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Green HR through Digitalization: Impact of paperless HR practices on Organizational Sustainability in IT sector, Bangalore

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Abstract

This research emphases on examining the effect of paperless HR practices, made conceivable by digitalization, on organizational sustainability within the IT industry in Bangalore. In light of intensifying environmental realization and increased demands for sustainable organizational behaviour, green HRM has become substantial. Digital HR systems that decrease dependence on paper measures facilitate such efforts suggestively.

The research aims to explore employee awareness about green HRM, the application of paperless HR practices, and their effects on sustainability. Based on the review of current literature, it is found that while green HRM and digital revolution have been broadly studied, there are fewer studies regarding paperless HR practices and their impact on sustainability, particularly in the IT industry.

This research is based on primary data, which was assembled from 50 IT workers in Bangalore through a structured questionnaire and a five-point Likert Scale. Based on the results obtained, it can be said that the IT workers view digital HR activities positively, with their responses suggesting that they strongly agree with digital HR's input in minimizing paper consumption and saving resources.

From the results, it can also be said that the IT employees are largely accepting of digital HR processes, but still enjoy modest levels of understanding when it comes to the concept of Green HRM. All in all, it can be said that digital HR processes make extensive contributions to organizational sustainability.

Keywords: Green HRM, Paperless HR, Digitalization, Organizational sustainability, IT sector

Introduction

Write the content here. Line spacing 1.15 Environmental sustainability has become one of the most applicable issues in modern times. Due to the increasing pace of automation, rising greenhouse gas

emissions, and the overexploitation of natural resources, companies have been stimulated to embrace green practices. Despite the common observation that the industry sector causes momentous pollution to the environment, the IT sector is also contributing towards this problem. As such, due to an increased consumption of electricity and the use of digital systems in combination with paper materials, the environmental footprint of organizations continues to rise. As a result, more and more organizations are attempting to integrate sustainability in their organizational practices including HRM. This has led to the emergence of what is referred to as green HRM (GHM) (Agarwal et al., 2021)

The aim of green HRM is to contrivance environmentally friendly practices within various HRM measures such as recruitment, training, evaluation, and development of personnel. The determination is to stimulate individuals to accept environmentally friendly behaviour in the course of their activities. It should be noted that one of the major elements for the shift from paper-based systems to green practices is digitalization. (Suleman et al., 2024)

The digital revolution of human resource management involves the procedure of computer software, cloud computing technologies, and different online applications to perform activities related to recruitment, payroll management, employee files, onboarding, and performance assessment. Digital human resources diminish paper-based processes and result in paperless human resources management. In addition to the cost-effective solution, paperless human resources contribute to supportable development since it lowers deforestation, reduces waste, and decreases carbon emissions connected with paper manufacturing. Thus, digitalization becomes one of the critical steps that should be taken by companies pursuing sustainability objectives. (Mahmoud et al., 2025)

The city of Bangalore can assist as an excellent case study concerning the operation of digital HR practices in companies due to its appearances. First, Bangalore is commonly discussed to as the Silicon Valley of India because abundant evidence technology firms operate within the area. Besides, many of these organizations belong to global companies and startups that dynamically announce innovations. Therefore, it can be assumed that most firms located in Bangalore operate digital technologies.

Some of the most popular paperless HR practices include online recruitment, electronic onboarding, electronic documents, virtual training sessions, and cloud-based concert management systems. This will not only result in the reduction of paper but will also make the entire process more competent and less time-consuming. For instance, online recruitment does not require printing of resumes, whereas electronic onboarding will minimize paperwork associated with the onboarding process. In addition, online training will eradicate the need to print materials, and cloud-based performance management systems will diminish the use of paper records. (Ahmić & Ćosić, 2025)

The effects of paperless HR may be appraised from various perspectives. From the environmental perspective, it will help save paper, cut waste, and minimize carbon footprints. From an economic point of view, it will diminish expenses related to printing and dealing documents. From the social perspective, it will reassure workers to become more environmentally sensible and develop supportable work habits.

Although green HRM and digitalization have become progressively popular, more research is needed to regulate the influence of these methods on organizational sustainability, particularly in the IT industry. Existing literature mainly concentrates on digital transformation in business processes in general, whereas little attention is paid to its impact on the HR process and sustainability performance. The proposed study intends to bridge this gap by studying the effect of paperless HR practices on environmental, economic, and social sustainability within IT organizations. (Kuo et al., 2022)

However, it is crucial to pay attention to potential complications organizations might encounter while

executing paperless HR systems. Such blockades could be employee confrontation, insufficient technical expertise, security concerns, and considerable implementation costs.

