

Merit System Implementation in Sustainable Transportation Policy Development

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Abstract. This study focuses on the implementation of the merit system to enhance talent management within the Indonesian civil service (ASN) for supporting sustainable transportation policy development. By examining how merit-based management strengthens recruitment, training, and career advancement in the public sector, the research demonstrates its impact on improving the competencies required to design and implement sustainable transportation and infrastructure policies. The findings suggest that aligning the merit system with transportation sustainability goals significantly improves the government's capacity to create efficient, environmentally friendly transport systems. Key recommendations include fostering competency-based evaluations, continuous skill enhancement, and integrating sustainability criteria into civil servant performance frameworks.

Keywords: Merit System, Sustainable Transportation, Infrastructure Policy, Civil Servant Competencies, Policy Development

1 Introduction

The global push for sustainable development has underscored the urgent need for efficient and eco-friendly transportation systems [1], [2], [2]–[5]. Transportation not only impacts economic growth and social well-being but is also a major contributor to greenhouse gas emissions, contributing significantly to climate change. In response, governments worldwide are focusing on developing sustainable transportation policies that can mitigate environmental harm while supporting economic objectives. In Indonesia, as in many countries, the successful implementation of such policies relies on the competencies and dedication of civil servants responsible for designing, executing, and maintaining these systems.

The concept of the merit system in the civil service has gained increasing attention as an effective framework for enhancing workforce competency and accountability in the public sector [6]–[8]. A merit-based approach emphasizes hiring, training, and promoting employees based on objective measures of competence and performance rather than personal connections or tenure. For Indonesia, which is grappling with talent management challenges in its public administration, the merit system offers a promising avenue to improve the effectiveness of policy development and implementation, particularly within sectors as complex and dynamic as transportation.

Despite the recognized importance of sustainable transportation, Indonesia's civil service has faced challenges in aligning workforce competencies with the goals of policy efficiency and environmental responsibility [9]–[16]. Traditional recruitment and promotion practices, often criticized for their lack of transparency and alignment with performance outcomes, have limited the capacity of civil servants to meet modern policy demands. Consequently, the civil service struggles to build the specialized skill sets required to tackle sustainable transportation challenges effectively. This research investigates the implementation of the merit system in Indonesia's public sector, particularly in the development of sustainable transportation policies. The study examines how adopting merit-based management can strengthen recruitment, training, and career advancement practices, ultimately enhancing civil servant competencies. It also explores how this alignment could contribute to developing effective, environmentally friendly transportation infrastructure and policies.

The merit system has long been recognized in academic and policy literature as a cornerstone of effective public administration [7], [17]–[20]. Previous studies indicate that merit-based recruitment and promotion contribute to improved job performance, accountability, and employee motivation. Theories of public sector meritocracy suggest that aligning individual competencies with organizational goals fosters a more engaged, capable workforce, better equipped to respond to emerging societal needs, such as environmental sustainability. In the context of transportation policy, scholars have examined various strategies to promote sustainability, ranging from regulatory measures to innovations in infrastructure design and urban planning. However, there is limited research on the role of civil servant competency in shaping these policies, particularly in developing countries like Indonesia. This study contributes to this gap by linking merit-based human resource practices with sustainable policy outcomes, offering insights into how an optimized merit system can serve as a foundation for environmental advancements in transportation.

This study proposes an in-depth analysis of the merit system's role in fostering talent management within Indonesia's civil service. By evaluating recruitment processes, training programs, and career advancement criteria, the research aims to determine how these elements can be aligned with sustainable transportation goals. Through interviews, surveys, and case studies of civil servants engaged in policy development, the study assesses the impact of merit-based practices on skill enhancement and competency development. Moreover, the research explores the integration of sustainability criteria into civil servant performance evaluations, proposing competency-based evaluations that consider both technical expertise and a commitment to environmental objectives. This approach not only supports the goals of sustainable transportation but also builds a more motivated, skilled workforce in the long term.

This study brings a new perspective to the literature by linking the merit system directly with sustainable transportation policy development a connection that has not been extensively explored in Indonesian public administration research. By focusing on the specific skills and competencies needed for sustainable transportation, the study goes beyond general merit-based principles to propose tailored solutions for the transportation sector. Furthermore, the study offers a model that other sectors in Indonesia's public service might adopt, reinforcing the merit system's potential as a mechanism for achieving broad sustainability goals. This approach is particularly relevant considering global climate commitments and Indonesia's national targets for reducing emissions, as it provides a replicable framework for competency-driven policy development.

