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A Contextual Analysis of Human Resource Development for Promoting Public Welfare in the Digital Transformation Era: The Case of Nabire Regency

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Abstrak: Penelitian ini bertujuan untuk menganalisis pengembangan sumber daya manusia (SDM) dalam konteks transformasi digital di Kabupaten Nabire serta perannya dalam mewujudkan kesejahteraan rakyat. Melalui pendekatan kualitatif-deskriptif, data dikumpulkan dari wawancara mendalam, observasi, dan dokumentasi terhadap pemangku kepentingan di sektor pemerintahan, pendidikan, dan komunikasi publik. Hasil penelitian menunjukkan bahwa meskipun kesadaran terhadap pentingnya digitalisasi mulai meningkat, tantangan seperti rendahnya literasi digital, keterbatasan infrastruktur teknologi, dan kesenjangan kompetensi SDM masih menjadi hambatan utama. Namun, strategi berbasis konteks lokal seperti pelatihan keliling, pendekatan komunitas, dan pelibatan tokoh adat terbukti efektif dalam menjangkau wilayah terpencil. Kolaborasi lintas sektor serta kebijakan yang inklusif diperlukan untuk membentuk ekosistem pengembangan SDM yang adaptif terhadap perubahan teknologi. Temuan ini menegaskan bahwa transformasi digital dapat menjadi katalisator kesejahteraan apabila didukung oleh SDM yang kompeten dan responsif terhadap kebutuhan lokal.

Kata kunci: pengembangan SDM, transformasi digital, kesejahteraan rakyat, literasi digital, Nabire

Abstract: This study aims to examine the contextual development of human resources (HR) in supporting public welfare during the era of digital transformation in Nabire Regency. Employing a qualitative-descriptive approach, data were collected through in-depth interviews, field observations, and document analysis involving stakeholders from government, education, and public communication sectors. The findings reveal that despite growing awareness of digitalization, key challenges persist, including limited digital literacy, inadequate technological infrastructure, and disparities in HR competencies. Contextual strategies—such as mobile training units, community-based outreach, and engagement of local leaders—have proven effective in reaching remote areas. The study underscores the need for inclusive policies and cross-sectoral collaboration to build a sustainable HR development ecosystem responsive to technological change. The research concludes that digital transformation can serve as a catalyst for public welfare if supported by competent and locally attuned human resources.

Keywords: human resource development, digital transformation, public welfare, digital literacy, Nabire

INTRODUCTION

Background of the problem

Digital transformation has emerged as a central force in reshaping social, economic, and governmental structures across the globe, including in Indonesia. The Indonesian government has strategically promoted the digitalization agenda as part of its efforts to accelerate national development and enhance global competitiveness, as outlined in the National Medium-Term Development Plan (RPJMN) 2020–2024 (Bappenas, 2020). Beyond generating new economic opportunities, digitalization also requires human resources (HR) to be adequately prepared to adapt to increasingly dynamic and complex technologies (Marler & Boudreau, 2017).

Nevertheless, in less developed regions such as Nabire Regency in Central Papua Province, the realities on the ground reveal significant disparities. Digital literacy among the population remains low, technological infrastructure is considerably limited, and access to education as well as technology-based training remains uneven (Bappenas, 2022). Table 1 illustrates the disparity in digital readiness indicators in Papua compared to other regions.

Table 1. Digital Readiness Indicators for Papua Province vs. National (2023)

Indicator	Papua (%)	Nasional (%)
Household internet access	26.4	65.5
Digital device ownership	32.7	73.9
Basic digital literacy	18.9	54.3
Digital training participation	11.2	48.6
Technology-literate educators	35.1	68.4

Source: Kemkominfo (2023); BPS Papua (2023)

In the context of Nabire Regency, digital-based human resource (HR) development has become increasingly urgent, given the critical role of HR in promoting efficient public service delivery, fostering local economic growth, and encouraging community participation in the development process. The local government has initiated several digital transformation programs in public administration, education, and public communication. Nevertheless, challenges such as limited digital competence among civil servants, reliance on centralized infrastructure, and

resistance to technological change continue to pose major obstacles (Napan, 2025).

The success of digital transformation is largely determined by the holistic readiness of human resources—not only in terms of technical capacity but also in relation to social, cultural, and geographical dimensions. Consequently, a contextual and participatory HR development strategy is required to address local needs and potential, while also reaching areas that have long been marginalized from the national digitalization process (Armstrong, 2006; Westerman et al., 2014).

