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Staying to Care: How Green HRM Practices Foster Employee Commitment through Retention in the Airline Industry

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A B S T R A C T

This study examines how Green Human Resource Management (GHRM) practices influence employee commitment through the mediating role of employee retention in the airline industry. Drawing on Social Exchange Theory, Side-Bet Theory, and the Resource-Based View, the study conceptualizes retention as the behavioral mechanism that translates green HR policies into enduring commitment. Data were collected from 100 HR managers representing multiple Gulf-region airlines and analyzed using Partial Least Squares Structural Equation Modelling (SmartPLS 4). Results reveal that GHRM positively affects both retention and commitment, while retention strongly predicts commitment. The indirect effect of GHRM on commitment via retention confirms partial mediation. The model explains 39.8% of commitment variance and demonstrates medium predictive relevance. The findings highlight that environmentally responsible HR systems strengthen workforce stability and loyalty, showing that employees "stay to care" when ecological values are embedded in HR policies. The study contributes theoretical and managerial insights on aligning environmental and human sustainability in service-intensive industries.

1. INTRODUCTION

Environmental sustainability has become an operational and ethical imperative for organizations worldwide. Aviation, among the most visible contributors to carbon emissions, faces pressure from regulators and consumers to integrate ecological responsibility into every level of decision-making. Within this setting, Green Human Resource Management (GHRM)—the alignment of human-resource functions with environmental goals—has gained prominence as a strategy that supports both ecological stewardship and long-term competitiveness (Malik et al., 2020a; Tan Pham et al., 2019). Green Human Resource Management (GHRM) integrates sustainability principles into HR functions, transforming traditional personnel practices into environmental management tools (Jackson et al., 2011; D. W. S. Renwick et al., 2013). Airlines across the Gulf region and beyond have adopted green initiatives such as digital workflows, waste-reduction training, and energy-efficient ground operations to demonstrate sustainability compliance while maintaining profitability (Alhaddad, 2024; Leidner et al., 2019).

Research linking GHRM to employee outcomes has expanded rapidly. Most studies describe a forward pathway: environmentally responsible HR practices enhance employees' sense of commitment, which in turn strengthens retention

(Jamil et al., 2023; Syed et al., 2020). This logic rests on Social Exchange Theory, where organizational investments prompt employees to reciprocate through loyalty and engagement. However, commitment and retention often evolve together in iterative cycles rather than in a single direction. Employees who experience stable, supportive, and eco-conscious work environments may first develop stronger intentions to stay; over time, continued membership reinforces identification with organizational values and transforms into commitment. This temporal sequence suggests that retention may mediate the effect of GHRM on commitment a perspective largely absent from existing literature. Previous studies have also emphasized that GHRM influences employee behaviors through psychological mechanisms such as perceived green climate and value alignment (Dumont et al., 2017).

The idea that "staying leads to caring" has strong theoretical grounding. (Becker, 1960) described organizational attachment as a function of accumulated "side bets," or investments that make departure costly. (Meyer & Allen, 1991) later conceptualized commitment as affective, normative, and continuance components, each strengthened by sustained tenure and organizational support. Meanwhile, (Blau, 1964) argued that exchanges built on mutual trust become durable when benefits are consistently delivered. Applying these insights to green management, it follows that employees retained through environmentally supportive HR systems gradually internalize the organization's ecological mission, producing deeper commitment. These theoretical perspectives align with the broader understanding that GHRM practices cultivate a shared environmental identity, thereby reinforcing long-term employee attachment (Dumont et al., 2017; D. W. S. Renwick et al., 2013).

For the aviation sector, understanding this reversed mechanism is critical. Recruiting and certifying air-service professionals involve long lead times and strict regulatory compliance (Perçin, 2018). High turnover therefore erodes safety culture and increases operational cost. By clarifying how retention mediates the influence of GHRM on commitment, this study offers evidence that environmental and human sustainability can reinforce one another rather than compete. The analysis also holds broader relevance for other service-intensive industries hospitality, logistics, or healthcare where employees' interaction with environmental programs shapes long-term engagement.

Three objectives guide the study:

1. To test the direct effect of GHRM on employee retention;
2. To examine whether retained employees demonstrate stronger commitment; and
3. To evaluate the mediating role of retention in the GHRM–commitment relationship.

Using survey data from HR managers in multiple airline companies, the study employs a quantitative explanatory design with structural-equation modelling to validate these hypotheses. The results aim to enrich both theory and practice by introducing retention as a dynamic bridge between green HR systems and enduring employee attachment.

2. LITERATURE REVIEW

2.1 Green Human Resource Management

GHRM represents the integration of environmental objectives into core HR functions—recruitment, selection, training, performance appraisal, and compensation (Ahmad, 2015a; Arulrajah et al., 2016). It has evolved from early conceptual work highlighting its role as a bridge between HR strategy and corporate environmental management (Jackson et al., 2011; D. W. S. Renwick et al., 2013). Subsequent studies have operationalized GHRM as a multidimensional construct (Tang et al., 2018a), encompassing green hiring, training, evaluation, and reward systems. These practices encourage employees to behave sustainably while improving operational efficiency (Malik et al., 2020a). Examples include paperless processes, teleworking arrangements, and incentives for resource conservation (Jerónimo, Henriques, Lacerda, et al., 2020). Similar evidence from the hospitality sector indicates that GHRM enhances employees' eco-friendly behavior and environmental performance, confirming its relevance to service industries such as airlines (Kim et al., 2019a). Airlines adopting such initiatives report enhanced corporate reputation and improved employee morale (Hazarika & Boukareva, 2016; Mahadin et al., 2023).

