attitudes. This procedure kept the analysis close to organizational routines and avoided converting the article into a generic perception study. Given the insider-sensitive nature of civil-service research, informants were anonymized by cluster codes, and claims about workarounds were reported at the practice level rather than as individual misconduct.

Table 1 summarizes the interview structure and clarifies why the study treats the interview set as sufficient primary evidence. Each cluster represents a different organizational position in the enactment of Green-Digital HRM: policy translation, leadership example, frontline work, digital-system support, and green-office practice.

Table 1. Profile of interview participants

Cluster	Code	Number	Main empirical focus
HR/personnel	HR	3	Training, e-learning, digital mindset, mentoring, competence indicators, e-Kinerja
Leadership	LD	3	Digital leadership example, electronic signatures, monitoring, performance distinction
ASN frontline/Implementing staff	AS	7	Service experience, administrative burden, informal digital helpers, printed legal documents
IT/SPBE	IT	3	System constraints, cybersecurity behavior, workarounds, logs and audit notes

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Cluster	Code	Number	Main empirical focus
Green office/general administration	GR	3	Paperless routines, energy efficiency, legal archives, paper reduction

Findings

Before presenting the thematic narrative, the analysis needs to show how the categories were built. Table 2 condenses repeated participant accounts into second-order codes and aggregate themes so that the reader can trace the movement from field accounts to interpretation.

Table 2. Data structure: from first-order accounts to ethnographic themes

First-order accounts from participants	Second-order analytic codes	Aggregate ethnographic themes
Training based on unit needs; digital mindset; e-learning; mentoring; digital behavior indicators in performance appraisal	HRM translation of digital-green policy into evaluable behavior	Green-Digital HRM as behavioral translation
Younger ASN help senior ASN upload documents, use applications, and solve small system problems	Informal digital helping and peer-based capability repair	Digital competence as socially supported capability
Online services help public service, but e-Kinerja requires continuous evidence uploading	Accountability gains combined with administrative burden	Engagement between empowerment and work intensification
Leaders use electronic signatures, request digital meeting materials, and model paperless routines	Leadership by example and routine-level signalling	Digital leadership as enactment mechanism
Paper use decreases 40-50%, yet legal documents, contracts,	Partial paperless adoption and legal-archive dependency	Hybrid green-digital routines

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First-order accounts from participants	Second-order analytic codes	Aggregate ethnographic themes
decrees, and financial reports remain printed		
Printing for convenience, personal email, shared accounts, and personal devices appear when systems are slow or difficult	Shadow routines under infrastructure and usability pressure	Unfinished transformation and policy-practice gaps

Because the article relies on primary interview data, credibility depends on comparison across informant positions rather than on document triangulation. Table 3 therefore shows how each major finding appeared across HR, leadership, ASN frontline staff, IT/SPBE, and green-office clusters, including contrasting evidence where relevant.

Table 3. Cross-informant matrix of key findings

Key finding	Convergent evidence across clusters	Contrasting or negative evidence	Analytic value
Green-Digital HRM becomes real through routines	HR describes training, mentoring, e-learning, and indicators; leaders model TTE and digital documents; ASN use e-Kinerja and service applications	Some practices remain formal, especially when systems only demand input data	Policy matters only when translated into repeated work behavior
Digital competence remains uneven	HR stresses mentoring; ASN describe younger colleagues as digital helpers; IT reports user errors and device limitations	Formal training alone does not resolve senior-junior and technical-non-technical gaps	Capability is socially supported, not merely individually possessed
Engagement is conditional	ASN feel more engaged when online services and TTE speed work; leaders	Slow systems and evidence uploads turn digital work	Engagement depends on perceived usefulness and

