

Digital Learning and Its Implications for the Career Development of Civil Servants

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ABSTRACT

Digital transformation has reshaped the competency development paradigm for Indonesian civil servants (ASN) by positioning digital learning as a strategic instrument of public human resource management. This study aimed to analyze the role of digital learning in civil servants competency transformation and its implications for career development within Indonesia's digital bureaucratic reform. The study employed a descriptive qualitative approach through a systematic literature review and qualitative content analysis of scholarly publications, regulations, policy reports, and official documents related to civil servants competency development. The findings showed that digital learning expanded access to training, accelerated the renewal of technical competencies and digital literacy, and supported lifelong learning through learning management systems, webinars, online training platforms, and learning analytics. The key qualitative finding indicated that digital learning had not been optimally integrated into career development policies, particularly in linking digital training outcomes with performance appraisal system, talent management, career pathways, and merit-based promotion and rotation decisions. The dominant barriers included an organizational culture still oriented toward face-to-face formal training, intergenerational digital literacy gaps, uneven infrastructure, and resistance to change. This study concludes that digital learning needs to be systematically embedded in civil servant management through stronger regulation, infrastructure, digital literacy, and a sustainable learning culture.

Keywords: Career Development, Civil Servants Competency, Digital Bureaucratic Reform, Digital Learning, Talent Management

Introduction

Digital transformation has driven fundamental changes in the governance of civil servant competency development. Digital learning is no longer understood merely as a technology-based training instrument, but also as a strategy for developing civil servant human resources that supports flexibility, personalized learning, and lifelong learning (Noe et al., 2019; Vial, 2019). This change becomes increasingly relevant in the context of digital bureaucratic reform, when civil servants are required to have technical competencies, digital literacy, and adaptive abilities to respond to changes in the public sector work environment (OECD, 2021; van Laar et al., 2017).

In the context of Indonesia, the direction of civil servants competency development policies has shown a shift toward technology-based learning. State Administration Agency Regulation Number 8 of 2018 has regulated the implementation of civil servant competency development thru

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e-learning, while LAN Regulation Number 10 of 2018 places e-learning and distance training as part of the civil servant competency development pathway (State Administration Agency, 2018a, 2018b). Further strengthening is evident thru State Administration Agency Regulation Number 6 of 2023 concerning the Integrated Competency Development Learning System or Corporate University, which emphasizes the importance of an integrated learning ecosystem in the competency development of civil servants (Regulation of the National Institute of Public Administration Number 6 of 2023 on the Integrated Competency Development Learning System (Corporate University), 2023).

The Covid-19 pandemic accelerated the adoption of digital learning in various forms of civil servants training. Restrictions on face-to-face activities encouraged government training institutions to utilize Learning Management Systems (LMS), video conferences, webinars, and online training platforms as learning media. After the pandemic, the practice of digital learning was not completely abandoned, but evolved into a new habit in the development of civil servant competencies, in line with the development of blended learning that combines face-to-face learning and technology-based learning (Hrastinski, 2019; OECD, 2023).

Although digital learning provides great opportunities for equal access to training, its implementation still faces several challenges. The gap in digital literacy between generations causes not all civil servants to have the same readiness in utilizing digital learning platforms. In addition, the limited digital infrastructure in several regions and the organizational culture that still focuses on formal face-to-face training pose significant obstacles to achieving inclusive and effective digital learning (OECD, 2021; van Laar et al., 2017).

Another more substantive issue lies in the suboptimal integration of digital learning with the civil servants career development system. The results of digital learning are often still treated as mere training obligations, rather than as strategic data directly linked to performance assessments, talent management, career patterns, and merit-based promotion and transfer decisions. In fact, Law Number 20 of 2023 concerning civil servants emphasizes the importance of digitalizing Civil Servants Management, while the civil servants talent management policy demands a connection between competence, performance, potential, and career mobility of the apparatus ((Decree of the Minister of Administrative and Bureaucratic Reform Number 3 of 2020 on the Management of Civil Servant Talent, 2020; Law of the Republic of Indonesia Number 20 of 2023 on Civil Servants, 2023).

Various previous studies have discussed the effectiveness of digital learning in enhancing competencies, both in educational organizations, businesses, and the public sector. However, studies that specifically link digital learning with the career mobility of civil servants within the

framework of digital bureaucratic reform are still relatively limited. This limitation indicates the need for an analysis that not only assesses the benefits of digital learning as a training medium but also positions it as part of the civil servants career management system based on competence and meritocracy. (Armstrong & Taylor, 2020; Garavan et al., 2012; OECD, 2023).

