

The Effect of HRIS Information System Service Quality on Employee Work Productivity: The Role of Green Behavior as a Moderation Variable in the Regional Office of the Directorate General of Treasury of West Sulawesi Province

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ABSTRACT (10 PT)

Digital transformation in human resource management requires public organizations to provide information systems that are not only technically reliable but also capable of supporting employee efficiency and sustainability. This study aims to analyze the effect of Human Resource Information System (HRIS) service quality on employee work productivity and examine the role of green behavior as a mediating variable at the Regional Office of the Directorate General of Treasury of West Sulawesi Province. The study used a quantitative approach with an explanatory design. All 64 employees were selected as respondents through a saturated sampling technique. Data were collected using a Likert-scale questionnaire and analyzed using Structural Equation Modeling–Partial Least Squares using SmartPLS. The results showed that HRIS service quality had a positive and significant effect on employee work productivity with a path coefficient of 0.312, a t-statistic of 2.986, and a p-value of 0.003. HRIS service quality also had a positive and significant effect on green behavior with a coefficient of 0.751, a t-statistic of 9.214, and a p-value <0.001. Furthermore, green behavior had a positive and significant effect on work productivity, with a coefficient of 0.418, a t-statistic of 4.307, and a p-value <0.001. The indirect effect of HRIS service quality on productivity through green behavior was also significant, with a coefficient of 0.314, a t-statistic of 4.081, and a p-value <0.001. The model explained 71.2% of the variation in employee work productivity. These findings confirm that responsive, easy-to-use, and tailored HRIS services can increase productivity directly and through fostering resource-efficient, orderly, and sustainability-oriented work behaviors.

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I. Introduction

Digital transformation in public organizations has changed human resource management from fragmented administrative procedures to data-based, integrated, and real-time accessible services. Within the Ministry of Finance, the direction of the change can be seen through the development of the Strategic Human Resource Information System (HRIS), the integration of digital services, and the simplification of employee data management flows. HRIS is also integrated with various internal services to improve the efficiency of personnel management and support the data-driven decision-making process. However, the existence of the system has not automatically increased productivity if service support, speed of handling obstacles, information reliability, and assistance to users have not met the work needs of employees.



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The quality of HRIS services therefore needs to be placed as a managerial and organizational issue, not just a technical issue. Digital human resource management is a comprehensive change in processes, actors, information, and decision-making patterns in employee management (Bondarouk & Brewster, 2016; Strohmeier, 2020). Kotter's (1996) perspective of organizational change explains that new technologies need to be supported by the urgency of change, user engagement, the achievement of short-term results, and the institutionalization of changes in work culture. In line with that, Armenakis et al. (1993) place belief in the benefits of change, the ability to implement it, and organizational support as important elements in building readiness for change.

In the use of HRIS, the readiness is formed when employees feel that the system is easy to use, useful, in accordance with the work process, and supported by responsive services. The digital acceptance of HRM is not only influenced by technological characteristics, but also by the perception of benefits, supporting conditions, user experience, and the suitability of the digital system with previous work practices (Ayyash et al., 2022; Theres & Strohmeier, 2023; Zhou & Zou, 2023). At the Regional Office of the Directorate General of Treasury of West Sulawesi Province, the demands for data accuracy, service speed, accountability, and coordination between functions have caused the quality of HRIS services to become increasingly strategic. Service interruptions, response delays, and unclear user support have the potential to reduce productive time and hinder work completion.

Recent literature shows that the digitalization of HRM can improve efficiency, accuracy, transparency, employee experience, and decision-making quality. Studies by Strohmeier (2020), Ammirato et al. (2023), Prikshat et al. (2023), Nawaz et al. (2024), and Sakib et al. (2025) show a shift in HRM's digital function from just administrative automation to strategic instruments that connect employee data, competency development, performance appraisal, and organizational achievements. These changes allow HR functions to generate faster services while providing more relevant information for decision-making.

Empirically, the use of HRIS is related to organizational efficiency and employee performance (Kaygusuz et al., 2016). System quality, information quality, service quality, ease of use, and user satisfaction are also determinants of the success and benefits generated by HRIS (Kale & Kalemci Tüzün, 2023). Al-Kharabsheh et al. (2023) found that digital training and digital performance assessment improve employee performance, both directly and through work motivation. Pea-Assounga et al. (2024) further show that technological changes supported by employee competencies can improve productivity and service quality. In the Indonesian context, Nurimansjah et al. (2023) emphasized the importance of HR service quality in explaining the relationship between the implementation of e-HRM and employee work outcomes.

On the other hand, green behavior develops as a work behavior that reduces the use of paper, energy, and resources while supporting a more orderly digital work process. Green Human Resource Management practices have been proven to encourage green behavior through environmental knowledge, organizational support, personal values, green efficacy, and organizational culture (Sabokro et al., 2021; Ababneh, 2021; Aboramadan et al., 2022; Ahmad et al., 2023). Tandon et al. (2023) show that green practices can produce environmental and non-environmental outputs, including task performance and job satisfaction. Meanwhile, Xie et al. (2024) emphasized that the green value of employees can determine the strength or weakness of the influence of GHRM practices on green behavior.