Research Urgency

This study is particularly important as there has been limited scholarly work that specifically examines strategies for digital-based HR development in underdeveloped regions such as Nabire Regency. Beyond filling this gap in the literature, the findings are expected to provide practical policy recommendations for local governments in formulating a sustainable and contextually relevant roadmap for strengthening digital human resources. Without appropriate interventions, widening digital inequality will further deepen socio-economic disparities and hinder the realization of inclusive and equitable public welfare.

LITERATURE REVIEW

Theoretical Foundation and Key Concepts

Digital transformation in human resource management (HRM) refers to the application of digital technologies such as Big Data, analytics, as well as cloud-based and SMAC (Social, Mobile, Analytics, Cloud) platforms to improve HR performance (Amrin Fathima & Selvi, 2023). The concept of Human Resource Digital Transformation (HRDT) is defined as the integration of digital factors with individual capabilities to shape organizational innovation capacity (Salge et al., 2022).

Digital literacy emerges as a critical concept in this context. In Indonesia, digital literacy levels in rural areas tend to be relatively low due to infrastructure limitations and the limited integration of technology into daily life (Akbar & Wijaya, 2024). Beyond technical skills, dimensions such as digital

ethics, digital culture, and cybersecurity are equally essential (Akbar & Wijaya, 2024; Atriani et al., 2024).

For the purposes of this study, the key operational concepts are defined as follows:

- **Digital human resource development:** training, access to technology, and adoption of digital tools in both community and government work settings.
- **Community digital literacy:** the ability to understand, utilize, and act responsibly and ethically within the digital environment.

Previous Research and Important Findings

Raharjo (2024) found that digital transformation in online businesses drives a paradigm shift in human resource development (HRD), which emphasizes not only technical expertise but also adaptability and continuous learning. A systematic study by Bratamanggala (2023) highlights key challenges such as gaps in technological competence, resistance to change, and data privacy concerns, while also identifying opportunities including operational efficiency, data-driven decision-making, and enhanced employee engagement.

A bibliometric study conducted by Hernández Perlines et al. (2024) further emphasizes that digital transformation (DT) and human resources (HR) are transdisciplinary constructs that require the cultivation of digital skills and individual adaptability as organizations undergo transformation.

In the Indonesian rural context, Akbar and Wijaya (2024) observe that although the urban–rural gap is not excessively wide, digital skills in rural areas are comparatively weaker than other dimensions such as digital ethics and culture. Marsdenia (2022) demonstrates that strengthening digital literacy in rural communities contributes to economic resilience, as evidenced in the local tourism sector during the COVID-19 pandemic.

Research Gap Identification

Although numerous studies have examined digital transformation and human resource development (HRD), several limitations remain evident:

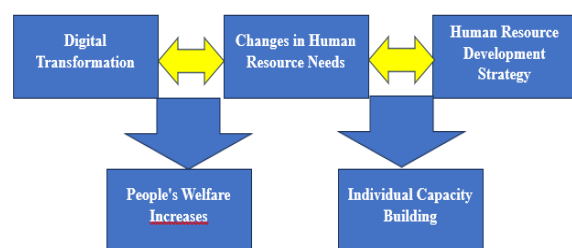
1. **Local focus on disadvantaged regions:** there is a scarcity of research exploring strategies for digital HR development in

underdeveloped areas such as Nabire Regency.

2. **Contextual approach to geography and culture:** existing Indonesian literature has largely concentrated on urban or business settings, while the perspectives of indigenous traditions, local communities, and cultural contexts have rarely been addressed.
3. **Integration of community digital literacy with the development of civil servants/local government personnel:** empirical research linking citizens' digital literacy to local government HR policies remains limited.

Research Framework

As the guiding direction and conceptual basis of this study, the research framework can be illustrated as follows:



Source: Author (2025)

Figure 1. Research Flow

RESEARCH METHODOLOGY

This study employed a descriptive qualitative approach aimed at gaining an in-depth understanding of the dynamics of human resource (HR) development in Nabire Regency within the context of digital transformation. A qualitative design was chosen as it is suitable for exploring perceptions, experiences, and strategies implemented by relevant stakeholders, particularly in regions characterized by cultural diversity, geographical challenges, and limited infrastructure (Creswell & Poth, 2018). Descriptive research also enables the researcher to systematically and factually portray empirical conditions in accordance with the prevailing social realities (Miles, Huberman, & Saldaña, 2014).