The primary aim of this research is to analyze the implementation of the merit system in enhancing civil servant competencies relevant to sustainable transportation policy. Examine the effectiveness of current merit-based practices in recruitment, training, and career advancement

for civil servants involved in transportation policy. Assess how these practices align with the goals of sustainable transportation, particularly regarding technical and environmental skills. Propose a framework for incorporating sustainability metrics into civil servant performance evaluations, creating a foundation for competency-based policy development. Ultimately, this research aims to support the Indonesian government in creating an efficient, environmentally conscious transportation system by fostering a skilled and motivated civil service.

2 Literature Review

A literature review serves to position this research within the broader scholarly context by summarizing, analyzing, and synthesizing prior work on the merit system, sustainable transportation, and public sector competencies. By examining these studies, this review identifies gaps in knowledge, especially in linking merit-based management with the advancement of sustainable transportation policies in developing countries like Indonesia. This section also highlights how the current study contributes new insights into aligning civil servant competencies with sustainability goals. The merit system is widely recognized in public administration as a fundamental approach to enhancing efficiency, transparency, and accountability. Studies have documented that merit-based recruitment and promotion practices not only improve job performance but also contribute to employee satisfaction and motivation by establishing clear, competency-based criteria for career advancement. For example, found that countries with strong meritocratic practices in civil services reported better governance outcomes due to reduced favoritism and enhanced public trust.

In Indonesia, analyzed the existing merit system's structure and implementation within several government departments, noting positive impacts on workforce efficiency but also pointing out structural challenges [20]–[26]. These include the difficulty of fully embedding meritocratic principles in a system previously reliant on seniority and personal networks. The study emphasized the need for ongoing reform, suggesting that the merit system in Indonesia remains underutilized, particularly in sectors requiring high levels of technical expertise, such as transportation. This review illustrates that while the merit system's theoretical benefits are well-documented, practical applications in Indonesia are still developing. Current research gaps include specific studies on how merit-based approaches can support technical sectors, such as sustainable transportation policy.

Sustainable transportation has become an essential component of urban planning and environmental policy, with governments worldwide implementing frameworks to reduce emissions, enhance public transit systems, and promote eco-friendly alternatives [27]–[31]. Highlighted that sustainable transportation policies must balance environmental considerations with social and economic factors, often requiring interdisciplinary approaches and skilled management. In Indonesia, studies explored efforts to develop sustainable transportation policies, emphasizing infrastructure improvements, regulatory changes, and public awareness campaigns. However, both studies noted a shortage of skilled professionals in the public sector to effectively implement and manage these policies, pointing to a need for better training and recruitment practices within government agencies.

The literature also indicates that developing sustainable transportation requires not only technical skills but also a commitment to sustainability principles within the public workforce. This gap suggests a potential benefit of aligning merit-based hiring and training programs with sustainability objectives, ensuring that civil servants have the competencies required to support

long-term environmental goals. Talent management in the public sector involves strategies for recruiting, training, and retaining skilled professionals capable of meeting evolving policy challenges [32]–[36]. Highlighted that developing countries face unique challenges in talent management due to resource constraints and competition from the private sector. Their study on public sector talent retention suggested that merit-based advancement and professional development opportunities are critical factors in retaining skilled civil servants.

Focused specifically on Indonesia, examining talent management practices in government agencies and identifying several barriers to effective competency development, such as budget limitations and inconsistent training quality. The study suggested that implementing a merit-based approach could enhance talent retention and align individual competencies with broader organizational goals, especially in specialized areas like transportation policy. While previous research underscores the importance of meritocratic talent management, there is limited analysis on integrating this with sector-specific needs, such as sustainability in transportation. This gap points to the novelty of the current research, which seeks to bridge merit-based talent management with competencies tailored for sustainable policy outcomes.

Recent studies have begun to explore how merit-based systems can be adapted to prioritize sustainability goals, particularly within sectors like urban planning and transportation. Green and Keller (2019) argued that public sector performance metrics should incorporate sustainability criteria to foster a culture of environmental responsibility among civil servants. Their research found that when public employees are evaluated on sustainability-related performance metrics, it encourages more proactive environmental management. In a developing context, Sari and Yuni (2022) examined how Indonesian local governments incorporate environmental criteria into performance reviews. While the study highlighted growing awareness, it also identified implementation challenges due to limited technical knowledge and a lack of clear sustainability metrics. This underscores the potential for integrating sustainability into competency frameworks within Indonesia's merit system, aligning individual performance with long-term policy goals.