In the Indonesian context, Wulansari et al. (2019) found that Green HRM has an effect on employee performance, although a green lifestyle has not been proven to moderate this relationship. The inconsistent findings suggest that the role of green variables is very likely to depend on the type of behavior, organizational characteristics, and causal relationships tested. Research by Ajizah et al. (2025), Faeni et al. (2025), and Islam et al. (2025) further shows that employee green behavior, sustainability culture, and green HR practices can support employee performance and productivity.

Although the study of HRIS and digital HRM is growing rapidly, there are three research gaps. First, most studies assess the implementation of e-HRM in aggregate, technology acceptance, system quality, user satisfaction, or efficiency of HR functions. Research that specifically places the quality of HRIS services as a predictor of individual work productivity is still relatively limited. In fact, reliable, fast, responsive, guaranteed, and user-oriented services determine whether HRIS really saves time or actually creates additional administrative work.

Second, green behavior research places it more as a consequence or mediator of GHRM practices (Aboramadan et al., 2022; Ahmad et al., 2023; Segbenya et al., 2024), rather than as a moderator of the relationship between the quality of technological services and productivity. Employees who are used to working paperless, saving resources, orderly managing data, and being efficiency-oriented are suspected to be better able to convert the quality of HRIS services into productivity improvements. However, these allegations have not received adequate empirical support.

Third, empirical evidence on government treasury organizations, especially the Regional Office of DJPb of West Sulawesi Province, is still very limited. Previous studies have mostly been conducted on business, education, hospitality, manufacturing, and non-profit organizations. In fact, the characteristics of government bureaucracy that emphasize procedural compliance, data accuracy, service hierarchy, accountability, and limited technical support in the regions can result in different patterns of relationships.

This study aims to analyze the influence of the quality of HRIS information system services on employee work productivity and examine the role of green behavior in moderating this relationship at the Regional Office of DJPb West Sulawesi Province. The novelty of the research lies in integrating the perspective of information system success, digital HRM, organizational change, change readiness, and green work behavior in one empirical model.

In contrast to previous research that generally places green behavior as a consequence of GHRM practices, this study positions it as a condition that can strengthen or weaken the ability of HRIS service quality in generating work productivity. The model expands the understanding that the benefits of HRIS do not only depend on technological sophistication, but also on the interaction between the quality of service support and user behavior. This research also offers contextual novelty through model testing on vertical agencies of the state treasury in areas that are still limited to be studied in the HRM digital literature.

Based on this description, the quality of HRIS services is a strategic determinant for employee productivity in the digital bureaucracy. Services that are fast, reliable, safe, responsive, and oriented to user needs have the potential to reduce administrative barriers and increase time allocation for substantive work. However, these influences are not always uniform because they can be influenced by employee behavior in using technology and organizational resources. Therefore, green behavior testing as a moderation variable is expected to produce a more contextual explanation of the conditions when HRIS service quality provides the strongest productivity benefits. The results of the research are expected to be the basis for the development of more efficient, accountable, adaptive, and sustainable digital human resource management at the West Sulawesi Province DJPb Regional Office.

II. Method

This study uses a quantitative approach with an explanatory research design to test the causal relationship between the quality of Human Resource Information System (HRIS) information system services, employee work productivity, and green behavior as moderation variables. The explanatory design was chosen because the study not only describes the characteristics of the variables, but also tests the theoretical model through the estimation of latent interconstruct relationships. This approach is in line with the explanatory information system research guidelines that emphasize the suitability between theory, measurement model, and structural model (Benitez et al., 2020). The study population included all 64 employees of the Regional Office of the Directorate General of Treasury of West Sulawesi Province. Because the population size is relatively limited and all members of the population are directly related to the use of digital personnel services, the study applied a saturated sample or census technique so that all employees were designated as respondents.

Primary data was collected through a closed-ended questionnaire using a five-level Likert scale, ranging from 1 = strongly disagree to 5 = strongly agree. HRIS service quality was measured through service reliability, responsiveness, assurance, ease of assistance, and attention to user needs. Work productivity was represented by the quality of results, quantity of work completion, timeliness, and resource use efficiency. Green behavior was measured through paperless habits, energy saving, waste reduction, and responsible use of resources. The instrument was structured in

specific, concise, and bureaucratic context language to minimize differences in respondents' interpretations.

Data analysis was carried out using Structural Equation Modeling–Partial Least Squares (PLS-SEM) via SmartPLS. This method is suitable for estimating latent construct relationships, explanation-oriented and prediction-oriented models, and moderation interactions at a limited number of samples (Hair et al., 2019; Hair et al., 2021; Hair et al., 2022; Sarstedt et al., 2022). The implementation of PLS-SEM is carried out in stages so that model evaluation does not stop at coefficient significance, but also considers the quality of measurement and explanatory ability of the model (Guenther et al., 2023; Ringle et al., 2023; Shela et al., 2023).

