The Application of Technology to Human Resources in The Civil Servant Recruitment Selection Process

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ABSTRACT

This study explains the application of technology in human resource management, specifically in the process of Civil Servant Candidate (CPNS) recruitment and selection. The aim of the research is to analyze how technology can enhance efficiency, transparency, and objectivity in this process. The method used is descriptive qualitative research with a literature review approach. Through this method, relevant journals and literature are systematically reviewed to gain in-depth understanding. The findings indicate that technologies, such as the use of Computer Assisted Test (CAT) and e-Meterai, play a crucial role in supporting better human resource management. These technologies not only reduce paper usage (paperless) but also improve document validity, accelerate administrative processes, and enable more accurate decision-making.

Keywords: Technology Implementation, Human Resources, CPNS

1. INTRODUCTION

Human resources (HR) are the most critical asset for achieving organizational growth and national development. Habib (Kalejaiye et al., 2015) asserts that "the true treasure of a nation lies in its human resources." Recognized as a vital asset, most developed countries around the world place greater emphasis on human resources compared to other production factors. Consequently, developing human resources as a driving force for national growth and development is undeniably key to advancing socio-economic and political progress, as well as achieving organizational objectives.

Over the past five decades, human resource management has undergone three significant transformations, starting with Personnel Management, transitioning to Human Resource Management, and more recently evolving into Human Capital Management (HCM). In response to various global challenges, the HCM approach emphasizes building systems that play a role in modern recruitment processes and developing integrated systems. Additionally, it focuses on creating a competency management and career development system. As a contemporary approach, HR units today often function as strategic partners within organizations.

The developments in the globalization era drive the need for fast and up-to-date services, compelling organizations to adapt to environmental changes. The digitalization of various services has become a common approach for many organizations to meet customer demands. The same applies to public sector organizations, where society increasingly favors services that are simple, transparent, digital-based, and have measurable turnaround times. As a result, the management of human resources (HR) in public administration needs to be improved in terms of both competence and capability to meet the criteria for executing their roles and responsibilities. Public officials are not only required to perform routine daily tasks but also to be creative by continuously enhancing their competencies to deliver the best performance for their organizations.

In the public sector, the advancement of information technology has become an urgent necessity and a demand for delivering public services. Many government agencies have adopted information technology to simplify service processes, making them faster, more accurate, and efficient. The application of information technology plays a pivotal role in transforming the mindset and working patterns of government agencies. Previously associated with complex, slow, and cumbersome bureaucracy, government agencies are now transitioning into simpler, online-based systems, resulting in positive impacts on the acceleration of public services. Moreover, the use of information technology facilitates more efficient and affordable communication and accommodation needs between the government and the public. This creates opportunities for the government to interact directly with society without being constrained by space and time.

Effective and appropriate human resource management (HRM) can support organizational development in alignment with its established goals. Quality human resources are individuals who can quickly respond to technological changes while possessing the ability to continuously learn and adapt to ever-evolving technological advancements. This capability is a valuable asset for organizations as it helps them compete effectively with other entities.

Human Resource Management (HRM) plays a crucial role in identifying HR needs to address technological changes and ensuring the availability of HR that aligns with organizational requirements. To create suitable HR, companies can implement various strategies to ensure employees possess the necessary competencies in an ever-evolving work environment. Therefore, this study examines the strategies HRM can employ to prepare and

manage HR for technological changes while analyzing the challenges organizations face in adapting to such advancements.

The evolving paradigm of human resource management has also influenced the approach to developing the competencies of civil servants (ASN). It has shifted from traditional training to a focus on learning, from classical face-to-face systems to online learning (e-learning), and from limitations in quantity, time, location, and funding to synergistic learning governance through a flexible learning management system. This system prioritizes accessibility for anyone, anytime, and anywhere, transcending spatial and temporal constraints.

In response to this paradigm shift, emphasize that entering the new normal era requires a change in perspective on competency development. Three critical aspects in the current competency development policy framework are learning technologies, integrated competency development, and competency development for instructors (widyaiswara) along with accreditation policies to support training institutions. Furthermore, the approach to competency development must align with organizational goals, ensuring it not only focuses on individual competency enhancement but also contributes to improving organizational performance (Destiana, 2023).

