



THE REALITY OF GREEN MANAGEMENT IN PUBLIC AND HIGHER EDUCATION INSTITUTIONS IN THE KINGDOM OF SAUDI ARABIA

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ABSTRACT

This study aims to analyze the current state of green administration in Saudi educational institutions, identify the level of adoption of green practices in schools and universities, and explore the roles of school leaders, university leaders, and human resource units in promoting sustainability values. In addition, the study identifies significant challenges hindering the implementation of green administration in the Saudi educational environment. The study employed a systematic literature review of scientific studies published between 2016 and 2025, applying rigorous inclusion criteria. This process resulted in the selection of 12 peer-reviewed studies that examined green administration, green leadership, or related dimensions in Saudi schools and universities. The findings indicate that green administration in public schools is gradually progressing, supported by strong availability of human and material resources and an increasingly aware school leadership. However, the implementation of green human resource management practices remains moderate overall. In higher education institutions, Saudi universities demonstrate moderate to high adoption of green HRM practices, with apparent positive effects on environmental management and organizational performance. In contrast, some practices, particularly green incentives and green recruitment, remain relatively weaker and less effective in advancing sustainability outcome

Keywords: Green management, Saudi schools and universities, environmental sustainability, green practices, green leadership

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Introduction

In light of rapid global environmental transformations and escalating challenges associated with climate change, the depletion of natural resources, and the increasing need to adopt sustainable behaviors and practices, educational institutions—across both public education and higher education—have emerged as pivotal spaces capable of inducing genuine change in environmental awareness and attitudes among future generations. Environmental responsibility is no longer confined to government agencies or specialized authorities; it has become an integral part of the educational system's mission to prepare individuals for both current and future contexts, whether they are students in schools or universities. Within this framework, green management represents a modern administrative approach that seeks to integrate environmental dimensions into the planning, organization, leadership, human resource practices, and daily operations of educational institutions, transforming the educational environment—school or university—into a practical

model of sustainability rather than a theoretical topic confined to textbooks and coursework(Ahmad, 2018;Baladi et al., 2022;Albeshir, 2025; Albeshir et al.,2024;Al-Brazi,& Al-Rashidi, 2024;El-Sayed et al., 2024;Ghoneim, 2022;Hussein, 2025).

The Kingdom of Saudi Arabia has demonstrated increasing commitment to environmental protection and natural resource conservation, reflected in a broad range of national initiatives such as the Saudi Green Initiative and the Middle East Green Initiative, alongside the expansion of royal natural reserves, the development of biodiversity protection regulations, desertification mitigation efforts, and increasing vegetation cover. These initiatives demonstrate a strategic national orientation in which environmental sustainability constitutes a central pillar of Vision 2030, placing responsibility on public and higher education institutions to translate national environmental goals into practices, values, and behaviors internalized by the rising generation (Fadel, 2024; Albeshir et al., 2024).In this context, the role of the Ministry of Education, Saudi universities, and school and academic leadership becomes increasingly significant in fostering environmental values and activating green management practices within schools and universities. This ensures the desired coherence between national environmental policies and initiatives, on the one hand, and the actual implementation of educational, behavioral, and organizational practices in classrooms, university lecture halls, and school or campus facilities, on the other hand .Despite this, a review of Arab and Saudi educational literature reveals a noticeable scarcity of studies that have addressed green management or green leadership—and their subsidiary concepts such as green human resource management, green innovation, or green organizational culture—within Saudi schools and universities in a systematic and in-depth manner, despite the substantial momentum in the national sustainability landscape(Al-Asmari, 2025;Al-'Anzi, 2025; Al-Muhaimeed,2024;). This underscores the need for a systematic review of the existing literature on green management within Saudi public and higher education institutions to identify the current state of practice, highlight research gaps, and develop a clearer understanding of emerging patterns and conceptual directions in this evolving field of inquiry.