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Key finding	Convergent evidence across clusters	Contrasting or negative evidence	Analytic value
	see motivation when benefits are visible	into administrative burden	workload consequences
Leadership example drives enactment	Leaders use TTE, digital meeting materials, and digital archives; ASN follow consistent signals	Leaders still request printed documents for legal and audit purposes	Digital leadership works through mundane routines, not only policy rhetoric
Paperless remains hybrid	Green-office informants report 40-50% paper reduction; HR and leaders support paperless routines	Legal documents, decrees, contracts, annual reports, and audit files remain printed	Green transformation proceeds through hybrid routines rather than total substitution
Shadow routines persist	IT reports personal email, shared accounts, personal devices, and manual printing; ASN report printing to speed work	Workarounds often arise from system slowness, unstable networks, or legal ambiguity	Unfinished digital transformation creates behavioral and cybersecurity risk

The final analytical display links the empirical themes to the theoretical argument of the article. Table 4 explains how the observed routines contribute to the concept of becoming Digital-Green Civil Servants rather than remaining isolated descriptions of digitalization or paperless practice.

Table 4. Ethnographic themes and theoretical interpretation

Ethnographic theme	Empirical pattern	Theoretical interpretation
Digital-Green ASN as emerging work identity	ASN link digital systems, resource efficiency, service transparency, and data discipline, but some still treat	Work identity shifts from administrative compliance toward digitally mediated and sustainability-conscious public service.

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Ethnographic theme	Empirical pattern	Theoretical interpretation
	the agenda as formal instruction.	
Green-Digital HRM as behavioral translation	HR converts policy into training, mentoring, digital mindset programs, e-Kinerja indicators, and paperless expectations.	HRM functions as a translation mechanism between reform discourse and workplace routines.
Digital competence as socially supported capability	Digital capability grows through formal training and informal support from younger colleagues acting as penolong digital.	Capability formation depends on peer learning, trust, and practical co-work, not only formal human-capital investment.
Engagement between empowerment and administrative burden	Digital tools support service speed and transparency, yet e-Kinerja can become evidence-uploading labor.	Engagement rises when technology improves public-service meaning and falls when it intensifies administrative documentation.
Hybrid green-digital routines	Paperless reduces paper use, but legal archives, audit requirements, and old habits sustain printing.	Public-sector green transformation unfolds as hybrid enactment shaped by legal accountability and bureaucratic habit.
Shadow routines and unfinished transformation	Personal email, shared accounts, manual printing, and unprotected personal devices appear when official systems are slow or difficult.	Policy-practice gaps persist when infrastructure, usability, cybersecurity norms, and performance pressures remain misaligned.

These analytical displays are not separate from the findings; they organize the empirical material before the narrative analysis. The following subsections develop each

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theme by connecting participant accounts with the article's central concern: how Green-Digital HRM becomes a lived civil-service routine and an emerging ASN work identity.

ASN Digital-Hijau as an emerging work identity

Informants did not define ASN Digital-Hijau as mere application literacy. Across clusters, the phrase referred to a civil servant who can work through digital systems, save organizational resources, protect data, and maintain public-service quality. A senior leader described it as a cultural movement from manual to digital, from wasteful to efficient, and from closed processes to transparency. HR informants similarly connected the concept with digital mindset, e-Kinerja discipline, electronic signatures, paperless routines, and energy efficiency.

The identity remains unfinished. Several informants said that some ASN now practice digital-green routines seriously, while others still treat them as slogans or formal instructions. This unfinished status gives the article its central ethnographic insight: ASN Digital-Hijau is not a status achieved through policy issuance. It is a becoming process enacted through daily decisions about whether to use electronic signatures, upload meaningful performance evidence, reduce printing, help senior colleagues, protect accounts, or return to old manual habits.

Green-Digital HRM translates policy into behavioral routines

The HR cluster showed that Green-Digital HRM operates through translation. HR officers described training programs based on unit needs, e-learning, digital mindset programs, and mentoring for senior ASN. Administrative employees learned e-Kinerja and electronic signatures, while service employees learned digital correspondence and service applications. HR also reported that training no longer stops at attendance lists. Digital behavior indicators, including use of electronic signatures, uploading performance evidence, data discipline, and paperless behavior, have entered performance evaluation routines.