According to Irawati and Suwardo (Irawati & Suwarno, 2020) they state that, highlights that leadership plays a pivotal role in enhancing the quality of competency development programs. This includes effective internal coordination, communication with stakeholders, and establishing organizational vision and values. A leader's competence is directly observed through their ability to manage outcomes, make decisions, exhibit appropriate organizational behavior, and effectively handle personal responsibilities in setting goals, defining vision, and identifying organizational values.

Amarullah's (Amarullah et al., 2018), study identified several factors that support the competency development process for public sector personnel. These include strong motivation among public sector personnel and a clearly defined career path established through regulated career development mechanisms. On the other hand, the factors hindering the management of personnel competency development include a lack of leadership commitment, unsystematic placement of personnel, and suboptimal coordination between relevant government agencies.

According to the Republic of Indonesia Law Number 5 of 2014 concerning the State Civil Apparatus, State Civil Apparatus employees, hereinafter referred to as ASN Employees, consist of Civil Servants (PNS) and Government Employees with Work Agreements (PPPK). They are appointed by Personnel Development Officials and assigned tasks within a governmental position or other state duties, with salaries determined based on applicable laws and regulations. The State Civil Apparatus plays a central role in administering government functions in Indonesia. Therefore, the competencies possessed by Civil Servants significantly influence the success of achieving government objectives, particularly in improving the quality of public services.

Therefore, it is essential to understand that the process of national development is inseparable from the role of its citizens, both as subjects and objects. Civil Servants (PNS), as part of the citizenry, are obligated to carry out their duties and functions in government, specifically in serving the public. In addition, PNS are considered assets because they possess competencies that the general population does not have. The competencies held by a PNS must meet the qualifications required for their position within the governmental organization. Saleh (Saleh, 2013) state that one crucial factor for government institutions to effectively perform their service tasks is the presence of professional civil servants who have complete personal competencies. With the increasing public demand for quality public services and

rapid advancements in technology and information, PNS, as government apparatus, must continuously innovate and improve their competencies. According to Sedarmayanti (Sedarmayanti, 2008), competence is defined as a fundamental characteristic possessed by an individual that directly influences or predicts exceptional performance.

The National Civil Service Agency (Badan Kepegawaian Negara or BKN) is a government institution that implements Civil State Apparatus (Aparatur Sipil Negara or ASN) management based on information technology to create more efficient ASN services. In addition to simplifying ASN services, the application of information technology in ASN management also supports strategic decision-making processes. As a state administrative agency, BKN has utilized information technology to enhance the execution of ASN management, enabling it to fulfill its core duties and functions more effectively and in an integrated manner.

Currently, the recruitment and selection process for employees has transitioned to an e-recruitment system, significantly reducing reliance on physical documents (paperless). For example, the recruitment of Civil Servant Candidates (Calon Pegawai Negeri Sipil or CPNS), managed by the Ministry of Administrative and Bureaucratic Reform (KemenPAN-RB), has been fully computerized and internet-based since 2015. This includes all stages, from announcements and registrations to the execution of selection tests. The adoption of this technology has fostered a perception that the recruitment and selection process is conducted with fairness, transparency, and objectivity. (Mustafa, 2021).

In the human resource management chain, the recruitment and selection process is a crucial initial stage in acquiring competent employees. This process begins with recruitment conducted by the organization, followed by selection to screen candidates from the pool of applicants to find individuals who truly meet the required criteria. When the selection process is carried out properly, the organization will benefit because the selected employees can be trained and developed to perform their tasks according to established standards. However, if the selection process is not conducted well, it can be detrimental to the organization. Employees who meet the qualifications and possess the appropriate competencies for a specific position will be key factors in achieving the organization's goals in the future.

The recruitment and selection process for Civil Servant Candidates (Calon Pegawai Negeri Sipil or CPNS) remains highly sought after by many people. Despite the growing variety of job opportunities in the digital era, the profession of Civil Servants (Pegawai Negeri Sipil or PNS) is still regarded as prestigious by some segments of society, supported by a salary considered adequate. This makes the PNS profession continue to attract public attention. Each time the CPNS registration opens, the public's enthusiasm is evident from the large number of people flocking to participate in the registration process.

The process of registering for Civil Servant Candidates (CPNS) involves various administrative stages that require document validation, such as statements, diplomas, and other supporting documents. Before the era of digitization, the use of physical stamps often faced various challenges, such as the risk of forgery, physical damage, and lack of flexibility in document management. These issues could hinder the verification process and lead to additional costs for both the applicants and the administrators.