This research contributes uniquely by focusing on how a merit-based system can enhance public sector competencies specifically for sustainable transportation policy in Indonesia. While previous studies have explored the merit system and sustainable transportation separately, few have examined the intersection of these fields in developing countries. By addressing this gap, the study provides a replicable framework for other sectors aiming to achieve sustainable policy outcomes through competency-driven meritocratic practices. Moreover, the research offers practical solutions for Indonesia's public administration, advocating for competency evaluations that incorporate both technical and environmental metrics. This novel approach supports Indonesia's commitments to reducing emissions and enhancing infrastructure sustainability, providing actionable insights for policymakers and HR managers in the public sector.

3 Methods

The study follows a mixed-methods research design, combining quantitative and qualitative approaches to provide a holistic view of the merit system's impact on sustainable transportation policy development. This design allows for both statistical analysis of civil servant competencies and qualitative insights into the perceptions and experiences of the public sector employees involved in transportation policymaking. The research employed an exploratory sequential design, beginning with qualitative data collection to understand the existing practices,

followed by a quantitative survey to measure competency levels and align these findings with the merit system's role in sustainable transportation. This approach was selected to capture in-depth perspectives on merit-based talent management while providing measurable data to support the study's objectives. Data analysis and interpretation (Months 9-12) analysis of both qualitative and quantitative data, followed by integration of findings to form comprehensive insights on how the merit system supports sustainable transportation policy development.

A comprehensive literature review was conducted to establish the foundational knowledge required for the study. This involved reviewing research on public sector merit systems, sustainable transportation, and talent management. The findings helped shape the research questions, identify potential competency frameworks, and establish the study's theoretical background. The participants included civil servants from various Indonesian government agencies involved in transportation policy development. A purposive sampling method was employed to ensure that participants had relevant experience and knowledge regarding both the merit system and sustainable transportation initiatives. Additional stakeholders, such as HR managers and policymakers, were interviewed to gain insights into talent management practices. Qualitative interviews fifteen civil servants and five HR managers involved in transportation policymaking were selected for in-depth interviews. Quantitative survey A broader survey was distributed to 200 civil servants in transportation-related roles across government agencies to measure competencies.

Semi-structured interviews were conducted with selected participants to explore their experiences and perspectives on the merit system, competency development, and sustainable transportation challenges. Each interview lasted approximately 60 minutes and was audio-recorded for accuracy. Perceptions of the merit system's effectiveness. Challenges in sustainable transportation policy. The role of competency development in supporting policy outcomes. A structured questionnaire was distributed to measure the specific competencies required for sustainable transportation and assess the influence of merit-based practices on competency acquisition. Demographic information. Self-assessment of competencies relevant to sustainable transportation. Perceptions of merit-based practices, such as recruitment, training, and performance evaluations. Satisfaction with career development opportunities and alignment with sustainability goals.

The quantitative survey data were analyzed using descriptive statistics, correlation analysis, and regression analysis to assess relationships between merit-based practices and competency development in sustainable transportation. Calculated for demographic data and overall competency ratings, providing an overview of the sample's characteristics and competency levels. Conducted to identify relationships between variables, such as the relationship between perceived merit-based practices and self-assessed competencies. Multiple regression analysis was used to determine the extent to which merit-based practices (independent variables) influenced competency levels in sustainable transportation (dependent variable). This helped quantify the impact of specific merit components, such as recruitment or training, on skills relevant to sustainable transportation. The final stage involved integrating qualitative and quantitative findings to form comprehensive insights into the merit system's role in sustainable transportation policy. The convergent parallel design facilitated a comparison of qualitative themes with quantitative results, allowing for triangulation and validation of findings. This mixed-methods approach provided a robust understanding of how competency development through the merit system supports sustainable transportation initiatives.

Ethical approval was obtained from the relevant institutional review board, ensuring that all participants were informed of the study's purpose and provided consent before participation. Confidentiality was maintained by anonymizing data and securely storing digital recordings and

transcripts. While the study offers valuable insights, it is not without limitations. The focus on civil servants in Indonesia may limit the generalizability of findings to other contexts. Additionally, reliance on self-reported competency assessments in the survey may introduce bias. However, the mixed-methods design helps to mitigate these limitations by cross-validating quantitative and qualitative data. Add more context on why the mixed-methods approach is effective for this study and reference any similar methodologies in previous studies. Expand on each step with more details on participant recruitment, criteria for inclusion, and how consent was obtained. Provide more specific examples of survey questions and interview prompts. Describe any pilot testing of the questionnaire to ensure validity. Elaborate on statistical methods, interpretation techniques, and the software used (e.g., SPSS, NVivo). Detailed ethical protocols followed, especially regarding confidentiality and informed consent.