This finding is important because it shifts Green-Digital HRM from policy language to behavioral infrastructure. HR routines do not automatically create digital-green civil servants, but they make expected behaviors visible and evaluable. Still, HR informants also acknowledged that digital HRM remains partly administrative. Transparency and efficiency improved, yet behavioral change has not spread evenly. The HR function therefore acts as a translator rather than a complete transformer. It turns policy into

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training, indicators, and mentoring, but its success depends on leadership example, system reliability, and the willingness of ASN to rework habitual routines.

Digital competence is uneven and socially supported

Digital competence appeared as a distributed and uneven capability. Informants repeatedly identified application literacy, digital communication, cybersecurity awareness, and adaptation as essential capabilities. Yet competence gaps persisted between senior and younger ASN, between technical and non-technical users, and between offices with different infrastructure quality. HR and leadership informants framed the problem as a need for repeated training and mentoring. IT informants added another layer: weak devices, unstable networks, forgotten passwords, shared accounts, and insecure personal devices hindered safe digital performance.

The most ethnographically revealing practice was the emergence of informal digital helpers. Frontline ASN reported that younger colleagues often help senior ASN upload documents, use applications, and navigate e-Kinerja. This informal support keeps the system moving, but it also exposes a hidden dependency. Formal HR training does not fully explain competence formation. Competence grows through everyday peer assistance, troubleshooting, imitation, and patient translation of digital routines into familiar work practices.

The follow-up interviews sharpened this point. Frontline ASN repeatedly described younger colleagues as penolong digital, informal helpers who assisted senior civil servants in uploading documents, navigating applications, and solving small system problems. This practice matters because it reveals a hidden HRM capability that does not appear in formal training records. Digital competence travelled through proximity, trust, and everyday dependence. Senior ASN did not always become competent because a training session changed them; they often adapted because a colleague sat beside them and made the system less intimidating. For an ethnographic reading, this informal mentoring is not a minor anecdote. It shows how the organization compensates for uneven competence through social repair.

At the same time, the penolong digital role contains a managerial risk. If agencies rely too heavily on informal helpers, digital competence becomes unevenly distributed and dependent on goodwill. Younger ASN gain informal authority, but they may also carry hidden work that remains unrecognized in e-Kinerja. The finding therefore complicates human-capital narratives. Training matters, but the actual formation of digital competence

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occurs through a mixture of formal programs, peer assistance, mentoring, and improvised problem solving.

Engagement moves between empowerment and administrative burden

ASN engagement depends on how civil servants experience the value of digital-green change. When online services shorten processing time, electronic signatures speed correspondence, or paperless work reduces manual handling, ASN feel more involved and capable. Younger ASN and digitally confident employees often experience digitalization as an opportunity to contribute. Leaders also observed that visible benefits motivate employees more effectively than abstract slogans.

Nevertheless, engagement weakens when digital work becomes duplicate administrative labor. Informants repeatedly said that e-Kinerja can improve transparency but also produces pressure to input activities and upload evidence. Frontline ASN described digital systems as helpful for online service but burdensome when every activity requires documentation. This tension separates substantive engagement from compliance engagement. Substantive engagement appears when ASN use digital systems to improve service quality. Compliance engagement appears when ASN perform digital reporting mainly to satisfy evaluation requirements.

This tension gives the article its strongest engagement argument. Informants did not reject digitalization as such. They valued online service delivery, faster correspondence, and more transparent reporting. What weakened engagement was the feeling that digital systems converted work into continuous proof production. E-Kinerja became ambivalent: it helped leaders monitor work, yet it also pushed ASN to spend time uploading evidence, documenting small activities, and protecting themselves from accusations of inactivity. Engagement therefore moved between meaningful service improvement and defensive administrative compliance.