Statement of the Problem

The problem addressed in this study is that green management within Saudi public and higher education institutions cannot be viewed as an administrative luxury or peripheral option. Instead, it has become a pedagogical and national necessity closely connected to a wide range of vital issues, including quality of life, human health, efficient resource utilization, and the alignment of education with national sustainability agendas. Escalating environmental challenges necessitate that educational systems—schools and universities alike—reconsider their organizational models and daily practices, transforming educational institutions into environments that support sustainability, disseminate environmental awareness among school students and university learners, and develop human capital capable of leading the transition toward a green economy and sustainable development(Al-Asmari, 2025;Al-'Anzi, 2025; Al-Muhaimeed,2024;).

This need is amplified in the Saudi context, where ambitious national sustainability initiatives have been launched, including the Saudi Green Initiative and programs to reduce emissions, expand urban afforestation, and improve quality of life (Fadel, 2024). These initiatives place schools and universities among the most critical settings in which national environmental visions must be translated into behavioral norms, educational practices, and shared institutional values. Accordingly, the Ministry of Education, school and university leadership, and institutional human resource units play a central role in embedding environmental values and operationalizing green management practices within educational settings, ensuring coherence between national policy directions and grassroots implementation in classrooms, schoolyards, lecture halls, and laboratories.A review of the published academic literature reveals a lack of systematic, comprehensive studies that have examined green management or green leadership—particularly within Saudi public and higher education contexts—and their subdimensions, such as green human resource management, green innovation, and green organizational culture. Therefore, there is a compelling need for an empirical and analytical study that surveys and synthesizes the existing literature on the current state of green management in Saudi educational institutions and identifies the realities, challenges, and opportunities for developing this emerging field.

Research Question

What is the current state of green management practices in Saudi public and higher education institutions, as reflected in published educational literature?

Research Objectives

This study aims to:

1. Analyze the current state of green management in Saudi public and higher education institutions through a review of literature published between 2016 and 2025.
2. Determine the extent to which schools and universities in Saudi Arabia have adopted green practices.
3. Explore the role of school leadership, university leadership, and human resource units in promoting environmental awareness and institutionalizing sustainability practices.
4. Identify the most prominent challenges hindering the implementation of green management in Saudi educational institutions.
5. Propose mechanisms and recommendations that may enhance green management practices and increase institutional awareness of the role of schools and universities in environmental protection and sustainability promotion, in alignment with Vision 2030 and its environmental strategies.

Methodology

This study employed a systematic literature review methodology, deemed the most appropriate approach to address the primary research question: What is the current state of green management practices in Saudi public and higher education institutions, as reflected in published educational literature? This methodology allows for in-depth, careful analysis of accumulated scientific work on the topic, enabling the identification of existing practices, conceptual trends, and research gaps simultaneously.

To ensure the quality of included studies and the reliability of findings, the review adopted rigorous inclusion criteria, as follows:

1. The study must address green management, green leadership, or one of their related dimensions—such as green human resource management, green innovation, or green organizational culture—within the Saudi educational context, whether in public or higher education.
2. The study must be connected to school or university administration, leadership, human resources, or organizational management within Saudi educational institutions.
3. The study must be empirical and field-based, conducted in existing Saudi schools or universities, reflecting real-world green leadership or management practices.
4. The study must rely on data derived directly from educational settings (quantitative, qualitative, or mixed-methods), not merely on literature-based or theoretical reviews.
5. The study must be published in a peer-reviewed journal and listed in established databases like Dar Al-Mandumah and Google Scholar to ensure scientific rigor and reliable findings.