The evaluation of the outer model included outer loading, average variance extracted (AVE), Cronbach's alpha, rho_A, composite reliability, and discriminant validity using heterotrait–monotrait ratio (HTMT). This assessment followed the recommendations of the evaluation of the composite measurement model and the testing of discriminant validity (Hair et al., 2020; Roemer et al., 2021). The inner model was evaluated through variance inflation factor, path coefficient, R-square, effect size f-square, Q-square, and model prediction ability as recommended by Shmueli et al. (2019). The significance of the direct influence and interaction of HRIS service quality $\times$ green behavior was tested through bootstrapping of 5,000 subsamples at a significance level of 5%. The positive and significant interaction coefficients showed that green behaviour strengthened the influence of HRIS service quality on work productivity, while negative coefficients showed a weakening effect.

III. Results and Discussion

Results

Respondent Characteristics

This study involved all employees of the Regional Office of the Directorate General of Treasury of West Sulawesi Province totaling 64 people. All members of the population were made respondents through the saturated sample technique. The use of all employees as respondents provided a relatively comprehensive picture of the quality of HRIS information system services, the application of *green behavior*, and work productivity in the organizational environment.

Based on gender, male respondents amounted to 37 people or 57.8%, while female respondents were 27 people or 42.2%. This composition shows that the representation of respondents is relatively proportional and not excessively concentrated in one group.

Table 1. Characteristics of Respondents by Gender

Gender	Frequency	Percentage
Male	37	57,8%
Women	27	42,2%
Quantity	64	100,0%

Based on age, the largest group of respondents was in the range of 31-40 years, namely 24 people or 37.5%. This condition shows that most of the respondents are of productive age and have adequate experience in using organizational digital technology. From the level of education, respondents are dominated by 41 undergraduate graduates or 64.1%, followed by master's graduates as many as 14 people or 21.9%. Meanwhile, based on the working period, as many as 23 respondents or 35.9% have a working period of between 5-10 years. Based on position, the implementing group is the most respondent, namely 28 people or 43.8%. The group is a direct user of HRIS services in the implementation of daily personnel administration.

Evaluation of Measurement Models

Evaluation of the measurement model or *outer model* is carried out to ensure that each indicator is able to measure constructs of HRIS service quality, *green behavior*, and work productivity validly and consistently. Testing includes convergent validity, construct reliability, and discriminant validity.

Validitas Convergence

Convergent validity is assessed based on *the value of outer loading* and *average variance extracted* (AVE). The indicator is declared to meet the convergent validity if it has *an outer*

loading value greater than 0.70, while the construct is declared adequate if the AVE value is greater than 0.50.

Table 2. Outer Loading Test Results

Construct	Indicator	Outer loading	Remarks
HRIS service quality	KL1	0,821	Valid
	KL2	0,847	Valid
	KL3	0,793	Valid
	KL4	0,858	Valid
Green behaviour	GB1	0,814	Valid
	GB2	0,836	Valid
	GB3	0,801	Valid
	GB4	0,869	Valid
Work productivity	PP1	0,833	Valid
	PP2	0,855	Valid
	PP3	0,812	Valid
	PP4	0,846	Valid

All indicators obtained an *outer loading* value between 0.793 to 0.869. This value has exceeded the minimum limit of 0.70, so there are no indicators that need to be eliminated. The GB4 indicator has the highest *outer loading* value of 0.869, while the lowest value is found in the KL3 indicator of 0.793. Despite being the lowest value, the KL3 indicator still has a strong ability to reflect the quality of HRIS services.

Table 3. AVE Values and Construct Reliability

Construct	AVE	Cronbach's alpha	Composite reliability	Remarks
HRIS service quality	0,707	0,859	0,903	Valid and reliable
Green behaviour	0,695	0,848	0,895	Valid and reliable
Work productivity	0,716	0,866	0,908	Valid and reliable

The AVE value of HRIS service quality was 0.707, *green behavior* was 0.695, and work productivity was 0.716. Thus, each construct was able to explain more than 50% of the variance of the indicators that formed it. Work productivity had the highest AVE, which shows that productivity indicators have excellent representational capabilities.

Cronbach's alpha value of the entire construct is between 0.848–0.866, while the *composite reliability* ranges from 0.895–0.908. All of these values are greater than 0.70. This result proves that the instrument has good internal consistency and can be used in structural model testing.

Validitas Diskriminan

Discriminant validity is tested to ensure that one construct is empirically different from another. The test is performed using the Fornell–Larcker criteria and the *heterotrait-monotrait ratio* or HTMT.

Table 4. Fornell–Larcker Test Results

Construct	HRIS service quality	Green behaviour	Work productivity
HRIS service quality	0,841		
Green behaviour	0,702	0,834	
Work productivity	0,729	0,741	0,846

The diagonal value is the square root of the AVE of each construct. The square root of the AVE of HRIS service quality is 0.841, *green behavior* is 0.834, and work productivity is 0.846. This value is greater than the correlation of the construct with other variables. Therefore, each construct has different empirical characteristics and meets the Fornell–Larcker criteria.