The distinction between substantive performance and digital performativity appeared clearly in leaders' follow-up accounts. Leaders argued that a genuinely improved ASN could be recognized through service quality, initiative, and faster problem solving, not merely through frequent e-Kinerja uploads. This distinction is analytically useful because it separates digital accountability from performance substance. It also explains why some ASN support digital systems while criticizing their administrative side. The problem does not lie in evaluation itself, but in evaluation that overvalues evidence input while under-reading service outcomes.

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Leadership example acts as the hinge of enactment

Leadership emerged as the hinge between policy and routine. Leaders who used electronic signatures, requested meeting materials in digital form, and rejected unnecessary printed documents made paperless work more credible. One leader explained that refusing to sign printed documents and asking staff to prepare digital versions pushed hesitant employees to adopt electronic workflows. Another leader asked all meeting documents to be submitted as PDFs, which gradually normalized paperless preparation.

Leadership also exposed the limits of transformation. The same leaders admitted that some documents still require printing for legal archives, audit needs, financial reports, decrees, and official records. This finding prevents a simplistic success narrative. Digital-green leadership does not mean abolishing paper immediately. It means distinguishing legal necessity from habitual printing, modelling digital routines where feasible, and explaining why hybrid practices still exist.

Hybrid routines reveal the unfinished green-digital transition

Green-office informants reported that paper use had declined substantially, with one estimate of a 40-50% reduction in the last year. Internal correspondence, digital archives, electronic signatures, and online coordination contributed to this change. Yet the transition remains hybrid. Decrees, legal documents, contracts, annual financial reports, activity reports, and legally sensitive archives still require printed forms. ASN also continue to print documents to accelerate manual signatures or reassure themselves that a file is safely stored.

The green transition therefore appears as partial but measurable. Green-office informants estimated a 40-50 percent decline in paper use after paperless routines expanded. Yet the same informants identified legal documents, decrees, contracts, financial reports, and official annual reports as documents that still required printing. Rather than treating this as simple resistance, the data point to a legal-administrative boundary of paperless work. Public organizations cannot abandon paper in areas where audit, legal validity, or archival rules still privilege physical records.

This finding supports the notion of hybrid green-digital routines. ASN do not move from manual to digital in one clean step. They operate in a layered environment where digital correspondence, electronic signatures, e-Kinerja, and online services coexist with printed legal archives and manual backup practices. The hybrid arrangement can be productive when it protects legal accountability, but it can also sustain old habits when

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printing becomes a shortcut for convenience rather than a legal necessity. The difference between justified paper and habitual paper becomes a key managerial issue for ASN Digital-Hijau.

IT informants gave the strongest evidence of hybrid and shadow routines. When systems slow down, networks fail, or old devices cannot support applications, employees use manual alternatives. Some print documents to speed signatures, send files through personal email, share accounts, or access applications from personal devices without sufficient security. These practices are not mere individual deviance. They reveal where digital infrastructure, cybersecurity literacy, legal requirements, and work pressure fail to align. The becoming of ASN Digital-Hijau therefore depends on reducing the need for such workarounds, not only disciplining users after they occur.

DISCUSSION

The findings revise a technology-centered reading of public-sector digital transformation. OECD (2024) and Ciancarini et al. (2023) argue that digital government maturity requires skills, leadership, data, and organizational change. This study supports that position but adds a more situated explanation: skills and leadership become consequential only when they enter daily civil-service routines. ASN did not become digital-green simply because SPBE, e-Kinerja, or electronic signatures existed. They moved toward that identity when HR training, leadership example, peer help, IT support, and green-office expectations converged in ordinary work. This finding also extends Haug et al.'s (2023) argument on digitally induced public-sector change by showing how incremental changes, such as electronic signatures and upload routines, accumulate into a broader identity shift.

The study also complicates optimistic claims about digital competence and performance. Recent Indonesian research reports positive relationships between digital competence and civil-servant performance (Setyawan, 2025; Saleh, 2025; Lestari, 2026). The present findings do not reject that relationship. They explain the conditions under which it becomes believable. Digital competence improved performance when it supported faster services, better document flows, and clearer accountability. Yet competence remained dependent on infrastructure, peer assistance, and usability. The informal digital helper shows that public-sector competence is not only an individual attribute. It is socially organized. Younger ASN become unofficial capability brokers for senior colleagues, and this hidden role deserves attention in future HRM designs.