Results:

Part 1: A Review of Literature on Green Management in Pre-University Educational Institutions

Al-Tuwairee (2024) conducted a study that explored the future of green human resource management in public intermediate schools in Riyadh. The researcher chose to employ the Delphi technique, one of the most prominent methods used in futures studies. The study stemmed from the need for a structured, scientific vision of the future of green human resource management in school settings to strengthen the role of public intermediate schools in adopting sustainable environmental orientations. To achieve this objective, the researcher convened a panel of 12 experts in educational administration working in intermediate schools in Riyadh, all holding master's or doctoral degrees. The descriptive methodology based on the Delphi technique was adopted, using a questionnaire administered during the third semester of the academic year 1444 AH. The questionnaire consisted of two main dimensions: one related to the individual level of green human resource management, and the other linked to the organizational level within educational institutions. Through three successive Delphi rounds, the researcher formulated a proposed vision for the future of green human resource management in public intermediate schools. This vision was grounded in a set of theoretical assumptions and strategic foundations and established a coherent linkage between green educational strategy, green human resource management, and green productivity, ensuring integration between environmental, organizational, and human dimensions within schools. The study also generated several practical recommendations, the most notable of which included the need to organize training programs that enhance awareness of futures studies among researchers and professionals involved in educational research. The study further emphasized the importance of research centers affiliated with the Ministry of Education

prioritizing specialized research on educational futures, thereby supporting the movement toward more sustainable, environmentally conscious education.

Masrahi and Al-Sayegh (2024) conducted a study entitled "Requirements for Implementing the Green Schools Initiative in Public Education Schools in Jeddah Governorate." The study aimed to identify the requirements for implementing the Green Schools Initiative in public education schools in Jeddah Governorate. A descriptive survey method was adopted, with a questionnaire as the primary data collection tool. The instrument was administered to a randomly selected sample of 282 school principals representing the three educational stages (elementary, intermediate, and secondary), selected from a population of 1,051 female school principals. The study yielded several findings, the most prominent of which indicated that the requirements for implementing the Green Schools Initiative in public education schools in Jeddah Governorate were highly available across the dimensions of human requirements and material requirements. The results further showed no statistically significant differences in the mean responses of school principals regarding the availability of human and material resources necessary to implement the Green Schools Initiative, attributable to years of experience or educational stage variables. Based on these findings, the researchers recommended that the Jeddah Education Administration adopt the Green Schools Initiative across public schools, conduct continuous evaluation and follow-up of green practices, and support scientific research on green schools within the Jeddah educational context.

Al-Badawi and Aal-Makr (2025) conducted a study entitled "A Proposed Model for Mechanisms of Implementing Green School Standards in Public Education Schools in the Asir Region." The study aimed to present a proposed model for implementing green school standards—specifically green management, green school environment, and school activities—in public education schools in the Asir region. The study employed the descriptive method and used a questionnaire as the research tool. The instrument was administered to a sample of 714 school personnel in the Asir public education sector. The study identified several findings, including strong agreement among participants on the mechanisms for implementing green school standards—green management, green school environment, and school activities—in public education schools in the Asir region. Additionally, the results indicated no statistically significant differences in participants' responses regarding these mechanisms attributable to current position, educational stage, or years of experience.

Al-Anazi (2025) conducted a study entitled "The Role of School Leadership at the Secondary Education Stage in Achieving Sustainable Development and Enhancing the Green School: A Case Study of Tabuk International Schools." The study aimed to identify the role of school leadership at the secondary education stage in achieving sustainable development and reinforcing the concept of the green school, using Tabuk International Schools as a model. The study employed the descriptive method and used a questionnaire developed by the researcher as the primary data collection tool, given its suitability for the study topic and methodology. The study yielded several findings, the most important of which were the existence of statistically significant differences in the mean responses of the study sample—comprising teachers at Tabuk International Schools—on the questionnaire measuring "The Role of School Leadership at the Secondary Education Stage in Achieving Sustainable Development and Enhancing the Green School" across two dimensions: leadership requirements for achieving a green school and leadership requirements for achieving sustainable development, attributable to the gender variable (male/female) in favor of females. The results also indicated statistically significant differences in teachers' mean scores on the "Leadership Challenges for Achieving Sustainability and School Development" dimension, again favoring females. Moreover, the study revealed statistically significant differences in teachers' mean responses on the exact two dimensions, attributable to years of experience (less than 10 years vs. 10 years or more), in favor of teachers with 10 years of experience or more. The findings further showed that school leadership is effective in educational institutions, undertaking its roles in alignment with prevailing educational conditions and demonstrating the expertise and skill necessary to leverage available resources to address internal and external environmental challenges. Leadership was characterized by the ability to anticipate challenges, identify relevant solutions, and avoid obstacles. The study also emphasized that successful leadership formulates both extended- and short-term strategic plans aligned with the nature of school work, aiming to achieve sustainable development and strengthen the green school model.