The novelty of this research lies in the integration of the analysis of intergenerational digital literacy gaps with civil servants career mobility within the framework of digital bureaucratic reform, which has not been extensively explored in the previous literature. This research not only examines the role of digital learning in enhancing the competence of civil servants but also analyzes how the outcomes of digital learning can be linked to talent management, performance assessment, career patterns, as well as the promotion and transfer of civil servants. Thus, this research offers an integrative perspective on digital learning as a strategic instrument for both competence development and career advancement of civil servants.

Based on this background, this research aims to analyze the role of digital learning in the competence development of civil servants and its implications for the career advancement of civil servants. This research uses a descriptive qualitative approach thru a systematic literature review and qualitative content analysis of scientific publications, regulations, policy reports, and related official documents. The research results are expected to provide theoretical contributions to the development of studies on civil servant human resource management and practical contributions to the formulation of digital learning policies integrated with the civil servants career system.

Research Methods

This research uses a descriptive qualitative approach with a systematic literature review design combined with qualitative content analysis. This approach was chosen because the research aims to understand, interpret, and synthesize various scientific findings and policy documents regarding digital learning, competency development, and the career development of civil servants. A systematic literature review is used because it can organize, evaluate, and integrate knowledge scattered across various scientific sources in a more directed and transparent manner (Page et al., 2021; Snyder, 2019). Thru this approach, the research not only describes the development of digital learning but also analyzes its relationship with the human resource management system of the apparatus in the context of digital bureaucratic reform.

The research data sources are obtained from secondary data in the form of scientific journal articles, academic books, policy reports, regulations, and relevant official government documents related to the research topic. The use of documents as data sources is carried out because policy documents and scientific publications can provide contextual, historical, and normative information regarding policy developments and the practices of developing the competencies of

the Civil Servant. (Bowen, 2009). The literature analyzed is limited to publications released between 2019 and 2024 to ensure relevance to the post-Covid-19 pandemic context, digital transformation, and the latest developments in civil servant competency development policies. However, regulations or policy documents published before 2019 are still selectively used if they have direct relevance to the legal basis for civil servant competency development.

Data collection techniques are carried out thru the stages of identification, selection, classification, and synthesis of literature. These stages refer to the principles of a systematic literature review, which emphasize the traceability of the search, selection, and screening processes so that the study results can be academically accountable (Page et al., 2021; Snyder, 2019). The inclusion criteria used include the relevance of the topic to digital learning, the development of civil servant competencies, digital literacy, talent management, career development, and digital bureaucratic reform. The exclusion criteria include literature that is not relevant to the research focus, publications that do not have clear academic or institutional sources, and documents that do not provide substantive contributions to the analysis.

Data analysis is conducted through qualitative content analysis by examining themes, patterns, relationships, and meanings that emerge from various data sources. Qualitative content analysis is used because this method allows researchers to systematically interpret the meaning of texts through the processes of coding, categorization, and theme extraction (Elo & Kyngäs, 2008; Hsieh & Shannon, 2005). The stages of analysis include data reduction, theme categorization, interpretation of findings, and drawing conclusions. The main analysis categories in this study include the role of digital learning in competency development, the intergenerational digital literacy gap, barriers to digital learning implementation, and its implications for the career development of civil servants.

The foundation of this research analysis uses the perspective of competency theory, andragogical approach, social constructivism, and the concept of talent management in the public sector. Competency theory is used to explain the relationship between learning, capacity building of apparatus, and career readiness. The andragogical approach is used to understand the characteristics of civil servants as adult learners, while social constructivism is used to examine the digital learning process that takes place through interaction, collaboration, and knowledge exchange in a virtual environment. The use of these multiple perspectives is intended so that the analysis does not only highlight technological aspects but also the aspects of learning, bureaucratic behavior, and career management systems.

To maintain the validity of the study, this research uses source triangulation by comparing findings from scientific publications, regulations, policy reports, and official government documents. Source triangulation is used to enhance the credibility of interpretations, especially since this research relies on secondary data and literature synthesis. The synthesis process is conducted critically so that the findings obtained are not only descriptive but also capable of explaining the relationship between digital learning, competency development, and the career mobility of civil servants. Thus, this research method is expected to produce systematic, relevant, and academically accountable analyzes.

Result and Discussion

1. Digital Learning Transformation in the Development of Civil Servant Competence

The study results show that digital learning has transformed the paradigm of civil servant competency development from a conventional training model to a more flexible, adaptive, and technology-based learning system. This transformation is evident through the utilization of Learning Management Systems (LMS), webinars, remote training, blended learning, and online learning

platforms in various civil servants competency development programs. Digital learning no longer serves merely as a supplementary medium but has evolved into an integral part of the civil servant human resource development strategy (Noe et al., 2019; Vial, 2019).