Employee participation is another vital element. The efficiency of Green HRM can be largely accredited to how well the employees react to such measures. Therefore, it is important to deliberate if the employees will be able to embrace the use of digital HRM and be supportive of sustainability activities. They will have to play an active role for these strategies to work.

In conclusion, the fusion of digitalization and Green HRM can provide an operative strategy for the accomplishment of sustainability in organizations. The adoption of paperless HRM not only enhances efficiency but also encourages environmental protection and sustainable development. The IT industry in Bangalore is best placed to conduct a study on these practices, considering its advanced technology and commitment to sustainability. (Prokopenko et al., 2023)

Review of Literature

N. Surekha et al. (2025) studied how Green HRM supports sustainability in Indian organizations. Their work shows that digital tools like AI help improve HR functions and environmental consciousness. However, the study lacks real-world indication on paperless HR organizations in sectors like IT and does not emphasis on regions such as Bangalore.

Sanhita Sarkar et al. (2025) discovered the role of digitalization in sustainable HR practices and employee well-being. While digital HR improves assignation and sustainability, issues like techno-stress remain. The study does not clearly explain how paperless HR condenses environmental impact, especially in IT firm. (Agarwal et al., 2021)

J. Umalatha & N. Sathiya (2024) intensive on employee views of Green HRM in an IT company in Bangalore. They found that eco-friendly HR practices improve gratification and obligation. However, the research does not include digital or paperless HR practices or measure environmental outcomes.

Ankit Kumar & Saurabh Kant (2024) analysed how IT companies adopt Green HRM practices. The study shows strong embracing due to digital infrastructure. Still, it does not deeply examine paperless HR tools or their influence on sustainability.

Abhisha N & C.L. Jeba Melvin (2024) examined how Green HRM helps decrease carbon footprints in IT companies. While HR plays an important role, the study does not focus much on digital HR or paperless systems and lacks measurable sustainability data.

Bhanu et al. (2023) discoursed how green HR strategies support environmental sustainability. Their findings show positive outcomes, but they do not include digital alteration or paperless HR practices as part of the analysis. (Bhanu, 2023) Aanchal Dwivedi & Sweta Banerjee (2024) studied Green HRM strategies in Indian IT firms. They found improved employee inspiration and preservation. However, the study misses the role of digital HR systems and lacks a Bangalore-specific focus. (Banerjee, 2024)

Sneha Kumari Vishwakarma & Sandeep Rawat (2025) analysed Green HRM's effect on employee well-being. While results are positive, the study does not consider digital HR tools like paperless systems and is restricted to the banking sector. (Vishwakarma & Rawat, 2025)

Vinaya Sandhu & Sanjeev Kumar (2025) scrutinized Green HRM's impact on IT company performance. While results are positive, the study does not explore digital HR revolution or paperless systems in detail.

Trujillo-Gallego et al.'s (2022) study, "Digital Technologies and Green HRM: Capabilities for Sustainable Performance," investigated how digital technologies endorse Green HRM practices and improve sustainability results. The study aimed to inspect the relationship between digital technologies and organisational environmental performance. The studies revealed that integrating digital HR systems enhances both environmental and economic performance by allowing for more efficient green practices. However, the paper designates a research gap in the absence of empirical validation in service sectors, particularly the IT industry in specific places such as Bangalore. (Trujillo-Gallego et al., 2022)

The "Enabling Green HRM through digital HR transformation" UST Study (2025) assessed organisations' digital preparedness for implementing Green HRM practices. The goal was to evaluate how digital HR systems assist to sustainability efforts. The research exposed that digital platforms increase awareness, efficiency, and application of green practices in HR services. However, the study highlights a gap in the absence of empirical evidence from IT sector organisations, particularly in quickly rising invention hubs such as Bangalore. (Gbr & Abdullah, 2025)

Jordanian Banks Study (2024), "Impact of digital HR technology on environmental performance" sought to explore the moderating role of digital HR technologies in the relationship between Green HRM and conservation performance. The research demonstrated that digital HR solutions considerably increase this link, hence cultivating sustainability outcomes. However, the study is limited to the banking sector, and the research vacuum is caused by a lack of analysis in the IT business, where digitalisation is more predominant. (Al- Ghalabi et al., 2024)

Zarina's (2025) "Digital transformation in HRM" investigated the strategic application of digital HR practices in realizing organisational sustainability. The goal was to figure out how digital conversion boosts HR competence and long-term growth. According to the discoveries, digital HR progresses efficiency in operations and promotes sustainable development. However, the report does not particularly address paperless HR practices, leaving a invalid in determining their direct environmental impact. (Zarina et al., 2025)