With the advent of e-Meterai technology, the government has an opportunity to improve efficiency and security in the CPNS registration process. E-Meterai enables electronic document authentication with a higher level of security through encryption technology. In addition, e-Meterai supports environmental-friendly digitalization efforts by reducing reliance on physical documents. However, despite its many advantages, the implementation of e-Meterai still faces challenges. These include a lack of public understanding of this technology, uneven digital infrastructure, and potential technical issues

that could affect the registration process. Therefore, optimization steps are needed to ensure that e-Meterai can be maximized in supporting a more efficient, secure, and transparent CPNS registration process.

E-Meterai technology is an innovation in the management of digital documents that provides electronic legitimacy equivalent to a physical stamp. In the context of Civil Servant Candidate (CPNS) recruitment, the implementation of e-Meterai by the National Civil Service Agency (BKN) aims to increase the efficiency, transparency, and security of the registration administration. E-Meterai is used as a tool for electronically validating applicants' documents, such as application letters, integrity statements, and other important documents that previously required manual validation with a physical stamp.

Electronic stamps, or e-Meterai, are used on electronic documents covering civil events. It should be noted that the stamp duty is not applied to the agreement itself, but to the document created as proof of the existence of an agreement. This document serves to prove the occurrence of an action, fact, or situation that is of a civil nature, so even agreements involving unlawful actions are still subject to stamp duty. The introduction of electronic stamps not only makes it easier for the public to create agreements but also facilitates the resolution of disputes in court if conflicts arise later.(Aji Anelia Amayaffa, Deny Slamet Pribadi, 2024).

With the implementation of this technology, the registration process becomes simpler, faster, and more accurate. Applicants can attach e-Meterai through the provided online platform without the need to purchase and affix physical stamps manually. This system not only saves time and costs but also minimizes the risk of document forgery, as e-Meterai comes with encryption-based security features. The adoption of e-Meterai supports the digital transformation in the public sector, particularly in civil service management.

In addition to increasing public trust through a more transparent and objective selection process, this technology also strengthens the image of the government as a modern institution responsive to the demands of the digital era. However, to ensure optimal implementation, readiness of technological infrastructure, improvement in public digital literacy, and reliable supporting systems are essential.

2. RESEARCH METHODS

This study employs a qualitative descriptive approach using a library research or literature review method, utilizing journals relevant to the topic *The Application of Technology to Human Resources in the Civil Servant Recruitment and Selection Process* (CPNS). The primary focus of this research is on the role of technology in supporting human resource management, particularly in the recruitment and selection processes of CPNS. Data collection techniques were conducted through documentation. The data analysis method used is interactive analysis, which consists of three main stages: data reduction, data presentation, and drawing conclusions, as outlined by (Sugiyono, 2011).

3. RESULT AND DISCUSSION

Improving the Quality of Human Resources for Civil Servants in Indonesia

A reliable and high-quality ASN in a public sector organization is built and prepared from the very beginning of its existence within the organization. Human resource planning from the outset is considered essential. Public sector HR planning must be carried out effectively, one of which is through the competency development process. Competency development for ASN, as stated in Law No. 5 of 2014 concerning the State Civil Apparatus, is implemented through education and training. Competency development through education is carried out through formal education with the mechanism of study assignments or study

leave. Competency development through training is carried out through both classical and non-classical training methods. ASN consists of Civil Servants (PNS) and Government Employees with Employment Agreements (PPPK). Competency development for both PNS and PPPK is open and provides equal opportunities for participation in competency development. However, in the regulations, there are differences in competency development between PNS and PPPK. PNS competency development is required to be at least 20 Training Hours (JP) per year, while PPPK competency development is conducted for a maximum of 24 JP per year.

To respond to the global competition in the digital realm, human resources in the public sector are required to be more adaptive in order to optimize government service performance. The government, through the Ministry of State Apparatus Utilization and Bureaucratic Reform, implements the Human Capital Management Strategy towards Smart ASN 2024. Smart ASN is a profile designed to enter the disruption era, requiring adaptive capabilities to respond to increasingly complex global challenges. The Smart ASN profile includes integrity, nationalism, professionalism, a global perspective, proficiency in IT and foreign languages, a hospitality spirit, entrepreneurship spirit, and a wide network.