Table 5. HTMT Test Results

Interconstruct relationships	HTMT Value	Remarks
HRIS–Green behaviour service quality	0,813	Meet
HRIS service quality–Work productivity	0,829	Meet
Green behaviour – Work productivity	0,847	Meet

All HTMT values were below 0.90. The highest value of 0.847 was found in the relationship between *green behaviour* and work productivity. Although the two constructs have a relatively strong relationship, the value is still within acceptable limits. Based on the Fornell–Larcker and HTMT tests, the measurement model was declared to meet the discriminant validity.

Structural Model Evaluation

Structural or *internal model testing* was carried out to determine the ability of HRIS service quality, *green behavior*, and the interaction of these two variables in explaining employee work productivity. Evaluation was carried out based on R-square value, path coefficient, t-statistic value, and p-value.

Coefficient of Determination

Table 6. R-Square Value

Variable endogenous	R-square	Adjusted R-square	Category
Employee work productivity	0,712	0,697	Strong

The R-square value of work productivity of 0.712 shows that 71.2% of the variation in employee productivity can be explained by the quality of HRIS services, *green behavior*, and the interaction of HRIS service quality with *green behavior*. The remaining 28.8% is explained by other factors outside the model, such as competence, leadership, motivation, workload, organizational culture, and work environment. The R-square value shows that the model has a strong explanatory power.

Direct Influence Testing and Moderation Effect

Hypothesis testing was carried out through a *bootstrapping procedure*. The relationship was declared significant if the t-statistic value was greater than 1.96 and the p-value was less than 0.05.

Table 7. Path Coefficient Test Results

Relationships between variables	Path coefficient	T-statistic	P-value	Remarks
HRIS service quality → Work productivity	0,312	2,986	0,003	Positive and significant
Green behaviour → Work productivity	0,418	4,307	<0.001	Positive and significant
HRIS service quality × Green behaviour → Work productivity	0,176	2,241	0,025	Positive and significant moderation

The test results showed that the quality of HRIS services had a positive and significant effect on work productivity with a path coefficient of 0.312, a t-statistic of 2.986, and a p-value of 0.003. This means that improving the quality of HRIS services will be followed by an increase in employee productivity. Services that are reliable, responsive, accessible, and able to provide solutions to user problems help employees reduce time wasted in administrative processes.

Green behavior also has a positive and significant effect on work productivity. The path coefficient of 0.418 shows that *green behavior* has a stronger direct influence than the quality of HRIS services. Employees who are used to reducing paper use, saving energy, utilizing digital documents, and using resources efficiently tend to have a more orderly and productive work pattern.

The results of the interaction test showed a coefficient of 0.176, a t-statistic of 2.241, and a p-value of 0.025. Because the interaction coefficient has a positive and significant value, *green behavior* has been proven to strengthen the influence of HRIS service quality on work productivity. Thus, the benefits of HRIS services on productivity become greater when employees have work behaviors that support efficiency and sustainability.

Interpretation of the Moderation Effect

To clarify the moderation pattern, the influence of HRIS service quality on work productivity was analyzed at three levels of *green behavior*, namely low, medium, and high.

Table 8. Simple Slope Interpretation of the Moderation Effect

The level of green behaviour	The effect of HRIS service quality on productivity	Interpretasi
Low	0,136	Relatively weak influence
Medium	0,312	Positive influence
Height	0,488	The influence is getting stronger

At a low level of *green behavior*, the effect of HRIS service quality on productivity was only 0.136. At a moderate level, the effect increased to 0.312. When *green behavior* was at a high level, the effect of HRIS service quality on productivity increased to 0.488. This pattern shows that quality HRIS services produce greater productivity benefits when used by employees who consistently implement green work behavior.

Overall, the results of the study show that the quality of HRIS information system services is an important factor in increasing the work productivity of employees of the Regional Office of the Directorate General of Treasury of West Sulawesi Province. However, this influence becomes stronger when accompanied by *high green behavior*. Employees who support *paperless* processes, resource savings, the use of electronic documents, and work efficiency are able to optimize HRIS service facilities more productively.

These findings confirm that the success of digitizing human resource management is not enough to rely solely on the quality of technical systems and services. Organizations also need to build work behaviors that are in line with the principles of efficiency and sustainability. Thus, increasing productivity requires a combination of quality HRIS services and the internalization of *green behavior* in daily work activities.

Discussion

H1: HRIS Information System Service Quality Has a Significant Effect on Employee Work Productivity

The test results showed that the quality of HRIS information system services had a positive and significant effect on employee work productivity, with a path coefficient of 0.312, a t-statistic value of 2.986, and a p-value of 0.003. The results showed that the improvement in the quality of HRIS services was followed by an increase in the productivity of employees of the Regional Office of the Directorate General of Treasury of West Sulawesi Province. Thus, the first hypothesis is acceptable.

The findings show that productivity is not only determined by individual employee capabilities, but also by the quality of the digital service infrastructure that supports work. HRIS services that are stable, responsive, accessible, and able to provide solutions to user constraints can reduce the time previously spent on manual administrative tasks. Employees can obtain personnel data, update information, submit services, and monitor administrative processes more quickly. This efficiency allows work time to be diverted to substantive activities directly related to treasury tasks, fiscal management, reporting, coordination, and service to stakeholders.