The population of this study consisted of all stakeholders involved in HR development within the Nabire Regency Government, specifically the Regional Secretariat, the Department of

Education, the Regional Civil Service Agency, and the Department of Communication and Informatics. Informants were selected using purposive sampling, a technique that considers specific criteria relevant to the objectives of the study (Patton, 2015). Four key informants were chosen who held strategic positions: the Regional Secretary, the Head of the Department of Education, the Head of the Division of Personnel Data and Information, and the Head of the Section for Public Information and Aspirations Management. These informants were selected due to their comprehensive knowledge of policies and implementation practices related to HR development in the digital era in Nabire.

The research was conducted in Nabire Regency, Central Papua Province—an area with significant geographical challenges and limited digital infrastructure. The location was deliberately chosen as it represents a relevant case for examining digital-based HR development in disadvantaged regions. The fieldwork was carried out over a one-month period in July 2025, involving both on-site data collection and online methods to accommodate accessibility constraints in certain areas.

Primary data were obtained through in-depth semi-structured interviews, which allowed flexibility in exploring the perspectives and experiences of informants. In addition, participatory observation was conducted to capture the dynamics of HR development activities within each government agency. Document analysis was also employed, involving the review of official documents such as strategic plans (Renstra), performance reports, and regional policies on digitalization and HR capacity building. Secondary data were gathered from government publications, previous studies, and official statistical reports from BPS and the Ministry of Communication and Information.

The data collected were analyzed using Miles and Huberman's (1994) interactive model of analysis, which consists of three key stages: (1) data reduction, the process of filtering and condensing data according to the research focus; (2) data display, the organization of information into thematic narratives to facilitate interpretation; and (3) conclusion drawing and verification, an ongoing interpretive process conducted through data triangulation across interviews, observations, and documents. Source triangulation was applied to ensure the validity and reliability of findings by

cross-checking results derived from multiple methods and information sources.

Through this methodological approach and analytical process, the study seeks to uncover contextually relevant strategies for HR development that address local challenges in navigating the wave of digital transformation.

RESULTS AND DISCUSSION

Informant Characteristics

This study involved four key informants who were purposively selected based on their strategic roles in human resource development and digitalization initiatives in Nabire Regency. The four informants consisted of:

Table 2. Research Informants

Informant Name	Position	Background	Years of service
Pieter Erari, S.E., M.Si	Regional Secretary of Nabire Regency	Economics and Management	>30 years
Dina Pidjer, M.M	Head of the Education Office	Educational Management	>25 years
Alex Sama, S.Pd	Head of Personnel Data & Information Division (BKD)	Education and Human Resources	>20 years
Yumeyos D. Manuaron	Head of Public Information Management Section (Kominfo)	Public Communication and IT	>20 years

Source: Interview results (2025)

The four informants possessed extensive experience as civil servants and were directly involved in the implementation of human resource development policies as well as digital transformation within their respective sectors. This strengthens the validity of the data, as the informants had a comprehensive understanding of both structural conditions and the local socio-cultural context.

Human Resource Development Relevant to the Digital Era

Research Question 1: *What forms of HR development are relevant to the needs of the digital era in the Regional Secretariat (Setda) of Nabire Regency?*

The interview findings indicate that the Nabire Regency Government has initiated several

digital HR development programs, albeit on a limited scale. Some of the implemented initiatives include training on the use of digital office applications, the integration of e-Government systems (SIASN, e-Kinerja), as well as basic digital literacy training for civil servants.

According to Pieter Erari, *"We have started familiarizing civil servants with digital systems, especially for administrative purposes, although not all of them can immediately adapt."* Meanwhile, Dina Pidjer emphasized that her office specifically trains teachers in the use of educational technologies such as e-learning platforms and the Dapodik application (Interview Results, 2025).

However, several key challenges were identified, including:

- Limited access to devices and internet connectivity.
- Low levels of digital competence among senior civil servants.
- A lack of positive perceptions regarding the benefits of technology.

Strategies such as district-based decentralized training and community-based approaches have been considered as alternatives to reach HR in remote areas. As Yumeyos Manuaron noted, *"Village-based approaches and the involvement of local leaders are more effective in transforming digital skills within communities."*

The Role of Human Resource Development in Supporting Public Welfare

Research Question 2: *What role does HR development play in supporting public welfare?*

The study found that digital HR development contributes directly to improving the efficiency of public services and enhancing the quality of life for citizens. Informants highlighted that the digitalization of population administration, education, and community reporting services has simplified residents' access to basic services.