The President of the Republic of Indonesia launched the Core Values "BerAKHLAK" and the Employer Branding of the State Civil Apparatus (ASN) "Proud to Serve the Nation" on July 27, 2021, through the Circular Letter of the Minister of PANRB No. 20 of 2021 regarding the Implementation of Core Values and ASN Employer Branding. The launch of these Core Values aims to standardize the basic values (core values) for all ASN in Indonesia, leading to the formation of a professional work culture among ASNs. The Core Values of BerAKHLAK are an acronym for Service-Oriented, Accountable, Competent, Harmonious, Loyal, Adaptive, and Collaborative. The establishment of these core values strengthens the professional work culture of ASN and facilitates their adjustment during mobility across government agencies. The role of ASN as a unifying and bonding force for the nation can also be further enhanced by the application of these core values in general (www.menpan.go.id/site/beritaterkini/presiden-jokowi-luncurkan-berakhlak-untuk-percepatan-transformasi-asn).

The demand for a transformation in the work culture of the State Civil Apparatus (ASN) to achieve professional public services has also driven innovation in the development of human resources for government apparatus in Indonesia. The establishment of corporate universities has become one of the trends being developed in various government agencies in Indonesia to achieve a reliable bureaucracy. The corporate university concept shifts the implementation of conventional training to a human capital management-based approach for human resource development. The human resource development scheme within the corporate university functions by making all government agencies learning institutions, providing a variety of progressive and educational competency development learning methods, such as e-learning, coaching, mentoring, and on-the-job training. Corporate Universities promote the slogan "learn anywhere, anytime, and by anyone" through dynamic learning processes (Destiana, 2023).

According to (Dini Septiani, Nespi Fauziah, Sani Mariastuti, Lili Sularmi Taufik Kurrohman Sunanto, 2024), Information technology is a means and infrastructure that includes hardware, software, and its usage (hardware, software, and useware), as well as systems and methods for obtaining, transmitting, processing, interpreting, storing, organizing, and utilizing data in a meaningful way. Technology, in this context, is a tool that assists humans in various aspects of life, including work. In the workplace, technology plays a role in automating routine tasks, improving productivity, and enabling faster and more accurate

access to information. Thanks to technology, tasks that previously took hours can now be completed more quickly and efficiently.

The significant contribution of technology also impacts the development of Human Resources (HR) within a company. One aspect that shows the role of technology in HR management is the ease in the decision-making process that utilizes technology as a support tool. In this case, technology functions as a provider of important information related to employees, for example, enabling the company to more easily obtain data on an employee's weaknesses. With this information, the organization can make the right decisions to address these issues. In addition to assisting HR decision-making, technology also has a major influence in various other aspects, such as creating better HR planning, defining jobs clearly, performance evaluation, strengthening communication with external communities and employees, and changing the way HR managers direct, train, and develop employees. Technology also supports employees in managing their careers more effectively.

The application of technology in the modern workplace has brought significant changes to human resource management (HRM). However, alongside the benefits it offers, technology also presents various challenges that need to be addressed. In this digital era, HRM faces challenges such as the development of relevant technological skills, organizational culture changes, and managing the impact of technology on workplace morale and ethics.(Basuki, 2023). Therefore, effective strategies are needed to address these challenges. Here are some strategies that companies can implement:

1. Improving the quality of human resources (HR) through training and performance development. This training can begin by identifying the technological skills needed by employees, which are then followed by the creation of training programs by the company. This process ensures that employees are equipped with the necessary skills to meet the demands of modern technology and work efficiently. Training programs can be tailored to address specific needs, enhance competency, and foster continuous development, ensuring that the workforce remains adaptable and competitive in the digital era.

2. Implementing HR planning. This strategy involves a structured process for managing human resources to ensure they contribute effectively to the company's needs, facilitating the achievement of organizational goals. HR planning helps to align the workforce with the strategic objectives of the organization, ensuring the right people are in the right roles at the right time. By forecasting future HR needs, identifying skill gaps, and aligning talent acquisition and development with business goals, HR planning plays a crucial role in driving the overall success of the organization.

3. Implementing tactical HR planning. This phase is a crucial part of human resource management, especially when addressing technological challenges. The process involves strategic steps that allow the organization to allocate human resources, capital, and materials effectively across various functions and positions. Tactical HR planning focuses on short- to mid-term goals and involves determining the specific skill sets required for current and upcoming roles, ensuring that the organization is equipped to respond to immediate needs and changes. By aligning workforce planning with technological developments and organizational priorities, this planning phase ensures that the right talent is in place to drive success.