These findings support the view of Noe et al., (2019) which emphasizes that modern human resource development should be directed toward the continuous improvement of competencies thru a flexible learning approach that is relevant to the needs of the organization. In the context of civil servants, digital learning expands civil servant's access to training without always relying on the classical face-to-face model. This is in line with Hrastinski (2019), who states that blended learning and online learning provide space for a combination of technological flexibility and learning interaction.

The transformation of digital learning in the development of civil servant competencies is also supported by the development of national policies. State Administration Agency Regulation Number 10 of 2018 has opened up opportunities for competency development thru e-learning and distance training. Furthermore, various civil servants training policies during the Covid-19 pandemic accelerated the shift in training methods from classical to e-learning, distance learning, and blended learning. Further strengthening is evident in State Administration Agency Regulation Number 6 of 2023 concerning the Integrated Competency Development Learning System or Corporate University, which positions the LMS as one of the important elements in the civil servants learning ecosystem (Regulation of the State Administration Agency Number 6 of 2023 on the Integrated Competency Development Learning System (Corporate University), 2023; Regulation of the Minister of Administrative and Bureaucratic Reform Number 6 of 2022 on the Management of Civil Servant Performance, 2022).

This finding reinforces the digital transformation theory proposed by Vial (2019), that digital transformation is not merely the use of technology, but a systemic change that encompasses processes, structures, and organizational culture. In the context of civil servants, digital learning is not merely understood as the use of learning applications, but must be seen as a change in the way public organizations design, implement, evaluate, and connect learning with the competency needs of the apparatus. Thus, digital learning becomes an important part of the digital bureaucratic reform agenda.

However, the findings of this research also indicate that the digital learning transformation has not yet been fully implemented evenly. Some public organizations have been able to systematically utilize LMS and online training, while others still use digital learning merely as a transfer of face-to-face materials to the virtual space. This condition indicates a gap between formal digital transformation and substantive digital transformation. This inconsistency can occur

because the readiness of the organization, the capacity of human resources, and the support of digital infrastructure are not the same in every institution. (OECD, 2020b; Vial, 2019).

2. The Effectiveness of Digital Learning on Competency Improvement

The study results show that digital learning contributes to the improvement of civil servants competencies, especially in terms of accessibility, flexibility, digital literacy, and continuous learning. Digital learning allows civil servants to participate in training without the constraints of space and time, thereby broadening the opportunities for competency development. Civil servants in remote areas or with limited access to classical training can obtain learning materials through digital platforms.

These findings support the study Means et al., (2013) which shows that online and blended learning can enhance learning effectiveness if designed with appropriate instructional methods. Digital learning is also in line with the view Garrison (2017), that technology-based learning can strengthen cognitive, social, and instructional interactions in the learning process. In the context of civil servants, the effectiveness of digital learning is evident when the learning platform not only provides materials but also encourages discussion, reflection, evaluation, and the application of learning outcomes in the workplace.

Digital learning also supports the andragogical approach, which is adult learning that emphasizes independence, experience, relevance, and problem-solving orientation. Civil servants as adult learners need materials that are contextual to their job duties, flexibility in learning time, and the opportunity to manage their own learning process. This finding supports Knowles et al., (2014), which states that adult learners learn more effectively when the learning material is directly related to their job needs and professional experiences.

Nevertheless, the effectiveness of digital learning does not happen automatically. Research findings indicate that the success of digital learning highly depends on the quality of instructional design, the relevance of the material, the facilitator's skills, the participants' readiness, and organizational support. These findings support Clark & Mayer (2016), which emphasize that effective e-learning must consider the principles of multimedia design, interactivity, and measurability of learning outcomes. Thus, digital learning risks becoming an administrative formality if it is only used to fulfill training obligations without evaluating changes in the competencies and performance of civil servants.

In the context of civil servant competency development, the effectiveness of digital learning is also influenced by the connection between training outcomes and job requirements. If the digital

learning materials are not linked to job competency standards, their contribution to enhancing the capacity of the apparatus becomes limited. This shows that digital learning needs to be designed based on a competency needs analysis, not just on the availability of technology platforms. Thus, the effectiveness of digital learning lies in the integration of technology, learning design, competency standards, and organizational needs (Clark & Mayer, 2016; Salas et al., 2012).