The study "Enhancing digital transformation and Green HRM" by Gautam (2025) scrutinized how digital tools might assist Green HRM practices. The goal was to regulate how HR functions may be made more sustainable through digital transformation. The results demonstrated that virtual HR measures and paperless workplaces greatly enhance sustainability concert and lessen environmental impact. But there is a research gap because the study lacks quantitative validation, particularly in developing nations. (Gautam et al., 2025)

In "Green HRM and corporate sustainability in the IT industry," Sandhu (2025) examined how Green HRM methods affect employee conduct and organisational sustainability. Understanding how HR initiatives affect performance in the IT industry was the goal. The results showed a significant positive correlation between organisational success and Green HRM. The research did not, however, highlight digitalisation or paperless HR procedures, suggesting a gap in their integration.

Problem Statement

GHRM is becoming more imperative in relation to organizational sustainability; however, very few empirical studies have been directed on this topic. Most of the research directed is conceptual in nature. Very little research has been done on digital HRM processes such as e- recruitment and paperless HRM. While many organizations, particularly those in the IT industry, are implementation this process, its effect on

environmental sustainability is not clear. The hypothesis is that paperless HRM helps minimize the environmental impact of the process; however, there is no enough evidence to back this assumption.

Research Gap

GHRM has been widely accredited; however, majority of researches revolve around conceptual frameworks and very few examine how GHRM functions within organisations. Restricted focus has been made on digital HR practices such as e-recruitment, digital onboarding, and use of

paperless technologies, and how they are used to enhance sustainability. In spite of wide use of such practices by IT firms, there are few empirical studies that provide suggestion on the extent of resource reduction due to their use and contributions towards sustainable development. The research gap is even more pronounced in the case of IT firms located in Bangalore as there are no empirical studies that examine the link between their use and environment.

Objectives

- To assess employee's responsiveness and considerate of Green HRM (GHRM) and digital HR practices in the IT sector.
- To know the level of acceptance and accomplishment of paperless HR practices (such as e-recruitment, e-payroll and digital documentation) in organisations.
- To determine the impact of digital HR practices on organisational sustainability in terms of environmental advantages, economic efficiency and employee perceptions.

Scope of the Study

- The present research distillates on the application of paperless HR processes such as e- recruitment, e-payroll, and digital documentation by organizations.
- The research is restricted to IT organizations located in Bangalore, India because IT firms employ a number of digital techniques.
- How digital HR processes subsidize to sustainability efforts by lowering paper usage and conserving resources is surveyed.
- Employee attitudes and understanding of Green HRM and digital HR management systems are also taken into contemplation.
- The research employs employee feedback from questionnaires to draw conclusions.
- The research primarily examines the compensations of digital HR processes, including cost savings, efficiency, and user-friendliness.

Research Methodology

Type of Data

The study is based on primary data, supported by secondary data from journals and reports. The primary data is collected directly from employees to understand their views on digital HR practices and sustainability.

Method for Collecting Data

Data is collected using a structured questionnaire. The questionnaire includes questions related to awareness, implementation, and impact of paperless HR practices.

Sample Population

The sample population consists of employees working in IT companies in Bangalore, including HR professionals, team leaders, and staff who use digital HR systems.

Sample Size

A total of 50 respondents is selected for the study.

Sampling Technique

The study uses convenience sampling, where respondents are selected based on ease of access and availability.

Likert Scale

A 5-point Likert scale is used to measure responses, where: 1 = Strongly disagree to 5 = Strongly agree.

Limitations of the Study

- The study is limited to IT companies in Bangalore, so results may not apply to other districts or industries.
- The sample size is relatively small (50 respondents), which may not fully characterize the entire IT sector.
- The findings are based on self-reported data, which may include biased or socially desirable responses.
- Sustainability is leisurely using indirect indicators like apparent paper reduction rather than exact data.
- The study captures data at one point in time and does not replicate long-term impacts.
- Modifications in digital adoption across organizations may have influenced the consistency of results.

Data Analysis

Statement	Mean
Understanding of Green HRM	3.58
Awareness of digital HR reducing environmental impact	3.94
Level of digitalization in HR processes	3.68
Digital HR reduces paper usage	3.86
Digital HR contributes to environmental sustainability	3.92
HR technology reduces resource waste	4.10
Paperless HR improves efficiency	3.94
Digital HR reduces administrative cost	3.82

Preference for digital HR	4.00
Ease of use of digital HR systems	3.94
Digital HR essential for sustainability	3.90
Reduces carbon footprint	3.84
Reduces physical storage need	4.00

Interpretation of mean values

The mean values vary from 3.58 to 4.10, representing general agreement among respondents. Values above 3.5 indicate positive perception.
Respondents typically agree that digital HR promotes sustainability.