The advancement in the field of Information Technology is an achievement to be grateful for, as it makes it easier for humans to carry out their work and tasks. However, not all of these advancements bring positive impacts (Nisa et al., 2023). Some of these advancements even have the potential to bring negative impacts to humans, including:

1. Increased Unemployment: For workers who lack qualifications aligned with the needs of the job market, technology that is unsuitable for specific societal conditions can narrow job opportunities instead of creating them. This results in fewer job opportunities for individuals whose skills are no longer in demand.
2. Decline in Human Resource Morale: Technology can contribute to a decline in morale, particularly among teenagers and students. Exposure to negative content, coupled with insufficient supervision from parents or educators, can encourage unethical behavior. This decline in morale affects the quality of the workforce, as companies struggle to find employees with strong work ethics and moral values.
3. Shifting Human Interaction to More Individualistic Behavior: Referring to the theory of Technological Determinism introduced by Marshall McLuhan, as cited by Xiao Angeline (2018), changes in communication patterns due to technology shape individual mindsets and behaviors within society. Technology pushes humans to transition from one technological era to another, which eventually leads to a rise in individualism. This shift can threaten social solidarity and collective cooperation, both of which are essential elements in society and organizations.

Management in the development of human resources for civil servants in Indonesia

Integrated competency development for ASN is outlined in the development of Corporate University (Corpu), which is defined as a strategic tool or function within an organization to integrate resources in order to achieve the organization's goals and mission, with a focus on development and learning, career, training opportunities, and leadership

Wuryani (Wuryani, 2022), explains that the role of Corporate University should focus on the 3Cs: Collaboration, Change, and Complexity. Collaboration refers to a new and fundamental competency, where Corpu is expected to build a culture of collaborative development and learning. Change refers to Corpu's role in responding to changes and preparing individuals to face those changes. Complexity can be addressed through the application of the Corpu concept in human resource development institutions with varied methods and the utilization of available resources.

In the human resource management process, recruitment and selection are crucial initial stages in obtaining competent employees. This process begins with recruitment carried out by the organization, followed by the selection of candidates from a pool of applicants to choose those who truly meet the required criteria. If the selection process is conducted correctly, the organization will benefit, as the selected employees can be trained and developed to perform tasks in line with established standards. Conversely, improper selection can negatively impact the organization's performance. Employees who possess the appropriate qualifications and competencies for specific positions will be a key factor in achieving the organization's long-term goals.

In the human resource recruitment process, after the HR planning stage is completed, the next step is recruitment and selection. Recruitment is the process of searching for labor in the labor market to fill job vacancies within the organization.(Wibowo, 2017). Organizations can seek labor through various methods, such as using mass media, alumni networks, labor offices, and others. This recruitment process must be carried out carefully because it will influence the selection stage and ultimately affect the performance of employees and the organization as a whole (Aziz et al., 2017).
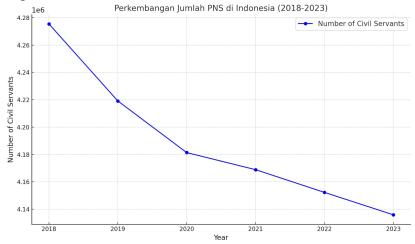
In the context of the civil servant recruitment and selection process (CPNS), the recruitment and selection processes are carried out based on regulations set by the government. CPNS recruitment generally uses a nationally integrated system, such as announcements through official government media. The selection process follows strict rules,

from registration to testing based on the Computer Assisted Test (CAT). This approach is designed to ensure transparency and objectivity in selecting candidates who meet the qualifications.(Rismawati et al., 2023).

The administration of government in Indonesia has undergone a significant shift from a centralized system to decentralization. This transformation is accompanied by a paradigm shift in governance, moving from "Rule Government" to "Good Governance." The objective of this change is to accelerate improvements in the quality of public services and address deficiencies in bureaucratic functions, which are often criticized for inefficiency and misuse (Agung Kurniawan & Suswanta, 2021). Additionally, the bureaucracy in Indonesia has been characterized as lacking innovation due to an environment that does not foster creativity, coupled with a lack of accountability for unproductive work (Agus, 2019). These issues contribute to inefficiency and open the door for practices such as corruption and abuse of authority.