From the **Resource-Based View**, environmentally trained and retained personnel constitute valuable, rare, and inimitable resources that underpin

sustained competitive advantage (Barney, 1991a). A workforce capable of embedding ecological thinking in daily operations is difficult for competitors to replicate. Consequently, the organizational commitment fostered by GHRM extends beyond ethics; it directly supports strategic differentiation. Perceived green HRM practices have also been found to enhance job satisfaction and environmental performance (Shen et al., 2018), supporting the notion that employee-level responses mediate the broader organizational outcomes of GHRM.

2.2. Employee Retention

Employee retention denotes the capacity of an organization to preserve skilled human capital by reducing turnover intentions and prolonging tenure (Khalid & Nawab, 2018). In the airline industry, retention ensures continuity in safety, customer service, and operational reliability (Urme, 2023). High retention levels minimize recruitment cost and safeguard institutional knowledge (Nguyen, 2020a).

The psychological process underlying retention can be explained through Social Exchange Theory (Blau, 1964)**:** when organizations provide fair treatment and supportive HR systems, employees reciprocate by staying. Over time, this continued relationship generates personal investments training, career advancement, and social networks—that increase the perceived cost of leaving (Becker, 1960)**.** Such "side bets" evolve into a sense of moral obligation and loyalty, transforming behavioral persistence into attitudinal attachment.

Green HRM strongly influences these mechanisms. Green recruitment attracts candidates whose environmental values align with the organization's mission (S. Das & Dash, 2023), green training develops skills that heighten job satisfaction (Sarwar & Mustafa, 2024), and green performance management enhances perceived fairness and purpose (Ahmad, 2015a). These elements jointly enhance employees' desire to remain with the company (Hussain et al., 2023; Jam & Jamal, 2020).

2.3. Employee Commitment

Employee commitment refers to the psychological connection binding individuals to their organization (Habib et al., 2014b; Rameshkumar, 2020). It encompasses affective, normative, and continuance dimensions (Alves et al., 2020). Committed employees show higher performance, lower absenteeism, and greater willingness to promote organizational interests (Farrukh et al., 2020). In service contexts such as airlines, commitment directly shapes customer satisfaction and profitability (Agyeiwaah et al., 2022).

Evidence indicates that retention can precede and reinforce commitment. (Ng & Feldman, 2010) found that tenure and job security correlate positively with affective commitment. (Somers, 1995a) reported that organizational investments and length of service predict continuance and normative commitment. Together these studies support a temporal argument: prolonged employment allows employees to internalize organizational values, translating stability into attachment. Thus, commitment may not always cause retention it can also result from it.

2.4. Linking GHRM and Retention

Organizations employing comprehensive GHRM strategies tend to report higher retention rates. Environmentally conscious HR policies enhance perceived organizational support and create meaning in work (Saeed et al., 2019). In airlines, initiatives like waste-management training or eco-driven reward systems signal to employees that the company values sustainability and long-term welfare (Karatepe et al., 2022). Empirical studies confirm positive associations between green practices and intention to stay (Jam & Jamal, 2020).

H1: Green HRM practices positively influence employee retention.

2.5. Linking GHRM and Commitment

Green HRM practices are expected to foster employee commitment directly by aligning individual and organizational values around environmental responsibility. When employees perceive that their organization invests in environmentally responsible HR policies—such as green training, eco-friendly rewards, and sustainable performance management—they experience higher affective attachment and identification with the firm's goals (Saeed et al., 2019; Tan Pham et al., 2019). From the **Social Exchange Theory** perspective (Blau, 1964), these initiatives signal organizational care, prompting employees to reciprocate with stronger loyalty and involvement. In parallel, the **Resource-Based View** (Barney, 1991a) suggests that a workforce committed to sustainability constitutes a valuable and inimitable resource that enhances long-term competitiveness. Prior studies in service contexts

also confirm that Green HRM enhances eco-friendly behavior and commitment among employees (Kim et al., 2019a). Therefore, it is hypothesized that:

H2: Green HRM practices have a positive and significant effect on employee commitment.

2.6. Retention and Commitment

Retention ensures a stable platform on which commitment can grow. Employees who remain with a company develop trust, social embeddedness, and familiarity with its mission (Shahid & Azhar, 2013). Prolonged membership enhances affective commitment through identification, while continuance and normative forms emerge as employees accumulate benefits and perceive fairness (Bashir & Ganai, 2020; Meyer & Allen, 1991). In the airline industry, where teamwork and safety culture rely on cohesive crews, retention strengthens interpersonal bonds that anchor commitment (Aldalou & PerçiN, 2018).

H3: Employee retention positively influences employee commitment.

2.7. Retention as Mediator between GHRM and Commitment

The mediating logic connects organizational systems to employee attitudes through behavioural continuity. GHRM signals organizational care, which prompts employees to stay; sustained tenure then deepens commitment. This sequence merges Social Exchange Theory and Side-Bet Theory: green HR practices initiate a reciprocal exchange, while continued membership accumulates investments that transform into obligation (Becker, 1960). The Resource-Based View further frames retention as the process that protects valuable green human capital, fulfilling the VRIN conditions (Barney, 1991b). Empirical evidence supports this mediation. (Costantino et al., 2021) demonstrated that retention mediates between GHRM and firm performance, and (Alzyoud, 2021) identified retention as the pathway linking GHRM to sustainable performance. Extending this reasoning, the present study tests whether retention similarly channels GHRM's influence toward commitment.