Furthermore, effective leadership promotes the participation of individuals involved in the decision-making process, informs them of established plans and implementation mechanisms, and ensures the achievement of intended objectives while overcoming challenges. The results pointed to a relative interest in selecting qualified personnel for essential administrative positions. The findings also confirmed that the Kingdom of Saudi Arabia achieved notable progress in sustainable development indicators during the study period, and that sustainable development and the green school philosophy contribute to advancing economic growth in the Kingdom.

Al-Asmari (2025) presented a study entitled "Green Human Resource Management Practices as an Approach to Enhancing Sustainability in Public Education Schools in the Kingdom of Saudi Arabia: A Proposed Strategy." The study aimed to propose a strategy for implementing green human resource management practices—specifically green training and development, green performance appraisal, and green rewards and compensation—to strengthen sustainability in public education schools in the Kingdom of Saudi Arabia. To achieve the study objectives, the researcher employed a descriptive survey design and administered a questionnaire to collect data. The study sample consisted of 420 administrative and educational staff members working in public education schools in the urban area of Abha, Saudi Arabia. The key findings indicated that the current level of implementing green human resource management practices across all dimensions, as an approach to enhancing sustainability in schools, was moderate overall. Additionally, the level of contribution of green HRM practices in schools to sustainability enhancement was reported to be relatively high. The results further showed that participants strongly agreed with the proposed recommendations for implementing green human resource management practices as a strategy to enhance sustainability in Saudi public education schools.

Part 2: Literature on Green Management in Higher Education Institutions

Abu Rumman and Al-Siddiqi (2019) published a study entitled "The Impact of Adopting Green Human Resource Management Practices on Improving Environmental Management Application at Taif University." The study aimed to identify the level of adoption of green human resource management practices at Taif University, located in western Saudi Arabia, and to examine the effect of green HRM practices and their dimensions (green recruitment, green training and development, and green performance appraisal) on improving the application of environmental management practices (improved energy use and improved water use). A structured questionnaire was developed for data collection and demonstrated acceptable validity and reliability. The study sample consisted of 220 administrators, selected via simple random sampling. The findings revealed that the overall level of adoption of green human resource management practices was moderate, and that the application of environmental management practices also fell within this range. Additionally, the results showed that the adoption of green human resource management practices overall explained 67.1% of the improvement in environmental management application. Results of a multiple regression analysis indicated that the adopted green HRM practices related to green performance appraisal contributed to improved application of environmental management. In contrast, green recruitment and green training and development practices did not enhance the application of environmental management. The study presented several recommendations, including the need for university management to adopt an environmentally oriented administration by recruiting individuals who demonstrate positive environmental attitudes and by training employees to become qualified in environmental science. The study further recommended developing comprehensive plans that define general goals and core principles for environmental protection, and monitoring and evaluating environmental data on efficient resource use (energy and water), thereby enhancing the achievement of environmental sustainability on the university campus.