Bureaucracy is an integral part of the social system, adapting dynamically to its environment. The evolution of democracy, which emphasizes freedom, participation, equality, and rationality, along with a more critical public, demands that the government establish a bureaucracy capable of innovation and staffed with honest and transparent human resources (Agus, 2019). However, achieving this ideal requires significant efforts from all stakeholders, as internal bureaucratic challenges persist. These include disciplinary violations, abuse of authority, low performance among civil servants, inadequate organizational and management systems, inefficiency, ineffective work processes, poor public service quality, insufficient welfare for civil servants, and outdated regulations that fail to align with current developments (Sunarno, 2020).

Bureaucratic reform is a government initiative aimed at addressing these challenges. Its implementation requires strong commitment from all stakeholders involved in governance. There are eight key areas for improvement across ministries and institutions, both at the central and regional levels: change management, regulatory restructuring, organizational strengthening, operational streamlining, human resource management reform, accountability enhancement, oversight strengthening, and public service improvement. Success in these eight areas is expected to achieve the government's objectives as outlined in Presidential Regulation Number 81 of 2010 on the Grand Design of Bureaucratic Reform 2010–2024. These objectives include establishing clean, accountable, and high-performing governance; effective and efficient government operations; and quality public services. Achieving these goals requires improvements in organizational and human resource management to ensure balance within organizational units and structures.

Graph 1: Trends in the Number of Civil Servants in Indonesia (2018–2023)

This chart illustrates the trend in the number of civil servants (PNS) in Indonesia from 2018 to 2023. The data reveals a gradual decline over the period, from 4,275,495 in 2018 to 4,135,900 in 2023 (BKN, 2024).

Data Overview:
a. 2018: 4,275,495 civil servants
b. 2019: 4,219,167 civil servants
c. 2020: 4,181,400 civil servants
d. 2021: 4,168,917 civil servants
e. 2022: 4,152,300 civil servants
f. 2023: 4,135,900 civil servants

The decline in numbers is largely influenced by government policies on bureaucratic reform, including restrictions on civil servant recruitment and the increased utilization of contractual personnel (PPPK). This reduction aims to enhance the efficiency, quality, and equitable distribution of the civil service workforce across Indonesia.

Table 1. Number of Civil Servants (ASN) by Age Group

Age (Years)	Regional Agencies	Central Agencies	Total
18-25	24.531	5.420	29.951
26-30	84.321	21.846	106.167
31-35	110.465	35.215	145.680
36-40	120.547	44.932	165.479
41-45	135.872	56.721	192.593
46-50	150.347	67.198	217.545
51-55	162.982	74.532	237.514
56-60	112.134	48.317	160.451
Total Number 901.199		354.181	1.255.380

The data shows that the largest age group of civil servants falls within the 51-55 age range, while the 18-25 age group has the fewest civil servants. The decline in younger civil servants raises concerns about generational renewal within the civil service in Indonesia (BKN, 2024).

The recruitment and selection of Civil Servant Candidates (CPNS) continue to be highly attractive to the public. Despite the growing variety of job opportunities in the digital era, the profession of becoming a civil servant is still regarded as a prestigious choice with adequate compensation. This has led many individuals to participate whenever CPNS registration is open. Since 2013, the CPNS selection system has been based on the Computer Assisted Test (CAT), implemented by the Ministry of Administrative and Bureaucratic Reform (PAN RB) in collaboration with the National Civil Service Agency (BKN). Prior to this, the conventional selection system using paper-based Answer Sheets (LJK) was considered flawed, with issues such as high paper consumption, the need for many supervisors, and delayed announcement times, which created opportunities for fraudulent practices like corruption, collusion, and nepotism (KKN).

The CAT system introduces a computerized approach, from the registration process to selection, all of which are conducted digitally. This system uses a specific passing grade adjusted to the required competencies, and it allows participants to immediately know the results of their selection. This approach is considered more efficient, transparent, and accountable compared to conventional methods.