As Alex Sama explained, *"Now, the process of obtaining an ID card or a birth certificate can be completed much faster. We are able to reduce both the time and costs for the community."* (Interview Results, 2025)

Another impact is the increased participation of citizens in digital economy training and small business initiatives. Information disseminated through online platforms or local radio has also raised community awareness of digital literacy and economic opportunities.

In other words, when civil servants and local communities possess basic digital skills, they are better able to access resources, communicate more effectively with the government, and participate more broadly in the digital economy.

Contextual Strategies for Human Resource Development

Research Question 3: *What strategies can be applied to develop human resources in a contextual manner?*

One of the main findings of this study is the significance of adopting contextual and participatory approaches to digital HR development in regions such as Nabire. Several key strategies identified include:

1. District- or indigenous community-based decentralized training.
2. Deployment of mobile training units to areas without internet access.
3. Engagement of traditional leaders and local youth as agents of digital transformation.
4. Cross-sector partnerships, for instance with universities, NGOs, and state-owned enterprises.

As Dina Pidjer explained, *"We need to bring the training closer to the villages. We cannot wait for them to come to the city. We work with local teachers, traditional leaders, and local media to expand outreach."* (Interview Results, 2025)

Similarly, Yumeyos Manuaron emphasized that community-based communication strategies—such as local radio broadcasts and customary gatherings—have proven to be more effective than formal online methods, as they are better aligned with the social characteristics of the community (Interview Results, 2025).

Discussion

The findings of this study align with Armstrong's (2006) theory, which argues that human resource development must consider local needs and be grounded in the principle of

continuous learning. In the context of Nabire, digital literacy encompasses not only technical skills but also the social and cultural readiness to embrace change. These findings also corroborate the work of Marler and Boudreau (2017) and Hernández-Perlines et al. (2024), who emphasize the importance of integrating technological capacity with organizational culture in the process of digital transformation.

Moreover, the community-based approaches identified in this study address a research gap that has been underexplored in the digital HR literature, particularly in the context of Indonesia's 3T (frontier, outermost, and underdeveloped) regions. Such strategies are also consistent with the concept of *Human-Centered Digital Transformation*, which underscores local empowerment as the foundation for successful public digitalization (Bratamanggala, 2023).

This research demonstrates that effective digital HR development in Nabire Regency requires contextual, participatory, and inclusive approaches. Program success is determined not solely by the availability of technology, but also by socio-cultural adaptability and supportive local policies that are oriented toward community needs. The answers to the three research questions have been empirically addressed, thereby reinforcing the contribution of this study in responding to the challenges of digitalization in disadvantaged regions.

CONCLUSION

This study concludes that human resource (HR) development within the context of digital transformation in Nabire Regency requires an approach that goes beyond technological mastery, incorporating social, cultural, and geographical dimensions. While the local government has begun implementing digital training initiatives and e-Government systems, these efforts have not yet reached all levels of civil servants and the wider community.

The findings indicate that the readiness of HR to face digitalization remains uneven, particularly among senior civil servants and in remote areas. Nevertheless, awareness of the importance of digital skills has grown, and the participation of both civil servants and community members in digital training programs shows a positive trajectory. Community-based training strategies and decentralized approaches have proven to be more effective in disadvantaged regions such as Nabire.

Contextualized HR development has demonstrated a direct impact on improving the efficiency of public services and expanding citizens' access to basic services. Digital literacy contributes to greater community participation in the digital economy and accelerates institutional transformation at the local level.

From a theoretical standpoint, the study reinforces the importance of integrating digitalization strategies with HR development policies that are adaptive to local conditions. Practically, collaborative models across sectors and community-based approaches can serve as strategic alternatives to address digital inequality in Indonesia's 3T regions (frontier, outermost, and underdeveloped). The research also underlines the importance of a human-centered approach in driving successful digital transformation within the public sector.

Thus, HR development should not be understood merely as technological training programs, but rather as a process of social empowerment that involves local actors and takes into account socio-cultural contexts holistically. This is key to ensuring that digital transformation can truly promote inclusive and sustainable public welfare.

Limitations and Recommendations for Future Research

This study is limited by the number of informants and its geographical scope, which focused only on government institutions in Nabire Regency. Consequently, the findings cannot be fully generalized to other regions, particularly those with different social structures and infrastructural challenges. Future research is encouraged to involve a wider range of stakeholders, including MSME actors, youth, and indigenous communities, as well as to employ a mixed-methods approach in order to obtain a more comprehensive understanding of the effectiveness of digital HR development in disadvantaged regions.

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