Shamoun (2022) conducted a study entitled "A Comparative Analytical Study of Green Human Resource Management Activities Between Shaqra University and Abu Dhabi University: An Application to Faculty Members at Shaqra University in the Kingdom of Saudi Arabia and Abu Dhabi University in the United Arab Emirates." The study employed the descriptive-analytical method. The sample comprised 21 faculty members from Shaqra University in Saudi Arabia and 15 from Abu Dhabi University. The study aimed to explore green human resource management activities across both universities and to examine their relationship with personal and organizational variables. The dimensions of green HRM activities included six components: green recruitment, green training and development, green incentives, green selection, green job design, and

green performance appraisal. Among the key findings, the study found no statistically significant differences in mean responses to green HRM activities attributable to the educational level variable at Shaqra University. However, significant differences were detected in the activities of green recruitment, green incentives, green selection, and green performance appraisal, attributable to educational level at Abu Dhabi University, favoring individuals with a master's degree. Additionally, no statistically significant differences were found for the years of experience variable at Shaqra University. In contrast, responses regarding the effects of personal and organizational variables on the green job design dimension at Abu Dhabi University favored those with 10 or fewer years of experience.

Al-Muhaimeed (2023) conducted a study entitled "The Reality of Practicing Green Human Resource Management in Saudi Universities." The study adopted a descriptive survey design to explore the actual implementation of green human resource management in Saudi universities and to identify the challenges that limit its implementation in these institutions. The dimensions of green human resource management examined in the study were: green training and development, green performance appraisal, green rewards and compensation, and green recruitment and selection. The sample consisted of 349 participants, all of whom were faculty members. The study concluded that the participants' level of agreement regarding the actual practice of green HRM in Saudi universities was moderate across all four dimensions, arranged respectively from highest to lowest as follows: green training and development, green performance appraisal, green rewards and compensation, and green recruitment and selection. Similarly, participants' level of agreement regarding the challenges of green HRM implementation in Saudi universities was moderate.

Faraj (2023) conducted a study entitled "The Role of Saudi Universities in Achieving Sustainability Aspects in Light of the Saudi Green Initiative." The purpose of this study was to determine the extent to which sustainability aspects are achieved in Saudi universities in alignment with the Saudi Green Initiative from the perspective of faculty members, to identify differences in the average responses of the study sample according to the study variables, and to propose a practical implementation model for mechanisms to achieve sustainability in Saudi universities in light of the Saudi Green Initiative. A questionnaire was developed consisting of five main dimensions: academic sustainability, community partnership, resource management, planning and administration, and innovation and leadership. The questionnaire was administered in five universities located in the central region of the Kingdom of Saudi Arabia, with a sample of 120 faculty members.

The results indicated that the sample's overall assessment of the level to which Saudi universities achieve sustainability aspects in light of green initiatives was high across all dimensions. The findings also showed no statistically significant differences attributable to the study variables. The study concluded with a proposed practical model outlining mechanisms for Saudi universities to enhance sustainability in alignment with the Saudi Green Initiative.

Al-Ajlouni (2023) conducted a study published in English entitled "Green Human Resource Practices and Organizational Performance in the Kingdom of Saudi Arabia." The study aimed to examine green human resource management practices and intellectual capital at Northern Border University in the Kingdom of Saudi Arabia. The study sample consisted of 100 university employees. The results revealed a statistically significant relationship between green human resource management practices and organizational performance at the investigated institution. Additionally, the findings indicated that the university lacks a clear vision regarding employee selection for job vacancies that considers environmental protection, and that the training process is entirely detached from the environmental dimension.

Riani (2025) published a study entitled "The Reality of Green Human Resource Management Practices: An Exploratory Study of the Opinions of a Sample of Employees at Jazan University." The study aimed to examine the actual implementation of green human resource management practices (green recruitment, green training and development, green performance appraisal, and green rewards) at Jazan University in Saudi Arabia. It also sought to identify the extent to which the university adopts environmentally friendly practices and to explore the obstacles university management faces in implementing green management. To achieve the objectives of this study, the researcher employed a descriptive-analytical method, selecting a sample of 301 employees from a population of 1,379 administrators using a nonprobability convenience sampling technique. A structured questionnaire was used as the primary tool for data collection and analysis. The study

found that the overall level of green human resource management practices (green recruitment, green training and development, green performance appraisal, and green rewards) at Jazan University was high. The respondents also agreed that university management faces various obstacles in implementing green management practices, with an overall mean score of 3.82 out of 5 for this dimension. Based on these results, the researcher proposed several recommendations, the most notable of which included the need for university management to adopt strategic plans aimed at environmental preservation; the incorporation of environmental objectives into the university's mission and vision; the provision of appropriate material and non-material incentives linked to environmental protection; and the organization of practical training courses and workshops. The study also presented several suggestions for future research.