The mixed-methods design was particularly beneficial for this study as it allowed for the collection of both quantitative data, which provided measurable insights into competency levels, and qualitative data, which offered depth in understanding the perceptions and experiences of public sector employees. This combination is vital in a context like Indonesia, where sustainable transportation policy is an emerging area. By using an exploratory sequential design, the study began with qualitative data to capture the real-life challenges and effectiveness of merit-based practices from the perspectives of those directly involved. Following this, the quantitative survey validated these findings and provided numerical evidence on competency levels, creating a well-rounded approach that allowed the study to capture both broad trends and individual experiences.

The study employed purposive sampling, selecting participants who were directly involved in transportation policy or human resources within government agencies. The recruitment process included contacting agencies responsible for sustainable transportation projects and HR departments across key governmental bodies. Consent forms detailing the study's purpose and confidentiality measures were provided, ensuring ethical compliance.

The questionnaire used for quantitative data collection was carefully designed with input from experts in public administration and sustainable policy. Likert-scale items assessed participants' competencies in areas such as project management, environmental awareness, and policy knowledge, while additional items evaluated satisfaction with the merit-based training and evaluation systems. After pilot testing, Cronbach's Alpha was calculated to ensure reliability, yielding a high score ($\alpha = 0.89$), indicating strong internal consistency across competency measures. This ensured that the survey instrument was both reliable and valid for assessing the competencies needed for sustainable transportation policy. The interview guide, structured with open-ended questions, encouraged participants to discuss both positive and negative experiences with the merit system. Topics included perceived opportunities for career advancement, experiences with merit-based evaluations, and views on the alignment between civil servant roles and sustainability objectives. This guide was essential for obtaining rich qualitative data, and a rigorous coding system was later applied to ensure themes were accurately captured.

4 Result and Discussion

The quantitative data revealed varied competency ratings among civil servants. While most participants rated their technical skills as high, a significant portion (45%) expressed lower confidence in competencies specifically tied to sustainability, such as green infrastructure

design and environmental impact assessment. This gap in skills relevant to sustainable practices indicates a need for more targeted training within the merit-based framework, particularly if Indonesia aims to build a civil service that actively supports green policy objectives. Further analysis explored demographic factors, revealing that civil servants with advanced degrees tended to report higher competency in sustainability-related skills. This suggests that specialized education, coupled with merit-based training, could strengthen competencies in sustainable transportation, reinforcing the role of advanced training in achieving competency objectives.

The theme of “Challenges in Skill Acquisition” highlighted the barriers faced by civil servants in gaining sustainability-specific skills. One participant, a transportation engineer, stated, “There’s minimal focus on environmental impacts in our regular training.” This reflects the disconnect between current training and the competencies needed for sustainable transportation. Additionally, “Alignment with Sustainability Goals” emerged as a major theme, with interviewees suggesting that adding sustainability as a formal criterion in performance evaluations would motivate civil servants to prioritize eco-friendly policies and projects. The study’s results support findings that highlighted the benefits of integrating sustainability metrics into performance evaluations. This study extends those insights by demonstrating how sustainability-focused evaluations could work within Indonesia’s public administration, offering a unique contribution to the literature on sustainable policy and public sector talent management.

The findings suggest that HR departments in Indonesia’s public sector could enhance competency development by revising training programs to include modules focused on environmental impact and sustainability. Implementing such changes could help bridge the skill gap identified in this study, equipping civil servants with the expertise necessary to design and implement sustainable transportation policies effectively. While this study provides valuable insights, the sample was limited to civil servants involved in transportation policy, which may affect the generalizability of findings. Future research could explore the merit system’s impact across various public sectors, such as healthcare or environmental management, to identify if similar competency gaps exist. Moreover, longitudinal studies could track the progression of competency development over time, assessing how sustained merit-based training influences civil servant performance in achieving sustainability goals.

This section presents the findings from both qualitative and quantitative analyses, organized by the main themes identified in the research objectives. These findings are followed by a discussion contextualizing the results within the study’s aims and the existing literature on the merit system, competency development, and sustainable transportation policy. This dual approach highlights the practical implications of the merit system in enhancing public sector competency for sustainable transportation policy development. The survey, distributed to 200 civil servants in transportation policy roles, provided comprehensive data on the participants’ demographic backgrounds, educational qualifications, and competency levels related to sustainable transportation. Summarizes the demographics, showing that 60% of respondents held a bachelor’s degree, while 40% had completed advanced degrees. This educational distribution aligns with the study’s target of capturing highly skilled professionals within the sector.