3. Digital Literacy Gap and Implementation Challenges

The study results indicate that the gap in digital literacy is one of the main obstacles in the implementation of digital learning for civil servants. Not all officials have the same ability to access, understand, and utilize digital learning platforms. This gap particularly arises between civil servants who are accustomed to digital technology and those who have worked longer with conventional administrative patterns.

This finding supports the view of Ng (2012), that digital literacy not only includes technical skills in using devices but also cognitive, social, and critical skills in understanding digital information. In the context of civil servants, digital literacy includes the ability to use LMS, participate in online training, manage information, engage in virtual forums, and apply digital learning outcomes in their work. Therefore, low digital literacy can hinder the optimal use of digital learning.

Beside digital literacy, infrastructure limitations also pose a significant challenge. Civil Servants in areas with limited internet access, inadequate technological devices, or low technical support will face obstacles in participating in digital learning. This finding supports the report of Bank (2021), which emphasizes that gaps in access and data governance can exacerbate inequalities in the utilization of digital technology. In the context of Indonesia, infrastructure gaps can cause digital learning to not yet be fully inclusive for all civil servants.

Another challenge found is the organizational culture that is still strongly oriented toward formal face-to-face training. Some organizations still consider classical training to be more legitimate, more controlled, and easier to monitor compared to digital learning. This finding supports the organizational culture theory (Schein, 2010), which explains that the values, habits, and basic assumptions of an organization can influence the success of change. If the organizational culture does not support self-directed learning and digital innovation, then the implementation of digital learning tends to proceed slowly.

This finding also supports the theory of organizational change (Kotter, 1995), which states that resistance to change is a common symptom in organizational transformation. Resistance of civil servants to digital learning can arise due to discomfort with using technology, concerns about

data-based assessments, or the perception that digital learning adds to the workload. The inconsistency between digitalization policies and the readiness of organizational culture is the main reason why digital learning has not always produced uniform impacts across all agencies (Kotter, 1995; Schein, 2010).

4. The Implications of Digital Learning on the Career Development of Civil Servants

The study results show that digital learning has significant implications for the career development of civil servants. Through digital learning, civil servants can enhance technical competencies, managerial competencies, socio-cultural competencies, and digital literacy needed in the execution of government duties. The improvement of these competencies has the potential to support the career mobility of civil servants, whether in the form of promotions, transfers, rotations, or talent development.

This finding supports (Armstrong & Taylor, 2020) which asserts that career development in modern human resource management is closely related to competencies, performance, potential, and the readiness of individuals to meet organizational demands. In the context of civil servants, competencies acquired through digital learning can serve as an important foundation for talent mapping and career development based on a merit system. Digital learning also enables organizations to have learning data that can be used to identify the development needs of each civil servant.

However, the study results also indicate that the integration of digital learning with the civil servants career development system has not been optimal. The results of digital training often still stop at certificates, the number of lesson hours, or the fulfillment of competency development obligations. Learning outcome data has not yet been fully linked to performance appraisals, talent management, career patterns, and merit-based promotion or transfer decisions.

These findings reveal a gap between the principles of talent management and the career development practices of civil servants. Theoretically, Garavan et al., (2012) assert that talent development should connect learning, competencies, performance, and the strategic needs of the organization. However, in practice, digital learning in many public organizations has not yet fully become part of the career decision-making chain. This inconsistency occurs because the learning system, performance system, and talent management system have not yet been fully integrated into a single civil servant data ecosystem.

Thus, digital learning will only have a significant impact on career development if the learning outcomes are recognized as part of the competency data of the apparatus. This recognition can be achieved through the integration of LMS, personnel information systems, performance

appraisals, talent management, and career patterns. Without this integration, digital learning has the potential to become merely an administrative training activity, rather than a strategic instrument to enhance the career mobility of civil servants (Armstrong & Taylor, 2020; Garavan et al., 2012).

5. Approach to Digital Learning Integration in the Apparatus Human Resource System

Based on the synthesis of literature and policy documents, the integration of digital learning into the civil service human resource system requires an approach that encompasses policy, technology, human resources, and organizational culture aspects. The four aspects are interconnected and cannot be separated. Digital learning will not be effective if it is only supported by technology platforms without regulations, readiness of personnel, and an adequate learning culture.

From a policy perspective, digital learning needs to be integrated as part of the competency development and career development system for civil servants. Competency development policies should regulate the relationship between digital learning outcomes, job competency standards, performance assessments, talent management, and career patterns. These findings support OECD (2020a), which emphasizes the importance of digital governance in the public sector thru data integration, digital capabilities, and institutional strategies.