2.8. Conceptuel Framework

These perspectives converge with the argument that GHRM operationalizes sustainability by embedding environmental values into HR systems that shape pro-environmental attitudes and behaviors (D. W. Renwick et al., 2013). Such systems communicate organizational care for the environment, which employees reciprocate through greater commitment and engagement (Shen et al., 2018a).

H4: Employee retention mediates the relationship between Green HRM practices and employee commitment.

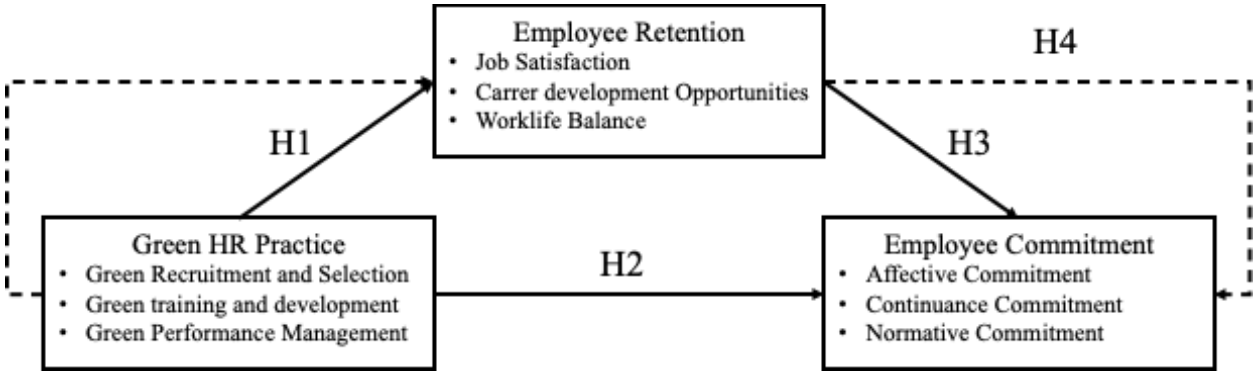

Figure 1: Conceptual Model

3. METHODOLOGY

3.1. Research Design

This study uses a quantitative explanatory design to test the relationships among Green Human Resource Management (GHRM) practices, employee retention, and employee commitment. A cross-sectional survey was employed because it captures perceptions across several airlines at one point in time. The design supports examination of causal associations and is appropriate for hypothesis testing through Partial Least Squares Structural Equation Modelling (PLS-SEM) (Hair et

al., 2019).

3.2. Research Philosophy and Approach

The study follows an objectivist-realist philosophy, assuming that relationships among variables exist independently of observation. A deductive approach was adopted: hypotheses were developed from established theory and validated empirically through numerical data. This combination strengthens replicability and external validity in an emerging research stream such as Green HRM in the Gulf airline sector.

3.3. Population and Sampling

The population consisted of HR Managers and senior HR officers employed in commercial airlines operating in or from the Gulf region. These professionals possess direct knowledge of green HR policies and workforce management. A stratified random-sampling method ensured representation from national carriers, regional operators, and low-cost airlines. Out of approximately 400 targeted respondents, 350 valid questionnaires were returned (87,5 % response rate). This meets the 10-times rule for PLS-SEM, which requires at least ten times the maximum number of structural paths directed at any construct (Hair et al., 2019).

3.4. Data Collection Procedure

Data were gathered through a structured online questionnaire distributed between March and June 2024. Each invitation explained the academic purpose of the research, voluntary participation, and anonymity. The survey sought professional assessments of HR systems rather than personal opinions, reducing social-desirability bias. Respondents typically needed 15 minutes to complete the form, and two e-mail reminders increased participation.

3.5. Measurement Instrument

The questionnaire comprised four sections:

1. Demographic information: gender, age, managerial level, and tenure.
2. Green HRM Practices: ten items adapted from (Ahmad, 2015b; Jerónimo, Henriques, de Lacerda, et al., 2020; Malik et al., 2020b), covering green recruitment, training, and performance management.
3. Employee Retention: five items measuring intention to stay, job security, and career continuity (B. L. Das & Baruah, 2013; Nguyen, 2020b).
4. Employee Commitment: five items assessing overall attachment and loyalty (Habib et al., 2014a; Meyer & Allen, 1991).

Green HRM was measured using multiple items reflecting environmentally oriented HR practices. Items for Green HRM were adapted from validated scales developed by (Tang et al., 2018b), which conceptualize the construct across four key dimensions: green recruitment and selection, training, performance management, and rewards.Respondents rated each item on a five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree").

3.6. Validity and Reliability Testing

Content and Construct Validity

Expert review ensured content validity. Construct validity was tested in SmartPLS 4 through Confirmatory Factor Analysis (CFA). Indicators with loadings ≥ 0.70 were retained; all Average Variance Extracted (AVE) values exceeded 0.50, demonstrating convergent validity. Discriminant validity was confirmed by both the Fornell–Larcker criterion and the HTMT ratio (< 0.85) (Henseler et al., 2015). No cross-loading anomalies were detected.