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The findings speak directly to the literature on e-Kinerja and digital performance management. Tumija (2023) and Umar (2025) show that e-performance systems can strengthen monitoring but risk administrative formalism. This study sharpens that critique. Civil servants distinguish between performance improvement and evidence uploading. They recognize that e-Kinerja can make work visible, but visibility does not automatically equal value creation. Digital performance systems can strengthen accountability when they capture service quality, initiative, responsiveness, and data discipline. They can also narrow performance into documentation if indicators reward the act of reporting more than the substance of service. This is a central warning for Green-Digital HRM: digital HRM must evaluate behavioral and service outcomes, not only system compliance.

Green HRM literature argues that environmental HR practices can improve green behavior, engagement, and performance (Kania, 2024; Permadi & colleagues, 2025; Pramesti, 2025; Rakhma, 2025). The current study shows why public-sector green HRM needs a digital lens. Paperless policy becomes meaningful only when digital archives, electronic signatures, legal rules, leadership practice, and secure systems align. The finding that paper use declined by about 40-50% is encouraging, but the persistence of legal printing and manual workarounds reveals a hybrid transition. This hybrid condition is not a failure by itself. It becomes problematic when employees print out of habit, fear, or system frustration rather than legal necessity. Public-sector Green HRM therefore needs to separate legitimate paper use from avoidable paper dependence.

Finally, the study places cybersecurity behavior within the ASN Digital-Hijau agenda. NIST CSF 2.0 frames cybersecurity as organizational governance and risk management (NIST, 2024). The IT cluster confirms why that framing matters. Weak passwords, shared accounts, personal devices, and personal email use sit at the intersection of digital competence, engagement, and performance pressure. Employees use workarounds because they want to complete tasks, yet those workarounds create risk. This finding matters for the AI-enabled and platformized future of civil service discussed by OECD (2025a). As governments adopt AI, integrated digital services, and data-driven HRM, the quality of public service will depend on whether civil servants can work efficiently without normalizing unsafe shortcuts.

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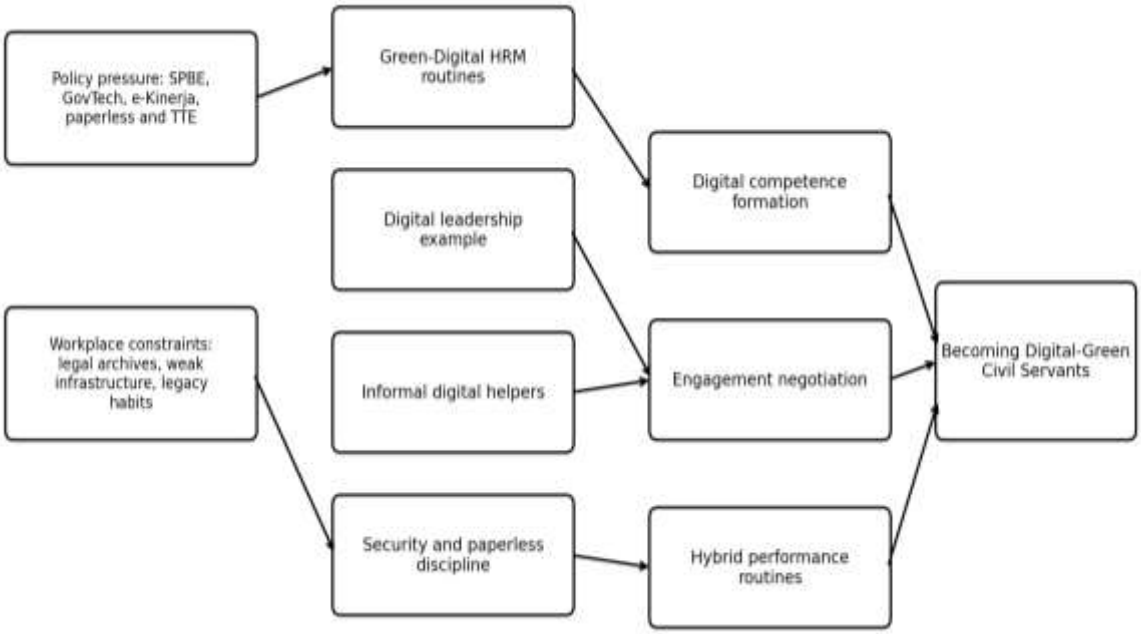