From a technological aspect, public organizations need to provide a reliable, accessible, secure, and integrated learning platform with the civil servants management system. An LMS not only serves as a storage place for materials but also as an instrument to monitor participation, learning achievements, competency evaluations, and the development needs of personnel. This integration of technology supports a data-driven human resource management approach, as explained by Becker & Huselid (2006) that Human Resources data can serve as the basis for strategic organizational decision-making.

From the aspect of human resources, improving the digital literacy of civil servants is a primary prerequisite for the successful integration of digital learning. Civil servants need to be equipped with technical skills, critical thinking abilities, and the ability to adapt to new learning technologies. These findings are in line with van Laar et al., (2017) which states that 21st-century digital skills encompass technical abilities, information, communication, collaboration, creativity, and problem-solving.

From the aspect of organizational culture, the success of digital learning heavily depends on the commitment of leadership and the support of the work environment. Organizations need to build a culture of continuous learning that encourages civil servants to learn independently, share

knowledge, and apply the results of their learning in their work. These findings support Senge (1990), which emphasizes the importance of learning organizations in facing dynamic environmental changes.

Thus, the model of integrating digital learning into the civil service HR system must be designed systematically. Digital learning needs to be linked with competency needs analysis, learning planning, learning outcome evaluation, performance assessment, talent management, and career development. This model allows digital learning to function not only as a training medium but also as a strategic instrument in digital bureaucracy reform and the strengthening of the civil servants's merit system. (Becker & Huselid, 2006; OECD, 2020b; van Laar et al., 2017).

6. Limitations

This research has several limitations that need to be considered when interpreting the study's results. First, this research uses systematic literature review and qualitative content analysis methods, so the findings produced are of a conceptual and interpretative synthesis nature. Therefore, the results of this study cannot be directly generalized to all government agencies without empirical testing in the field.

Second, this research has limitations in access to primary data regarding civil servants performance, digital learning achievements, and the impact of digital learning on promotions, transfers, and career mobility at both central and regional agency levels. Many personnel and talent management data are internal and not entirely available in public documents. These limitations cause the analysis of the relationship between digital learning and the career development of civil servants to be more based on the synthesis of regulations, theories, and previous literature findings.

Third, the literature used in this research is more focused on digital learning, competency development, digital transformation, and human resource management in general. Empirical studies specifically discussing the relationship between digital learning, intergenerational digital literacy gaps, and the career mobility of civil servants in Indonesia are still relatively limited. This condition is one of the reasons why this research emphasizes the importance of further studies based on primary data.

Fourth, the development of digital technology and civil servants development policies is very dynamic. The findings obtained from the literature and policy documents over a certain period can change with the emergence of new regulations, new learning platforms, and changes in the civil servants management system. Therefore, the results of this research need to be understood as a study relevant to the policy context and digital transformation during the period of the analyzed literature.

Based on these limitations, further research is recommended to use an empirical approach thru interviews, surveys, or case studies in specific government agencies. Further research also needs to examine in more depth the relationship between civil servants participation in digital learning, competency improvement, performance achievement, and career mobility. Thus, the relationship between digital learning and civil servants career development can be explained more robustly, both conceptually and empirically.

Conclusion

This research concludes that digital learning plays a crucial role in the development of civil servants competencies and has strategic implications for the career development of civil servants in the context of digital bureaucratic reform. Digital learning has expanded access to education, increased training flexibility, strengthened digital literacy, and supported continuous learning thru the use of LMS, online training, webinars, and blended learning. However, its effectiveness is still influenced by the generational digital literacy gap, limited digital infrastructure, an organizational culture that is still oriented toward face-to-face training, and the suboptimal integration of digital learning outcomes with performance assessments, talent management, career patterns, promotions, and the rotation of civil servants. Theoretically, this research reinforces the integrative perspective between digital learning, competency development, and civil servant career management. Managerially, this research emphasizes that digital learning needs to be positioned as part of the civil servants management system based on competence, data, and a merit system, rather than merely an administrative instrument for fulfilling training obligations.

Policy makers and civil servants management practitioners are advised to integrate digital learning more systematically with the performance appraisal system, talent management, job competency standards, and civil servants career patterns so that the results of digital learning can be used as a basis for objective and merit-based career development. Government agencies also need to strengthen digital infrastructure, continuously improve civil servants's digital literacy, and build an organizational culture that supports independent, collaborative, and adaptive learning. For future researchers, it is recommended to conduct empirical research using a quantitative approach thru surveys or a mixed approach to measure the impact of digital learning on the improvement of competencies, performance achievements, promotions, transfers, and career mobility of civil servants in both central and regional agencies..

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