Reliability

Internal-consistency reliability was verified using **Cronbach's α** and **Composite Reliability (CR)**. All α and CR values were above 0.70 (Nunnally & Bernstein, 1994),confirming satisfactory reliability for each construct.

3.7. Common Method Bias and Normality

Procedural remedies included anonymity, mixed question order, and separation of variable labels. A **Harman one-factor test** showed that a single factor explained less than 40 % of the total variance, suggesting minimal common-method bias. Data distribution met normality assumptions with skewness and kurtosis within ±2.

3.8. Data Analysis Technique

All analysis were conducted in **SmartPLS 4**. The evaluation followed a **two-stage approach**:

1. **Measurement model assessment** – reliability, convergent validity, discriminant validity, and collinearity diagnostics. VIF values below 3.3 confirmed absence of multicollinearity.
2. **Structural model assessment** – estimation of path coefficients, effect sizes ($\mathbf{f^2}$), explained variance ($\mathbf{R^2}$), predictive

relevance ($\mathbf{Q^2}$), and global model fit (**SRMR, NFI, RMS_Theta**). Effect-size interpretation followed (Cohen, 1988): 0.02 = small, 0.15 = medium, 0.35 = large. Bootstrapping with 10000 resamples produced t-statistics, p-values, and bias-corrected confidence intervals for direct and indirect effects.

3.9. Ethical Considerations

At the time of data collection, no institutional review pathway applied to anonymous surveys of adult employees. The study complied with recognized ethical standards: voluntary participation, electronic informed consent, absence of identifying data, and secure storage of anonymized responses.

The validated measurement and analytical procedures provide a sound basis for examining the hypothesized relationships presented in the next section.

4. ANALYSIS OF DATA

4.1. Demographic Analysis

A demographic analysis of the participants includes the following: From the 100 HR managers from the airline industry 64% are males while 36% are females. This goes further to show that women representation in the managerial positions of the Human resource in this sector is very limited.

4.2. Measurement Model

Relibility and convergent validity

Reliability and validity were verified prior to structural assessment. All factor loadings exceeded the recommended threshold of 0.70, confirming indicator reliability. Cronbach's alpha and composite reliability values for each construct were above 0.70, indicating strong internal consistency. Average Variance Extracted (AVE) values exceeded 0.50, demonstrating convergent validity.

Table 1: Cronbach's Alpha, Composite Reliability, Average Variance Extracted

Construct	Cronbach's α	Composite Reliability (CR)	AVE	Interpretation
Green HRM	**0.873**	**0.907**	**0.662**	Reliable & Valid
Employee Retention	**0.877**	**0.911**	**0.672**	Reliable & Valid
Employee Commitment	**0.885**	**0.916**	**0.686**	Reliable & Valid

4.3. Discriminant Validity

Discriminant validity was established using both the **Fornell–Larcker criterion** and the **Heterotrait–Monotrait ratio (HTMT)**. The square roots of each construct's AVE (shown on the diagonal in Table 1) are greater than the corresponding inter-construct correlations, confirming that each construct is empirically distinct. Furthermore, all **HTMT values** are below the conservative threshold of 0.85 (**Error! Reference source not found.**), providing additional support for discriminant validity (Henseler et al., 2015).

Table 1: Fornell-Larcker Criterion

Construct	Employee Commitment	Employee Retention	Green HRM
Employee Commitment	**0.828**	—	—
Employee Retention	0.582	**0.820**	—
Green HRM	0.451	0.390	**0.814**

Note.: Values on the diagonal are the square roots of the AVEs. Off-diagonal elements are latent-variable correlations.

Tale 3: HTMT Ratio

Construct Pair	HTMT Value	Criterion	Result
Employee Commitment – Employee Retention	**0.659**	< 0.85	Valid
Employee Commitment – Green HRM	**0.507**	< 0.85	Valid
Employee Retention – Green HRM	**0.442**	< 0.85	Valid

Together, the Fornell–Larcker and HTMT results confirm that **discriminant validity is established** for all constructs in the model.

Table 4: Hypothesis Testing

Path	β	t	p	Decision
Green HRM → Employee Retention	**0.390**	8.378	< 0.001	Supported
Employee Retention → Employee Commitment	**0.479**	11.505	< 0.001	Supported
Green HRM → Employee Commitment	**0.264**	6.000	< 0.001	Supported
Green HRM → Employee Commitment (via Retention)	**0.187**	6.877	< 0.001	Supported (Partial Mediation)

4.4. Collinearity Assessment

Before proceeding to structural model evaluation, collinearity was assessed to ensure that indicators and predictor constructs did not exhibit redundancy. All outer VIF values for measurement items and inner VIF values for latent variables were well below the threshold of 5.0, indicating no multicollinearity issues (Hair Jr et al., 2021). This confirms that the constructs contribute independently to their respective relationships, supporting the reliability of subsequent structural estimates.

Table 5: Collinearity Assessment (Variance Inflation Factor)

Type	Construct / Indicator	VIF	Interpretation
Outer Model	GHRM_1–GHRM_4	**< 3.0***	No collinearity
Outer Model	ER_1–ER_4	**< 3.0***	No collinearity
Outer Model	EC_1–EC_4	**< 3.0***	No collinearity
Inner Model	GHRM → ER	**1.255**	No collinearity
Inner Model	GHRM, → EC	**1.000**	No collinearity
Inner Model	ER → EC	**1.255**	No collinearity

This confirms that the constructs contribute independently to their respective relationships, supporting the reliability of subsequent structural estimates.