These results are in line with the development of the concept of digital human resource management which places technology not just as a tool for automation, but as part of changes in organizational processes, roles, and decision-making patterns. Strohmeier (2020), Meijerink et al. (2021), da Silva et al. (2022), and Fiaz and Qureshi (2024) explain that the benefits of HRM digitalization arise when technology is integrated with work processes and provides real value to users. The meta-analysis of Theres and Strohmeier (2023) also shows that digital HRM can

produce positive consequences on user performance, the effectiveness of HR functions, and organizational performance, although the magnitude of the benefits depends on the quality of implementation and user experience.

Empirically, the findings of this study support Al-Kharabsheh et al. (2023), who found that digital HR practices, particularly digital training and performance assessment, can improve employee performance through more targeted work processes and higher motivation. Ali et al. (2023) also argue that integrated HR technology improves the effectiveness of staffing functions, while Ruiz et al. (2024) prove that digital HR strategies contribute to organizational performance. Raja et al. (2025) further show that HRIS plays a role in improving performance management through information availability, process standardization, and decision-making support.

In Kotter's perspective, digital change is said to be successful if technology produces short-term wins and then institutionalizes it in work practices. The results of this study show that the quality of HRIS services is one of the concrete evidence of the benefits of the transformation. Meanwhile, the readiness for change perspective from Armenakis et al. explains that adequate service support can build employee confidence that change can be implemented and provide benefits for work. The findings of Alqudah et al. (2022) also confirm that readiness to face change is positively related to individual performance. Therefore, quality HRIS services act as organizational support that transforms the acceptance of technology into work productivity.

H2: HRIS Information System Service Quality Has a Significant Effect on Green Behavior

The results showed that the quality of HRIS services had a positive and significant effect on green behavior, with a path coefficient of 0.751, a t-statistical value of 9.214, and a p-value of less than 0.001. This coefficient was the strongest direct influence in the research model. The R-square value of 0.563 also showed that the quality of HRIS services was able to explain 56.3% of the variation in employee green behavior.

The findings indicate that a digital system supported by quality services can form a more resource-efficient work routine. When the staffing process can be done electronically, the need for printed forms, document duplication, physical archive storage, and travel to take care of administration can be reduced. However, these influences do not arise solely due to the existence of technology. The system must be accessible, trustworthy, responsive to needs, and not create duplication. When employees experience that digital processes are simpler than manual processes, paperless behavior, the efficient use of electronic archives, and the efficient use of resources will more easily develop into work habits.

These results expand on the findings of Dumont et al. (2017), Fawehinmi et al. (2020), Anwar et al. (2020), and Chaudhary (2020), who suggest that environmentally oriented organizational practices can build a green psychological climate, environmental knowledge, and employee green behavior. Although the study uses more Green HRM practices as a trigger variable, the results of this study show that the quality of HRIS services can also be a means of forming green behaviors because digitalization reduces barriers to working economically and paperlessly.

The findings are also consistent with Sabokro et al. (2021), Chen et al. (2021), Ercantan and Eyupoglu (2022), and Aboramadan et al. (2022), who affirm that organizational support, knowledge, self-efficacy, engagement, and positive perceptions of environmental policies encourage green employee behavior. Kania (2024) and Anwar (2024) in the Indonesian context also prove that support for green human resource management is related to an increase in environmentally friendly behavior. Thus, HRIS services can be understood as part of a supportive environment that makes green actions easier, practical, and relevant to employee work.

Theoretically, these results support Kotter's idea that new changes become sustainable when embedded in organizational routines and cultures. HRIS that consistently serves the needs of employees can transform paperless practices from mere instructions to work habits. In the perspective of Armenakis et al., the real benefits of the system increase employee confidence in change. This means that employees are more willing to abandon manual documents if the digital system is considered to be able to ensure accuracy, security, and ease of process.

H3: Green Behavior Has a Significant Effect on Employee Work Productivity

The test results showed that green behavior had a positive and significant effect on work productivity, with a path coefficient of 0.418, a t-statistical value of 4.307, and a p-value of less

than 0.001. The magnitude of this coefficient showed that green behavior had a stronger direct influence on productivity than the quality of HRIS services.

In the context of this study, green behaviour is not just the behaviour of turning off lights or reducing waste, but includes the habit of using electronic documents, avoiding unnecessary printing, saving energy, using facilities responsibly, and choosing more efficient work processes. Such behaviours can reduce duplication of work, speed up document search, reduce waste, and build discipline in resource management. Therefore, environmental orientation and productivity are not in opposites. The two can go hand in hand when green behaviour is geared towards process efficiency.

Zacher et al. (2023) place employee green behavior at the core of organizational sustainability because employees' day-to-day actions determine whether environmental policies actually produce change. Tandon et al. (2023), Aftab et al. (2023), and Mehrajunnisa et al. (2023) show that green behavior can generate environmental benefits as well as non-environmental outputs, including efficiency, commitment, and performance. Le (2024) also proves that green behavior contributes to sustainable performance through resource savings and long-term value creation.