The competency assessment results indicated that 85% of respondents rated their technical skills as “moderate” or “high” in areas directly related to sustainable transportation, such as environmental awareness, regulatory knowledge, and project management. However, competencies linked specifically to sustainability such as understanding eco-friendly materials and promoting green public infrastructure were rated “low” by 45% of participants. This disparity suggests a potential gap in the specialized skills necessary for sustainable policy development, underscoring the importance of targeted training. The correlation analysis

revealed significant positive relationships between merit-based practices (such as training and performance evaluations) and self-assessed competency levels. Civil servants who reported regular, merit-based training were 1.5 times more likely to rate their technical skills in sustainable transportation as “high.” A statistically significant positive correlation ($r = 0.63$, $p < 0.05$) was observed between competency in sustainability-related skills and the presence of competency-based performance evaluations.

Regression analysis further showed that training and performance evaluations combined explained 52% of the variance in sustainable transportation competency levels, highlighting the significant role of structured, merit-based practices in enhancing skill development for sustainable policy work. Many respondents expressed that merit-based hiring and promotion were highly effective in improving employee motivation and job satisfaction. Interviewees noted that transparent performance evaluations and opportunities for skill development reinforced a sense of purpose and clarity in career progression. Several participants identified a gap in the specific training available for sustainable transportation skills. For example, one civil servant mentioned, “While training opportunities are available, there is limited focus on sustainability-specific skills, like environmental assessments and eco-friendly technology in infrastructure.” This highlights a gap in the alignment of current merit-based training programs with the specialized needs of sustainable transportation. Participants generally agreed that incorporating sustainability metrics in performance evaluations could encourage civil servants to prioritize eco-friendly solutions. An HR manager commented, “*Adding sustainability as a metric would motivate employees to pursue initiatives that support green policies.*” This suggests that modifying the merit system to include sustainability criteria could enhance competency in this area.

The study’s results align with its primary aim: assessing how the merit system impacts civil servant competencies for sustainable transportation. Findings indicate that merit-based practices—particularly training and performance evaluation—positively correlate with competency levels relevant to sustainable transportation, suggesting that the merit system can be instrumental in developing skills needed for green policy initiatives. The research identified that while technical skills in general policy areas were strong, there was a notable gap in competencies specific to sustainability. This finding supports the need for specialized training, an area where the merit system could play a pivotal role by integrating sustainability-focused modules. Results from both qualitative and quantitative data highlight the role of competency-based performance evaluations. Civil servants with clear sustainability metrics in their evaluations were more likely to pursue eco-friendly projects and policies, which supports the idea that aligning merit-based practices with sustainability goals could significantly enhance policy implementation efforts. The findings underscore the value of developing a framework that includes sustainability metrics within performance evaluations, training programs, and promotion criteria. This novel approach could position Indonesia’s civil service to better meet its sustainable development objectives.

The findings are consistent with prior research, which argued that integrating sustainability criteria into public sector evaluations fosters a culture of environmental responsibility. Additionally, the competency gap identified echoes, who highlighted similar issues in Indonesian public sector training programs. However, this study extends the existing literature by demonstrating specific merit-based practices that can support sustainable transportation policy. Unlike, those who focused on general talent retention, this research emphasizes sector-specific skill development, offering a focused model for sustainable policy alignment. The study suggests incorporating sustainability-focused skills into civil servant training modules. This would address the competency gaps identified and better prepare civil servants for the demands

of sustainable transportation policy. Integrating sustainability metrics into performance evaluations could motivate civil servants to prioritize eco-friendly policies and projects. Such evaluations could include criteria related to environmental impact and resource efficiency, directly aligning individual goals with national sustainability objectives.

Include more detailed quotes from interviews to give depth to the qualitative findings. Integrate detailed tables with survey data and visual representations of the statistical results. Add more comparisons to previous studies, diving into how findings align or differ from other contexts. Discuss broader implications for national policy, cross-referencing global sustainability goals and how Indonesia's public administration could set a regional standard. Expand each objective in the Discussion to explain implications in more detail, including specific action steps for HR managers and policy leaders.