4.5. Structural Model Assessment

After establishing reliability and validity of the measurement model, the next step was to evaluate the structural modelto test the hypothesized relationships among constructs. The analysis examined path coefficients, coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2_predict) to assess both explanatory and predictive power.
The significance of direct, indirect, and total effects was determined through the bootstrapping procedure with 10,000 subsamples, while f^2 quantified each exogenous construct's relative contribution to the model. Finally, Q^2_predict, obtained via the PLSpredict algorithm in SmartPLS 4.1.1.5, was used to evaluate the model's out-of-sample predictive relevance.

4.5.1. Structural Model Results

The results in **Error! Reference source not found.**show that all hypothesized direct relationships are positive and statistically significant, confirming the proposed structural paths. Green HRM has a significant effect on employee retention (β = 0.390, t = 8.378, p < 0.001), indicating that environmentally oriented HR practices enhance employees' intention to remain with the organization. Employee retention, in turn, has a strong positive effect on employee commitment (β = 0.479, t = 11.505, p < 0.001), demonstrating that long-term employment stability fosters emotional attachment and identification with organizational goals. Although the direct link between Green HRM and employee commitment also remains significant (β = 0.264, t = 6.000, p < 0.001), the indirect path through retention (β = 0.187, t = 6.877, p < 0.001) indicates a mediating mechanism. The VAF = 0.414 confirms partial mediation, meaning that retention transmits part—but not all—of Green HRM's influence on commitment.
Overall, the model explains **39.8 % of the variance in commitment** and **15.2 % in retention**, supporting the assumption that environmentally responsible HR systems contribute both directly and indirectly to stronger organizational commitment through enhanced employee retention.

The **f^2** statistic was used to assess the relative impact of each exogenous construct on its respective endogenous construct. Following Cohen's (1988) guidelines, f^2 values of 0.02, 0.15, and 0.35 indicate small, medium, and large effects, respectively (Hair Jr et al., 2021).

Table 6: Effect Size (f^2)

Path	f^2	t	p	Interpretation
Employee Retention → Employee Commitment	**0.323**	4.309	< 0.001	Large effect
Green HRM → Employee Commitment	**0.098**	2.667	0.008	small-to-medium effect
Green HRM → Employee Retention	**0.180**	3.420	0.001	medium effect

Overall, the f^2 results demonstrate that employee retention exerts the strongest influence on commitment, while green HRM shows moderate effects on both outcomes.

Predictive Relevance (Q^2)

The PLSpredict procedure in SmartPLS 4.1.1.5 was used to assess predictive relevance, replacing the traditional blindfolding method (Hair Jr et al., 2021). The analysis produced Q^2_predict values greater than 0 for both endogenous constructs, confirming that the model possesses predictive relevance.

Table 7: Predictive Relevance (Q^2)

Construct	Q^2_predict	RMSE	MAE	Interpretation
Employee Retention	**0.144**	0.930	0.767	medium predictive relevance
Employee Commitment	**0.198**	0.900	0.739	medium predictive relevance

According to (Hair Jr et al., 2021), Q^2_predict values of approximately 0.02, 0.15, and 0.35 represent small, medium, and large predictive relevance, respectively. Thus, once finalized, the model's Q^2_predict values indicate moderate predictive accuracy for both employee retention and employee commitment.

5. DISCUSSION

The structural model results provide empirical support for the hypothesized relationships, demonstrating that Green HRM significantly enhances both employee retention and employee commitment in the airline industry. This finding is consistent with prior research in service contexts such as hospitality, where GHRM has been shown to strengthen employees' eco-friendly behavior and environmental performance (Kim et al., 2019b). These results also align with Social Exchange Theory (Blau, 1964), which posits that employees reciprocate favorable organizational actions—such as environmentally responsible HR practices—with loyalty and positive work attitudes. Airlines that embed environmental principles into HR functions thus signal long-term organizational care and stability, encouraging employees to remain and engage more deeply with the firm's mission. Similarly, (Shen et al., 2018b) demonstrated that employees' perceptions of GHRM practices directly shape job satisfaction and environmental performance, reinforcing the behavioral pathway from environmental HR systems to employee commitment.

The positive effect of Green HRM on retention ($\beta = 0.390$, $p < 0.001$) confirms that environmentally responsible HR policies foster a sense of purpose and belonging that encourages employees to stay. This result supports previous research showing that eco-friendly HR systems strengthen job satisfaction and organizational attachment (S. Das & Dash, 2023; Malik et al., 2020c; Saeed et al., 2019). For airlines, where workforce continuity is critical for safety and service quality, these practices contribute not only to sustainability goals but also to operational resilience.

The direct influence of Green HRM on commitment ($\beta = 0.264$, $p < 0.001$) indicates that environmental responsibility has an intrinsic motivational effect, consistent with Resource-Based View logic (Barney, 1991a): green-skilled and sustainability-oriented employees represent a valuable, inimitable human resource. Prior studies similarly found that GHRM increases affective commitment by aligning organizational and personal environmental values (Pham et al., 2019; Waqas et al., 2021).

The strong path from retention to commitment ($\beta = 0.479$, $p < 0.001$) further validates the argument that retention acts as a behavioral foundation for deeper attitudinal attachment. This sequence supports Side-Bet Theory (Becker, 1960), which

suggests that as employees accumulate tenure and organizational investments, they develop a stronger commitment to remain. Similar evidence was reported by (Ng & Feldman, 2010; Somers, 1995b), who observed that stability within the employment relationship reinforces affective and normative commitment over time.