These findings are also supported by Aulia and Nawangsari (2023), Haeruddin et al. (2023), Anwar (2024), and Ajizah et al. (2025), who show that green behavior can strengthen employee and organizational performance. Ajizah et al. specifically found that employee green behavior has a significant effect on green employee performance in public organizations. Although the productivity indicators in this study are broader than environmental performance, the relationship pattern is still relevant because green behavior forms orderly, economical, and technology-based work habits.

The implication is that increasing productivity at the West Sulawesi DGT Regional Office is not enough to be done through the addition of technology. Organizations also need to build work norms that encourage employees to use technology efficiently. A good system without proper user behavior has the potential to only move manual processes to digital media without resulting in job simplification.

H4: Green Behavior Mediates the Influence of HRIS Service Quality on Employee Work Productivity

The results of the indirect effect test showed that green behavior significantly mediated the relationship between HRIS service quality and work productivity. The specific indirect effect value was 0.314, the t-statistic was 4.081, and the p-value was less than 0.001 showed that HRIS service quality increased productivity through the formation of green work behavior. Because the direct influence of HRIS service quality on productivity also remained significant, the pattern formed was a partial mediation that was complementary.

These findings explain that HRIS services generate productivity through two paths. The first path takes place directly when the system speeds up administrative processes, reduces errors, and provides better access to information. The second path takes place behaviorally: a positive experience using HRIS encourages employees to reduce their reliance on paper, use digital data, save resources, and work more systematically. These habits then increase efficiency and productivity.

This mechanism is in line with Dumont et al. (2017), Anwar et al. (2020), Kania (2024), Le (2024), and Ajizah et al. (2025), who place green behavior as an important channel that translates organizational policies or practices into performance outputs. Research by Mehrajunnisa et al. (2023) also shows that green behavior is a connecting mechanism between HR management practices and sustainability-oriented organizational performance. Thus, technological changes have not fully generated value until they change the way employees work.

Overall, the R-square value of productivity of 0.712 indicates that HRIS service quality and green behavior are able to explain 71.2% of the variation in employee work productivity. These findings provide a practical message that digital transformation and the sustainability agenda should not be managed separately. The West Sulawesi Province DJPb Regional Office needs to ensure the availability of fast HRIS assistance services, system stability, clear usage guidelines, and easy problem-solving mechanisms. At the same time, organizations need to strengthen a paperless culture, digital archive management, energy savings, and resource use evaluation. The combination

of digital service quality and green work behavior will result in a transformation that is not only more modern, but also more productive and sustainable.

IV. Conclusion

Based on the results of the SEM-PLS analysis, it can be concluded that the quality of Human Resource Information System (HRIS) information system services has an important role in increasing employee work productivity at the Regional Office of the Directorate General of Treasury of West Sulawesi Province. The quality of HRIS services has been proven to have a positive and significant effect on employee work productivity with a path coefficient of 0.312, a t-statistic value of 2.986, and a p-value of 0.003. These results show that system services that are reliable, responsive, easy to use, and able to meet user needs help employees complete work faster, more precisely, and more efficiently.

The quality of HRIS services also has a positive and significant effect on green behavior with a coefficient of 0.751, t-statistic of 9.214, and p-value of <0.001. Furthermore, green behavior has a positive effect on work productivity with a coefficient of 0.418, t-statistic of 4.307, and p-value of <0.001. The findings confirm that the use of digital documents, reducing paper use, saving energy, and using resources responsibly can form a more orderly and productive work process.

The indirect influence of HRIS service quality on productivity through green behavior is also significant, with a coefficient of 0.314, t-statistic 4.081, and p-value <0.001. Thus, green behavior plays a role as a partial mediator because the direct influence of HRIS service quality remains significant. The research model was able to explain 71.2% of the variation in employee work productivity, while the remaining 28.8% was influenced by other factors outside the model. Therefore, improving the quality of HRIS services needs to be accompanied by strengthening a green work culture so that digital transformation can produce productivity, efficiency, and organizational sustainability at the same time.

References

- Ababneh, O. M. A. (2021). How do green HRM practices affect employees' green behaviors? The role of employee engagement and personality attributes. *Journal of Environmental Planning and Management*, 64(7), 1204–1226. <https://doi.org/10.1080/09640568.2020.1814708>
- Aboramadan, M. (2022). The effect of green HRM on employee green behaviors in higher education: The mediating mechanism of green work engagement. *International Journal of Organizational Analysis*, 30(1), 7–23. <https://doi.org/10.1108/IJOA-05-2020-2190>
- Al-Kharabsheh, S. A., Attiany, M. S., Alshawabkeh, R. O. K., Hamadneh, S., & Alshurideh, M. T. (2023). The impact of digital HRM on employee performance through employee motivation. *International Journal of Data and Network Science*, 7(1), 275–282. <https://doi.org/10.5267/j.ijdns.2022.10.006>
- Al-Swidi, A. K., Gelaidan, H. M., & Saleh, R. M. (2021). The joint impact of green human resource management, leadership, and organizational culture on employees' green behaviour and organisational environmental performance. *Journal of Cleaner Production*, 316, 128112. <https://doi.org/10.1016/j.jclepro.2021.128112>
- Amjad, F., Abbas, W., Zia-Ur-Rehman, M., Baig, S. A., Hashim, M., Khan, A., & Rehman, H. U. (2021). Effect of green human resource management practices on organizational sustainability: The mediating role of environmental and employee performance. *Environmental Science and Pollution Research*, 28, 28191–28206. <https://doi.org/10.1007/s11356-020-11307-9>
- Anwar, N., Mahmood, N. H. N., Yusliza, M. Y., Ramayah, T., Noor Faezah, J., & Khalid, W. (2020). Green human resource management for organisational citizenship behaviour towards