Figure 1. Ethnographic model of ASN Digital-Green becoming.

Theoretical and Practical Contributions

Theoretically, the article contributes to public-sector HRM by developing the concept of ASN Digital-Hijau as a work identity formed through Green-Digital HRM routines. The contribution lies in connecting digital competence, engagement, leadership, performance, and green-office behavior within one organizational process. Rather than treating digital HRM and Green HRM as separate agendas, the study shows how they intersect in e-Kinerja, electronic signatures, paperless routines, digital archives, cybersecurity discipline, and performance evaluation.

Practically, the study suggests that agencies should strengthen five priorities. First, HR units should evaluate digital training through behavioral change, not only attendance. Second, leaders should consistently model electronic signatures, digital meeting materials, and selective printing. Third, agencies should formalize informal digital helpers through mentoring roles so peer support becomes recognized work. Fourth, e-Kinerja indicators should capture service quality and initiative, not only uploaded evidence. Fifth, green-office policy should distinguish between legally required printing and avoidable paper dependence while improving infrastructure so employees do not need insecure workarounds.

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Limitations and Future Research

The study relies on primary interview data and does not use documents or quantitative indicators as empirical evidence. This decision suits the target journal level and allows the article to focus on lived organizational accounts, but it limits verification of claims such as paper reduction, log usage, and performance improvement. Future research can combine interviews with e-Kinerja logs, paper procurement data, SPBE maturity indicators, and citizen service outcomes. A second limitation concerns context. The study captures Indonesian civil-service routines but does not compare central and local agencies systematically. Future studies can examine whether ASN Digital-Hijau develops differently in large urban agencies, small districts, border regions, and highly technical OPDs.

CONCLUSION

This study examined how Green-Digital HRM is enacted in Indonesian civil-service workplaces and how it shapes the process of becoming Digital-Green Civil Servants. The findings show that ASN Digital-Hijau emerges through policy translation, HRM routines, digital leadership, informal capability support, engagement negotiation, hybrid paperless routines, and performance redefinition. Digitalization improves efficiency and transparency when it supports service quality, yet it can become administrative burden when it mainly demands evidence uploads. Green routines reduce paper use, yet legal archives and old habits sustain hybrid work. Digital competence develops through formal training and informal helpers, while cybersecurity risks reveal the costs of unsafe shortcuts. The article therefore argues that the future of ASN performance depends not only on systems, but on the quality of everyday routines through which civil servants learn, engage, serve, and conserve resources.

The central implication is clear: ASN Digital-Hijau cannot be produced by applications alone. It requires HRM routines that develop competence, leaders who model the desired behavior, evaluation systems that reward substantive performance, IT support that reduces workaround pressure, and green-office practices that separate legal necessity from habitual paper use. When these elements align, digital-green transformation becomes a work identity. When they do not, it remains a formal program accompanied by extra administrative work.

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Appendix. Interview Focus

The interview protocol focused on six themes: the meaning of ASN Digital-Hijau, Green-Digital HRM routines, digital competence, work engagement, ASN performance, and barriers or workarounds in digital-green transformation. Questions were adjusted to informant clusters while keeping the core themes consistent across HR, leadership, frontline ASN, IT/SPBE, and green-office functions.

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