The mediation analysis (VAF = 0.414) indicates partial mediation, showing that employee retention transmits a significant portion of Green HRM's impact on commitment while the direct relationship remains significant. This partial mediation implies that Green HRM exerts both instrumental effects (improving retention mechanisms such as job security and satisfaction) and psychological effects (enhancing identification with organizational environmental values). The result resonates with (Alzyoud, 2021; Costantino et al., 2021) and who also found retention to mediate the link between green practices and sustainable performance.

From a practical standpoint, the findings emphasize that green HR systems are not only tools for environmental compliance but also strategic levers for talent stability and cultural alignment. Airlines that embed environmental values in recruitment, training, and reward systems can cultivate a workforce that "stays to care" employees who remain because they identify with the firm's ecological and ethical purpose. This integration of environmental and human sustainability strengthens both employee well-being and long-term competitive advantage.

- *Managerial Implications*

For managers, the results underscore that Green HRM is a dual-purpose strategy—achieving environmental sustainability and human resource stability. This aligns with prior conceptualizations of GHRM as a strategic HR approach that simultaneously addresses environmental and human sustainability objectives (Jackson et al., 2011; D. W. S. Renwick et al., 2013).

1. Institutionalize Green HR practices: Integrate environmental criteria into recruitment, training, and performance appraisal systems to strengthen retention (Malik et al., 2020a).
2. Enhance long-term engagement: Develop retention-oriented initiatives such as career path sustainability and recognition programs to convert tenure into commitment (Ng & Feldman, 2010).
3. Integrate ecological values: Embed environmental goals in daily HR processes to ensure that sustainability is perceived as part of corporate identity (Tan Pham et al., 2019).
4. Measure outcomes: Use HR analytics to track green HR indicators (e.g., retention rate, engagement) as part of broader sustainability reporting (Hair Jr et al., 2021).

These actions align human and environmental sustainability objectives, producing employees who "stay to care."

6. CONCLUSION

This study confirms that Green HRM practices positively affect employee retention and commitment in the airline industry. Retention partially mediates the GHRM–commitment relationship, supporting both Social Exchange Theory and the Resource-Based View (Barney, 1991b; Blau, 1964).

The findings demonstrate that when organizations link environmental stewardship to HR policies, employees reciprocate with loyalty and engagement (Saeed et al., 2019; Tan Pham et al., 2019). The study contributes theoretically by framing Green HRM as a strategic human capital mechanism that converts environmental responsibility into sustained workforce commitment. Practically, it provides airline executives with evidence that integrating ecological values within HR systems can create a stable, motivated, and sustainable workforce.

The study contributes theoretically by framing Green HRM as a strategic human capital mechanism that converts environmental responsibility into sustained workforce commitment. Practically, it provides airline executives with evidence that integrating ecological values within HR systems can create a stable, motivated, and sustainable workforce. Embedding ecological objectives into HR systems represents a strategic approach to sustainability that strengthens both human capital and environmental performance (D. W. S. Renwick et al., 2013). By fostering a supportive green climate, organizations can transform environmental responsibility into an enduring source of identification and retention (Dumont et al., 2017).

Future research could extend this framework across industries and cultures to confirm its generalizability and to explore additional mediating mechanisms such as green motivation and employee well-being.

- *Limitations and Future Research Directions*

Despite robust results, several limitations warrant mention. First, the cross-sectional design restricts causal inference; future studies should employ longitudinal or experimental methods (Hair Jr et al., 2021). Second, the airline-specific sample limits external validity; replication in hospitality, healthcare, or logistics would test sectoral robustness (S. Das & Dash, 2023). Third, focusing solely on employee retention as a mediator narrows theoretical scope; future models could incorporate additional mediators (e.g., green motivation, organizational culture) or moderators (e.g., leadership style) (Malik et al., 2020a; Waqas et al., 2021). Finally, reliance on self-reported data may introduce bias; using multi-source data and objective HR indicators such as turnover or tenure would improve reliability (Hair Jr et al., 2021).

Nevertheless, this research empirically validates that Green HRM practices are strategic enablers of sustainable human resource development and organizational commitment, bridging environmental and behavioral sustainability..

REFERENCES

Agyeiwaah, E., Dayour, F., & Zhou, (Joe) Yong. (2022). How does employee commitment impact customers' attitudinal loyalty? Journal of Hospitality and Tourism Insights, 5(2), 350-376. https://doi.org/10.1108/JHTI-09-2020-0169

Ahmad, S. (2015a). Green Human Resource Management : Policies and practices. Cogent Business & Management, 2(1), 1030817. https://doi.org/10.1080/23311975.2015.1030817

Ahmad, S. (2015b). Green human resource management : Policies and practices. Cogent business & management, 2(1), 1030817.