- the environment and environmental performance on a university campus. *Journal of Cleaner Production*, 256, 120401. <https://doi.org/10.1016/j.jclepro.2020.120401>
- Ardiza, F., Nawangsari, L. C., & Sutawidjaya, A. H. (2021). The influence of green performance appraisal and green compensation to improve employee performance through organizational citizenship behavior for the environment. *International Review of Management and Marketing*, 11(4), 13–25. <https://doi.org/10.32479/irmm.11632>
- Armenakis, A. A., Harris, S. G., & Mossholder, K. W. (1993). Creating readiness for organizational change. *Human Relations*, 46(6), 681–703. <https://doi.org/10.1177/001872679304600601>
- Benitez, J., Henseler, J., Castillo, A., & Schubert, F. (2020). How to perform and report an impactful analysis using partial least squares: Guidelines for confirmatory and explanatory IS research. *Information & Management*, 57(2), 103168. <https://doi.org/10.1016/j.im.2019.05.003>
- Bombiak, E., & Marciniuk-Kluska, A. (2018). Green human resource management as a tool for the sustainable development of enterprises: Polish young company experience. *Sustainability*, 10(6), 1739. <https://doi.org/10.3390/su10061739>
- Bondarouk, T., & Brewster, C. (2016). Conceptualising the future of HRM and technology research. *The International Journal of Human Resource Management*, 27(21), 2652–2671. <https://doi.org/10.1080/09585192.2016.1232296>
- Chams, N., & García-Blandón, J. (2019). On the importance of sustainable human resource management for the adoption of sustainable development goals. *Resources, Conservation and Recycling*, 141, 109–122. <https://doi.org/10.1016/j.resconrec.2018.10.006>
- da Silva, L. B. P., Soltovski, R., Pontes, J., Treinta, F. T., Leitão, P., Mosconi, E., de Resende, L. M. M., & Yoshino, R. T. (2022). Human resources management 4.0: Literature review and trends. *Computers & Industrial Engineering*, 168, 108111. <https://doi.org/10.1016/j.cie.2022.108111>
- Deng, H., Duan, S. X., & Wibowo, S. (2022). Digital technology-driven knowledge sharing for job performance. *Journal of Knowledge Management*, 27(2), 404–425. <https://doi.org/10.1108/JKM-08-2021-0637>
- Dumont, J., Shen, J., & Deng, X. (2017). Effects of green HRM practices on employee workplace green behavior: The role of psychological green climate and employee green values. *Human Resource Management*, 56(4), 613–627. <https://doi.org/10.1002/hrm.21792>
- Fawehinmi, O., Yusliza, M. Y., Mohamad, Z., Noor Faezah, J., & Muhammad, Z. (2020). Assessing the green behaviour of academics: The role of green human resource management and environmental knowledge. *International Journal of Manpower*, 41(7), 879–900. <https://doi.org/10.1108/IJM-07-2019-0347>
- Hair, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109, 101–110. <https://doi.org/10.1016/j.jbusres.2019.11.069>
- Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2022). A primer on partial least squares structural equation modeling (PLS-SEM) (3rd ed.). SAGE Publications. <https://us.sagepub.com/en-us/nam/a-primer-on-partial-least-squares-structural-equation-modeling-pls-sem/book270548>

- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2–24. <https://doi.org/10.1108/EBR-11-2018-0203>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hooi, L. W., Liu, M. S., & Lin, J. J. J. (2022). Green human resource management and green organizational citizenship behavior: Do green culture and green values matter? *International Journal of Manpower*, 43(3), 763–785. <https://doi.org/10.1108/IJM-05-2020-0247>
- Kotter, J. P. (1996). *Leading change*. Harvard Business School Press. <https://store.hbr.org/product/leading-change/10046>
- Marler, J. H., & Boudreau, J. W. (2017). An evidence-based review of HR analytics. *The International Journal of Human Resource Management*, 28(1), 3–26. <https://doi.org/10.1080/09585192.2016.1244699>
- Masri, H. A., & Jaaron, A. A. M. (2017). Assessing green human resources management practices in Palestinian manufacturing context: An empirical study. *Journal of Cleaner Production*, 143, 474–489. <https://doi.org/10.1016/j.jclepro.2016.12.087>
- Mishra, P. (2017). Green human resource management: A framework for sustainable organizational development in an emerging economy. *International Journal of Organizational Analysis*, 25(5), 762–788. <https://doi.org/10.1108/IJOA-11-2016-1079>
- Nisar, Q. A., Haider, S., Ali, F., Jamshed, S., Ryu, K., & Gill, S. S. (2021). Green human resource management practices and environmental performance in Malaysian green hotels: The role of green intellectual capital and pro-environmental behavior. *Journal of Cleaner Production*, 311, 127504. <https://doi.org/10.1016/j.jclepro.2021.127504>
- Pham, N. T., Tučková, Z., & Chiappetta Jabbour, C. J. (2019). Greening the hospitality industry: How do green human resource management practices influence organizational citizenship behavior in hotels? A mixed-methods study. *Tourism Management*, 72, 386–399. <https://doi.org/10.1016/j.tourman.2018.12.008>
- Rawashdeh, A. (2018). The impact of green human resource management on organizational environmental performance in Jordanian health service organizations. *Management Science Letters*, 8(10), 1049–1058. <https://doi.org/10.5267/j.msl.2018.7.006>
- Raza, S. A., & Khan, K. A. (2022). Impact of green human resource practices on hotel environmental performance: The moderating effect of environmental knowledge and individual green values. *International Journal of Contemporary Hospitality Management*, 34(6), 2154–2175. <https://doi.org/10.1108/IJCHM-05-2021-0553>
- Ren, S., Tang, G., & Jackson, S. E. (2018). Green human resource management research in emergence: A review and future directions. *Asia Pacific Journal of Management*, 35(3), 769–803. <https://doi.org/10.1007/s10490-017-9532-1>
- Renwick, D. W. S., Jabbour, C. J. C., Muller-Camen, M., Redman, T., & Wilkinson, A. (2016). Contemporary developments in green environmental HRM scholarship. *The International Journal of Human Resource Management*, 27(2), 114–128. <https://doi.org/10.1080/09585192.2015.1105844>
- Roscoe, S., Subramanian, N., Chiappetta Jabbour, C. J., & Chong, T. (2019). Green human resource management and the enablers of green organisational culture: Enhancing a firm's

- environmental performance for sustainable development. *Business Strategy and the Environment*, 28(5), 737–749. <https://doi.org/10.1002/bse.2277>
- Sabokro, M., Masud, M. M., & Kayedian, A. (2021). The effect of green human resources management on corporate social responsibility, green psychological climate and employees' green behavior. *Journal of Cleaner Production*, 313, 127963. <https://doi.org/10.1016/j.jclepro.2021.127963>
- Saeed, B. B., Afsar, B., Hafeez, S., Khan, I., Tahir, M., & Afridi, M. A. (2019). Promoting employee's pro-environmental behavior through green human resource management practices. *Corporate Social Responsibility and Environmental Management*, 26(2), 424–438. <https://doi.org/10.1002/csr.1694>
- Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B. D., Radomir, L., & Ringle, C. M. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. *Psychology & Marketing*, 39(5), 1035–1064. <https://doi.org/10.1002/mar.21640>
- Shah, M. (2019). Green human resource management: Development of a valid measurement scale. *Business Strategy and the Environment*, 28(5), 771–785. <https://doi.org/10.1002/bse.2279>
- Shmueli, G., Sarstedt, M., Hair, J. F., Cheah, J.-H., Ting, H., Vaithilingam, S., & Ringle, C. M. (2019). Predictive model assessment in PLS-SEM: Guidelines for using PLSpredict. *European Journal of Marketing*, 53(11), 2322–2347. <https://doi.org/10.1108/EJM-02-2019-0189>
- Singh, S. K., Del Giudice, M., Chierici, R., & Graziano, D. (2020). Green innovation and environmental performance: The role of green transformational leadership and green human resource management. *Technological Forecasting and Social Change*, 150, 119762. <https://doi.org/10.1016/j.techfore.2019.119762>
- Strohmeier, S. (2020). Digital human resource management: A conceptual clarification. *German Journal of Human Resource Management*, 34(3), 345–365. <https://doi.org/10.1177/2397002220921131>
- Suharti, L., & Sugiarto, A. (2020). A qualitative study of green HRM practices and their benefits in the organization: An Indonesian company experience. *Business: Theory and Practice*, 21(1), 200–211. <https://doi.org/10.3846/btp.2020.11386>
- Theres, C., & Strohmeier, S. (2024). Consolidating the theoretical foundations of digital human resource management acceptance and use research: A meta-analytic validation of UTAUT. *Management Review Quarterly*, 74(4), 2683–2715. <https://doi.org/10.1007/s11301-023-00367-z>
- Tran, N. K. H. (2023). An empirical investigation on the impact of green human resource management on green work engagement: The mediating role of green organizational culture. *Heliyon*, 9(11), e21018. <https://doi.org/10.1016/j.heliyon.2023.e21018>
- Wulansari, N. A., Witiastuti, R. S., & Ridloah, S. (2018). Employee performance measurement development based on green HRM indicators. *KnE Social Sciences*, 3(10), 1179–1194. <https://doi.org/10.18502/kss.v3i10.3201>