The application of technology in the selection process for Civil Servant Candidates (CPNS) demonstrates how government organizations are striving to improve the efficiency and quality of human resource management. From the human capital perspective presented by Angela Baron and Michael Armstrong, technology plays a crucial role in optimizing the recruitment process, ensuring that the right individuals with the necessary skills and qualifications are selected for the organization. Human capital theory emphasizes that employees are valuable assets whose knowledge, skills, and abilities contribute significantly to an organization's success. By implementing technology such as the Computer Assisted Test (CAT), government institutions can effectively assess the competencies of candidates, ensuring that only the most qualified individuals are chosen, which ultimately enhances the overall performance of the organization (Angela Baron & Michael Armstrong, 2023). Technology can serve as a strategic tool to identify, manage, and develop human resource potential. Human capital is viewed as an asset that adds value to the organization through the competencies, skills, and experiences of individuals. By leveraging technology, organizations can streamline the recruitment and selection process, efficiently assess candidates' capabilities, and implement continuous development programs tailored to individual growth. This helps organizations maximize the potential of their workforce, ensuring that employees are equipped with the necessary skills to meet current and future challenges, thereby driving overall organizational success.

1. Technology in the CPNS Selection Process

   The use of the Computer Assisted Test (CAT) system represents a significant innovation in the CPNS selection process, replacing the conventional method based on the Lembar Jawaban Komputer (LJK). The CAT-based process is designed to ensure transparency, efficiency, and accuracy in assessing the competencies of applicants. This technology enables a more objective selection process by reducing the potential for human bias, corruption, collusion, and nepotism (KKN). It supports the human capital principle, which emphasizes merit-based selection to obtain high-quality human resources capable of supporting the achievement of organizational goals. By utilizing technology, the selection process becomes fairer and more aligned with the competencies required to meet the organization's strategic needs.

2. The Role of Technology in Human Capital Management

   In CPNS selection, technology plays several crucial roles:

   a. Competency Identification

      Technology assists organizations in identifying the specific skills and competencies required for each position. For instance, the CAT system is designed to measure cognitive abilities, technical knowledge, and analytical skills of applicants, allowing for a comprehensive and measurable assessment.

   b. Applicant Data Collection and Analysis

      All data collected during the registration and selection process is stored digitally, enabling in-depth analysis of applicant profiles. This data allows the government to map applicants' skills and determine future human resource development strategies.

   c. Efficiency and Transparency

      The implementation of technology reduces the need for physical resources such as paper and supervisors, while speeding up the selection process. Transparency is ensured as test results are immediately available to applicants, building trust in the selection system.

   d. Administrative Validity through E-Materai

      The use of e-stamps on digital documents during the registration process provides proof of the legality and validity of documents, reducing the potential for

manipulation or forgery. This also supports administrative accountability, which is an essential element in human capital management.

CONCLUSION

This study successfully addresses the question of how technology can be applied in the Civil Servant Candidate (CPNS) selection process in Indonesia. Based on the findings, the application of technology, particularly the use of Computer Assisted Test (CAT) and e-Materai, has proven to have a positive impact on enhancing efficiency, transparency, and objectivity in the selection process. These technologies enable faster and more accurate selection processes, reduce paper usage (paperless), and optimize the management of applicant data.

1. Efficiency and Speed of the Process: Technologies like CAT allow the entire selection process to be conducted digitally, from registration to testing. This accelerates the selection timeline and reduces reliance on time-consuming manual processes.
2. Transparency and Objectivity: With CAT, the selection results can be immediately accessed by participants, increasing transparency in the selection process and minimizing the potential for fraud. The computer-based system also reduces human bias in the evaluation, ensuring that the results are more objective and fair.
3. Document Validity and Security: The implementation of e-Materai as a tool for digital document authentication ensures the legitimacy and validity of the documents required during the selection process. Additionally, e-Materai reduces the risk of document forgery, which was a common issue in the previous manual system.
4. Challenges Encountered: While the application of technology offers many benefits, this study also identifies several challenges. These include uneven digital infrastructure across regions, low technological literacy among the public, and potential technical disruptions that could affect the smooth running of the selection process. These challenges need to be addressed promptly in order to optimize the use of technology in CPNS selection.

Recommendations:

1. Policy for Digital Infrastructure: The government should strengthen technology infrastructure, particularly in remote areas, to ensure that the technology-based selection process is accessible to all regions.
2. Improvement of Technology Literacy: Training programs to enhance public understanding of technology, including CAT and e-Meterai, should be promoted more widely.
3. Reliable Support Systems: A robust technology system is needed to minimize technical issues during the selection process.
4. Inter-Agency Collaboration: The central and regional governments must collaborate to ensure that the technology-based selection process runs smoothly.
5. Regulatory Adjustments: Regulations related to CPNS selection should be updated to support the optimal use of technology, including regulations regarding the use of electronic documents.

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