Aldalou, E., & PerçiN, S. (2018). financial performance evaluation of turkish airline companies using integrated fuzzy ahp fuzzy topsis model*. Uluslararası İktisadi ve İdari İncelemeler Dergisi. https://doi.org/10.18092/ulikidince.347925

Alhaddad, K. (2024). Study of the Impact that Style of Leadership has Upon Innovation Within the UAE Through Utilisation of the Knowledge Sharing Role—ProQuest. https://www.proquest.com/openview/502ebe5d374249da579eed05407487e2/1?pq-origsite=gscholar&cbl=2026366&diss=y

Alves, P., Santos, V., Reis, I., Martinho, F., Martinho, D., Correia Sampaio, M., José Sousa, M., & Au-Yong-Oliveira, M. (2020). Strategic Talent Management : The Impact of Employer Branding on the Affective Commitment of Employees. Sustainability, 12(23), 9993. https://doi.org/10.3390/su12239993

Alzyoud, A. A. Y. (2021). The impact of green human resource management practices and knowledge sharing on sustainable performance : A conceptual framework. International Journal of Education Humanities and Social Science, 4(2), 115-132.

Arulrajah, A. A., Opatha, H. H. D. N. P., & Nawaratne, N. N. J. (2016). Green human resource management practices : A review. Sri Lankan Journal of Human Resource Management, 5(1), 1. https://doi.org/10.4038/sljhrm.v5i1.5624

Barney, J. (1991a). Firm Resources and Sustained Competitive Advantage. Journal of Management, 17(1), 99-120. https://doi.org/10.1177/014920639101700108

Barney, J. (1991b). Firm resources and sustained competitive advantage. Journal of management, 17(1), 99-120.

Bashir, B., & Ganai, A. (2020). Testing the effects of job satisfaction on organizational commitment. Journal of Management Development, ahead-of-print. https://doi.org/10.1108/JMD-07-2018-0210

Becker, H. S. (1960). Notes on the Concept of Commitment. American Journal of Sociology, 66(1), 32-40. https://doi.org/10.1086/222820

Blau, P. M. (1964). Exchange and Power in Social Life (1re éd.). Routledge. https://doi.org/10.4324/9780203792643

Cohen, J. (1988). Set correlation and contingency tables. Applied psychological measurement, 12(4), 425-434.

Costantino, F., Falegnami, A., Fedele, L., Bernabei, M., Stabile, S., & Bentivenga, R. (2021). New and emerging hazards for health and safety within digitalized manufacturing systems. Sustainability, 13(19), 10948.

Das, B. L., & Baruah, M. (2013). Employee retention : A review of literature. Journal of business and management, 14(2), 8-16.

Das, S., & Dash, M. (2023). Green Recruitment and Selection : An Innovative Approach towards Organizational Development and Environmental Sustainability. International Journal of Advances in Social Sciences, 61-69. https://doi.org/10.52711/2454-2679.2023.00010

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

Farrukh, M., Kalimuthu, R., Farrukh, S., & Khan, M. S. (2020). Role of Job satisfaction and organizational commitment in Employee Loyalty : Empirical Analysis from Saudi Hotel Industry.

Habib, S., Aslam, S., Hussain, A., Yasmeen, S., & Ibrahim, M. (2014a). The impact of organizational culture on job satisfaction, employees commitment and turn over intention. Advances in Economics and Business, 2(6), 215-222.

Habib, S., Aslam, S., Hussain, A., Yasmeen, S., & Ibrahim, M.

(2014b). The Impact of Organizational Culture on Job Satisfaction, Employess Commitment and Turn over Intention. Advances in Economics and Business, 2(6), 215-222. https://doi.org/10.13189/aeb.2014.020601

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.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. Springer Nature.

Hazarika, I., & Boukareva, B. (2016). Performance Analysis Of Major Airline Companies In Uae With Reference To Profitability, Liquidity, Efficiency, Employee Strength And Productivity. Eurasian Journal of Business and Management, 4(4), 71-80.

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

Hussain, S. E., Mumtaz, R., Khan, S. S., Fatima, E., & Shahid, Dr. M. N. (2023). IMPACT OF GREEN HRM PRACTICES ON ORGANIZATIONAL SUSTAINABILITY AND EMPLOYEE RETENTION : EVIDENCE FROM THE SMES' SECTOR OF BAHAWALPUR. Bulletin of Business and Economics (BBE), 12(3), 124-131. https://doi.org/10.61506/01.00002

Jackson, S. E., Renwick, D. W. S., Jabbour, C. J. C., & Muller-Camen, M. (2011). State-of-the-Art and Future Directions for Green Human Resource Management : Introduction to the Special Issue. German Journal of Human Resource Management: Zeitschrift Für Personalforschung, 25(2), 99-116. https://doi.org/10.1177/239700221102500203

Jam, M., & Jamal, W. N. (2020). Impact of Green Human Resources Management Practices on Organizational Sustainability and Employee Retention : An Empirical Study Related to Educational Institutions. iRASD Journal of Management, 2(1), 38-48. https://doi.org/10.52131/joe.2020.0201.0014

Jamil, S., Zaman, S. I., Kayikci, Y., & Khan, S. A. (2023). The Role of Green Recruitment on Organizational Sustainability Performance : A Study within the Context of Green Human Resource Management. Sustainability, 15(21), 15567. https://doi.org/10.3390/su152115567

Jerónimo, H. M., Henriques, P. L., de Lacerda, T. C., da Silva, F. P., & Vieira, P. R. (2020). Going green and sustainable : The influence of green HR practices on the organizational rationale for sustainability. Journal of business research, 112, 413-421.