- The highest mean (4.10) establishes substantial agreement that: HR technology helps prevent resource waste.
- The slightly lower mean (3.58) indicates that: Awareness of Green HRM is moderate (potential for improvement).

Data Insights

<table>
<tr><td>1. Environmental impact is recognized</td><td>2. Respondents significantly believe that digital<table><tr><td>3. Insight area</td><td>4. Description</td></tr><tr><td>5. Strong support for digital HR</td><td>6. Most respondents have a good attitude toward digital HR practices, with a mean value ranging from 3.9 to 4.0,
7. indicating widespread agreement and approval.</td></tr></table>8. HR practices promote environmental sustainability by reducing paper usage, conserving resources, and minimising carbon
9. footprint.</td></tr>
<tr><td>10. Efficiency Benefits</td><td>11. Digital HR methods are regarded to increase operational efficiency (mean = 3.94) and reduce administrative costs (mean = 3.82), hence improving overall organisational
12. performance.</td></tr>
</table>

13. Employee Acceptance	14. Employees are highly tolerant of digital HR systems, with predilection (mean = 4.00) and effortlessness of use (mean 15. = 3.94) showing acquaintance with such technology.
16. Awareness Gap	17. The comparatively low mean score (3.58) designates that, while employees use digital HR systems, they may not have a systematic thoughtful of Green HRM ideas, emphasising 18. the importance of awareness campaigns.

Findings

- The average scores lying in the range of 3.5 to 4.1 show that the observation held by the employees regarding paperless HR practices is generally positive.
- The respondents have a strong belief that digitizing HR practices aids in cutting down resource wastages as well as in the less use of papers for achieving sustainability.
- The results suggest that paperless HR practices increase competence by helping HR procedures to become more competent and quick.
- The employees know that using digital HR practices makes organizational and administrative processes cost-effective.
- The high degree of predilection indicates that the employees find paperless HR systems easy to adapt.
- High usability also implies that there is no much confrontation from the part of the employees towards the approval of technology.
- The digitalization of HRM is thought to diminish the obligation for physical space, qualifying companies to manage their organizations and resources efficiently.
- While digital HRM is prevalent, the lesser awareness about Green HRM suggests that workers may lack knowledge regarding the ecological implication of these observes.

Interpretations

- The generally high means clearly show that the respondents can appreciate the value of approving paperless HRM practices, especially as they improve effectiveness and align with sustainable development.
- There is a very strong level of contract that adopting digital HRM procedures subsidizes to the preservation of resources and is an environmentally sustainable practice.
- High values for variables associated with effectiveness and cost-saving specify that it is probable to reap environmental and economic reimbursements from adopting digital HR practices.
- Generally positive answers in relative to user-friendliness and willingness designate high levels of technological receiving by workers.
- The generally low means for the variable representing knowledge of Green HRM direct that although practices are being adopted, there is less knowledge regarding environmental issues.
- The constant values gained from the examination, as well as the salutation of achievements in terms of reduction in paper consumption and storage, designate that paperless HR practices are contributes effectively towards achieving sustainability goals within organizations.

Conclusion

It can be concluded from the study that the application of paperless HRM practices via digitalization positively impacts the sustainability of organizations in the IT industry in Bangalore. Thus, organizations progressively rely on digital HRM systems, which is a replication of their exertions to implement environmentally friendly practices.

On the one hand, it can be proclaimed that the use of digital HRM practices makes a valuable contribution to environmental sustainability through minimizing paper utilization, limited resource consumption, and the exclusion of the necessity of storing documents physically. On the other hand, digital HR practices enhance the performance of organizations economically due to the decrease of administrative expenses, increased productivity, and enhanced HRM functions.

In terms of social sustainability, there is no doubt about the high adequacy of digital HR practices among employees who find them user-friendly. However, it should be noted that the consciousness of the importance of Green HRM practices is moderately low among some employees.

In conclusion, it becomes apparent that the digitalization of HR can be used as a solid platform for approving Green HR and sustainable initiatives. The firms operating within the IT sector in Bangalore have been making consistent efforts in this regard. It will definitely prove valuable in the long run.

Declaration of Conflicting Interests

The authors declare no potential conflicts of interest with respect to the research, authorship and publication of this article.

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