Ibrahim and Kolais (2025) conducted a study entitled "The Role of Green Human Resource Practices in Supporting the Green Economy: An Analytical Study of the Impact of Sustainability in Saudi Universities." This research aimed to investigate the effect of green human resource management practices on the green economy at Northern Border University in northern Saudi Arabia and to determine the extent to which these practices contribute to enhancing environmental sustainability and economic efficiency. The green practices analyzed in the study included: green economy, occupational safety and security, green motivation, green training, green evaluation, and green recruitment. The study sample consisted of 82 employees from Northern Border University. Among the most significant findings was that several practices—such as green economy, occupational safety and security, green training, and green evaluation—had a positive, statistically significant effect on economic and environmental performance. Meanwhile, the relationship between green motivation and green recruitment was statistically insignificant, suggesting the need to develop more effective policies to enhance their contribution to achieving environmental goals. The study also presented recommendations for adopting green human resource policies that can reduce carbon footprints and improve economic efficiency, thereby enhancing academic institutions' ability to contribute to the realization of Saudi Arabia's Vision 2030 for sustainable development.

Part Three: Discussion of Results and Conclusion

A thorough examination of research on green management in Saudi educational institutions, including both public schools and higher education, reveals an emerging field where educational and organizational aspects intersect with strategic and economic factors. By employing a systematic review methodology with strict inclusion criteria, we can develop a clearer understanding of the overall landscape and the differences in how green management is conceptualized in schools compared to universities. From a methodological standpoint, most studies in both public and higher education are predominantly quantitative and descriptive. The majority of researchers relied on descriptive surveys or descriptive-analytical approaches, using questionnaires as the primary data-collection tool in educational settings. However, this shared methodological framework does not eliminate the presence of important differences that reflect distinct research perspectives between schools and universities.

In the context of public education, Al-Tuwairee's (2024) study represents a notable methodological departure. Rather than merely describing existing conditions, the researcher employed the Delphi technique, one of the most established approaches in futures studies, and engaged a panel of experts in educational administration from intermediate schools in Riyadh to construct a forward-looking vision for green human resource management in schools. Through three iterative rounds with experts, the study transitioned from an initial diagnostic stage to the formulation of a strategic vision linking green education, green human resource management, and green productivity. By contrast, the remaining school-focused studies—such as Masrahi and Al-Sayegh (2024), Al-Badawi and Aal-Makr (2025), Al-Anazi (2025), and Al-Asmari (2025)—typically adopted the conventional descriptive survey method, using questionnaires administered to large samples of school principals, teachers, and administrative staff across different stages of public education. These studies tend to focus on identifying requirements and standards, describing the current reality of green practices, and assessing the role of school leadership and human resources in promoting sustainability within schools.

In higher education, the methodological orientation shows a more apparent tendency toward explanatory analysis of variable relationships. While universities also use descriptive survey tools, they often employ regression models and statistical tests of relationships. For example, Abu Rumman and Al-Siddiqi (2019) did not merely assess the level of adoption of green HRM practices at Taif University; instead, they examined the