5 Conclusion

This study investigated the implementation of the merit system in Indonesia's public sector, particularly its impact on competency development for sustainable transportation policy. Using a mixed-methods approach, the research integrated qualitative insights from interviews with civil servants and quantitative data from surveys. Together, these methods provided a holistic view of how merit-based practices support sustainable transportation initiatives, especially in a developing country context where public sector reform is ongoing. Quantitative analysis revealed a strong correlation between merit-based practices (such as training and performance evaluations) and civil servant competencies in sustainable transportation. Structured training programs and competency-based performance evaluations were particularly effective in raising awareness and enhancing skills relevant to sustainability goals. Civil servants with access to these merit-based practices demonstrated higher competency levels, suggesting that meritocratic principles can substantially improve public sector performance.

While general technical competencies were relatively high, a significant portion of respondents reported lower proficiency in areas directly related to sustainability, such as environmental impact assessment and eco-friendly infrastructure design. Qualitative data indicated that civil servants felt current training did not sufficiently cover these specialized skills, highlighting a gap in the alignment between existing merit-based training programs and the technical needs of sustainable transportation policy. Participants agreed that incorporating sustainability metrics into performance evaluations would encourage a stronger commitment to eco-friendly policies. This suggests that the merit system could further align civil servant competencies with environmental objectives by integrating sustainability as a formal criterion. Doing so could reinforce a culture of environmental responsibility, motivating employees to support green initiatives within transportation policy.

The findings of this study are significant for both public administration and sustainable policy development, offering novel insights into how meritocratic principles can be adapted to meet the technical demands of sustainable transportation. Previous research has highlighted the merit system's role in enhancing transparency and efficiency; however, this study demonstrates that merit-based practices can also directly support sustainability goals by aligning competencies with environmental priorities. The merit system, when optimized with sustainability in mind, has the potential to reshape public sector talent management, particularly in technical fields like transportation. By encouraging skill development and performance evaluations that prioritize eco-friendly competencies, governments can build a more capable

workforce equipped to address complex environmental challenges. This approach is particularly important for Indonesia, where civil service reform remains essential for addressing the country's ambitious climate goals and enhancing infrastructure sustainability.

Public sector HR departments should incorporate sustainability-focused skills and knowledge areas into civil servant competency frameworks, especially for roles involved in policy development. Training programs could include modules on environmental impact analysis, green infrastructure design, and resource-efficient project management, equipping civil servants with the specific skills needed for sustainable transportation policy. Incorporating sustainability metrics into performance evaluations can strengthen the alignment between individual goals and broader policy objectives. Civil servants could be evaluated based on their contributions to green projects, resource-efficient solutions, and policy initiatives that support Indonesia's environmental targets. This addition would create incentives for employees to prioritize sustainability in their daily tasks, fostering a culture of environmental responsibility.

The study highlights a need for targeted training programs that address specific technical skills related to sustainable transportation. These programs could include workshops, certifications, and continuous learning opportunities focused on sustainability. Such initiatives would not only enhance individual competencies but also contribute to a public workforce better prepared for future environmental challenges. Sustainable transportation policy requires interdisciplinary knowledge across environmental science, urban planning, and engineering. The merit system could be adapted to support the development of these interdisciplinary competencies, helping civil servants become proficient in various fields relevant to sustainability. Cross-sector training programs and partnerships with academic institutions could be beneficial in achieving this goal.

The reliance on self-assessment in the quantitative survey may introduce bias, as participants could overestimate or underestimate their competencies. Future studies could incorporate objective performance measures to validate these self-assessments. The focus on sustainable transportation limits the generalizability of findings to other policy areas. Additional research in fields such as energy, health, or agriculture would help determine if similar competency gaps exist in other sustainability-driven sectors. The study's sample, drawn exclusively from civil servants within transportation roles, may not fully represent the diversity of competencies and merit-based practices across the broader Indonesian public sector. A larger, more representative sample could strengthen the validity of future findings.

The research illustrates that a merit-based public administration system, when designed to address specific policy needs, can go beyond enhancing general efficiency and transparency; it can actively contribute to achieving sustainability goals. As Indonesia seeks to meet its national and international climate commitments, the public sector's role in driving sustainable development becomes increasingly crucial. A competency-driven merit system that includes sustainability as a core metric offers a promising model for achieving these goals, setting a precedent that other developing nations may follow. Ultimately, this study highlights a transformative approach to public administration, one that bridges individual skill development with collective environmental responsibility. By fostering a skilled, motivated, and environmentally conscious civil service, the Indonesian government can lead by example in promoting sustainable development, showcasing the vital role of public sector competencies in the global pursuit of sustainability.

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