impact of these practices on environmental management outcomes and demonstrated that green HRM explained a significant proportion of the variance in environmental management application. Similarly, Al-Ajlouni (2023) established a statistically significant relationship between green HRM practices and organizational performance at Northern Border University. Ibrahim and Kolais (2025) expanded this relational perspective by investigating the influence of green HRM practices on green economy outcomes, environmental sustainability, and economic efficiency within the same university. This explanatory orientation is also evident—though to a lesser degree—in the work of Al-Muhaimeed (2023), Riani (2025), and Shamoun (2022), which measure green HRM practices, conduct inter-institutional comparisons, and examine the influence of personal and organizational variables. Faraj's (2023) study is somewhat parallel to school-based foresight studies insofar as it seeks to determine the role of Saudi universities in achieving sustainability in light of the Saudi Green Initiative and concludes by presenting an applied model for achieving sustainability components.

Regarding research objectives, the studies in public education can be grouped into three closely related trajectories. The first trajectory concerns foresight and vision building, as exemplified by Al-Tuwairee, who develops a structured scientific conception for the future of green HRM in intermediate schools, based on the notion that the school is not merely a site for applying environmental directives, but rather a space whose human resource architecture must be redesigned through a comprehensive green vision. The second trajectory centers on requirements, standards, and mechanisms of implementation, as seen in the studies of Masrahi and Al-Sayegh, and Al-Badawi and Aal-Makr, which assess the availability of human and material resources for implementing the green school model in schools in Jeddah and Asir, and propose concrete mechanisms for enhancing implementation. The third trajectory focuses on the role of leadership and HRM in achieving sustainability, represented by Al-Anazi, who examines leadership's contribution to sustainable development and green school enhancement, identifying gender- and experience-based differences in favor of females and more experienced teachers; and by Al-Asmari, who proposes a strategy for applying green HRM practices as an approach to strengthening sustainability in public education.

Higher education studies, on the other hand, adopt a different set of research aims. There is substantial interest in measuring the level of adoption of green HRM practices and their impact on other institutional variables, such as environmental management, organizational performance, and overall sustainability. There is also a tendency toward inter-institutional comparison, as in Shamoun's study comparing Shaqra University and Abu Dhabi University, thereby positioning Saudi universities within a broader regional context. In addition, certain studies explicitly link green HRM to the green economy and national sustainability frameworks, as demonstrated by Ibrahim and Kolais, who conceptualize the university as a strategic actor in enhancing economic efficiency and reducing carbon footprint in alignment with Vision 2030. Faraj (2023) extends this perspective, viewing the university as an institution capable of contributing to academic, community, resource, innovation, and leadership-based sustainability in light of the Saudi Green Initiative, and concludes with an integrated applied model.

When comparing the two educational sectors, fundamental differences emerge in how green management is conceptualized. In schools, green management is primarily perceived as a pedagogical behavior and a school culture, centered on school leadership, teachers, students, and daily classroom and school practices. Terms such as green school, green school environment, green school activities, and green HRM in schools are therefore prominent. Conversely, universities approach green management as an institutional administrative system, focusing on structured HRM policies—green recruitment, green training, green performance appraisal, and green incentives—and linking them directly to organizational outcomes such as performance, economic efficiency, and alignment with Vision 2030. The unit of analysis likewise differs: in public education, the school or a set of schools in a particular district is the typical analytical unit, with significant emphasis on variables such as educational stage, school type, gender, and years of experience. In higher education, the university or faculty constitutes the core analytical unit, and green practices are interpreted within broader institutional governance and strategic planning frameworks. This systematic review highlights that green management in Saudi educational institutions unfolds along two distinct but interconnected pathways. The first pathway focuses on schools and aims to nurture environmentally conscious generations through greener school environments supported by effective educational leadership. The second pathway targets universities and promotes structured green human resource management (HRM) policies that enhance sustainability,

contribute to the green economy, and improve institutional performance. By integrating both pathways, there is an opportunity to create a cohesive national framework that connects efforts at the school and university levels. This approach would ensure that green management becomes an intrinsic part of the identity of the Saudi educational system—from public education to higher education—rather than remaining a collection of isolated initiatives or fragmented practices.

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