Jerónimo, H. M., Henriques, P. L., Lacerda, T. C. D., Da Silva, F. P., & Vieira, P. R. (2020). Going green and sustainable : The influence of green HR practices on the organizational rationale for sustainability. Journal of Business Research, 112, 413-421. https://doi.org/10.1016/j.jbusres.2019.11.036

Karatepe, T., Ozturen, A., Karatepe, O. M., Uner, M. M., & Kim, T. T. (2022). Management commitment to the ecological environment, green work engagement and their effects on hotel employees' green work outcomes. International Journal of Contemporary Hospitality Management, 34(8), 3084-3112. https://doi.org/10.1108/IJCHM-10-2021-1242

Khalid, K., & Nawab, S. (2018). Employee Participation and Employee Retention in View of Compensation. Sage Open, 8(4), 2158244018810067. https://doi.org/10.1177/2158244018810067

Kim, Y. J., Kim, W. G., Choi, H.-M., & Phetvaroon, K. (2019a). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. International Journal of Hospitality Management, 76, 83-93. https://doi.org/10.1016/j.ijhm.2018.04.007

Kim, Y. J., Kim, W. G., Choi, H.-M., & Phetvaroon, K. (2019b). The effect of green human resource management on hotel employees' eco-friendly behavior and environmental performance. International journal of hospitality management, 76, 83-93.

Leidner, S., Baden, D., & Ashleigh, M. J. (2019). Green (environmental) HRM : Aligning ideals with appropriate practices. Personnel Review, 48(5), 1169-1185. https://doi.org/10.1108/PR-12-2017-0382

Mahadin, B. K., Abu Elsamen, A., & El-Adly, M. I. (2023). Airline brand equity : Do advertising and sales promotion matter? An empirical evidence from UAE traveler's perspective. International Journal of Organizational Analysis, 31(6), 2031-2058. https://doi.org/10.1108/IJOA-07-2021-2868

Malik, S. Y., Cao, Y., Mughal, Y. H., Kundi, G. M., Mughal, M. H., & Ramayah, T. (2020a). Pathways towards Sustainability in Organizations : Empirical Evidence on the Role of Green Human Resource Management Practices and Green Intellectual Capital. Sustainability, 12(8), 3228. https://doi.org/10.3390/su12083228

Malik, S. Y., Cao, Y., Mughal, Y. H., Kundi, G. M., Mughal, M. H., & Ramayah, T. (2020b). Pathways towards sustainability in organizations : Empirical evidence on the role of green human resource management practices and green intellectual capital. Sustainability, 12(8), 3228.

Malik, S. Y., Cao, Y., Mughal, Y. H., Kundi, G. M., Mughal, M. H., & Ramayah, T. (2020c). Pathways towards Sustainability in Organizations : Empirical Evidence on the Role of Green Human Resource Management Practices and Green Intellectual Capital. Sustainability, 12(8), 3228. https://doi.org/10.3390/su12083228

Meyer, J. P., & Allen, N. J. (1991). A three-component conceptualization of organizational commitment. Human Resource Management Review, 1(1), 61-89. https://doi.org/10.1016/1053-4822(91)90011-Z

Ng, T. W. H., & Feldman, D. C. (2010). THE RELATIONSHIPS OF AGE WITH JOB ATTITUDES : A META-ANALYSIS. Personnel Psychology, 63(3), 677-718. https://doi.org/10.1111/j.1744-6570.2010.01184.x

Nguyen, C. (2020a). The Impact of Training and Development, Job Satisfaction and Job Performance on Young Employee Retention (SSRN Scholarly Paper No. 3930645). Social Science Research Network. https://doi.org/10.2139/ssrn.3930645

Nguyen, C. (2020b). The impact of training and development, job satisfaction and job performance on young employee retention. Job Satisfaction and Job Performance on Young Employee Retention (May 1, 2020).

Nunnally, J. C., & Bernstein, I. H. (1994). Psychometric Theory McGraw-Hill. New York, 136.

Perçin, S. (2018). Evaluating airline service quality using a combined fuzzy decision-making approach. Journal of Air Transport Management, 68, 48-60. https://doi.org/10.1016/j.jairtraman.2017.07.004

Pham, N. T., Tučková, Z., & Phan, Q. P. T. (2019). Greening human resource management and employee commitment toward the environment : An interaction model. Journal of Business Economics and Management, 20(3), 446-465. https://doi.org/10.3846/jbem.2019.9659

Rameshkumar, M. (2020). Employee engagement as an antecedent of organizational commitment – A study on Indian seafaring officers. The Asian Journal of Shipping and Logistics, 36(3), 105-112. https://doi.org/10.1016/j.ajsl.2019.11.003

Renwick, D. W., Redman, T., & Maguire, S. (2013). Green human resource management : A review and research agenda. International journal of management reviews, 15(1), 1-14.

Renwick, D. W. S., Redman, T., & Maguire, S. (2013). Green Human Resource Management : A Review and Research Agenda*. International Journal of Management Reviews, 15(1), 1-14. https://doi.org/10.1111/j.1468-2370.2011.00328.x

Saeed, B. B., Afsar, B., Hafeez, S., Khan, I., Tahir, M., & Afridi, M. A. (2019). Promoting employee's proenvironmental behavior through green human resource management practices. Corporate Social Responsibility and Environmental Management, 26(2), 424-438. https://doi.org/10.1002/csr.1694

Sarwar, A., & Mustafa, A. (2024). Analysing the impact of green intellectual capital on environmental performance : The mediating role of green training and development. Technology Analysis & Strategic Management, 36(11), 3357-3370. https://doi.org/10.1080/09537325.2023.2209205

Shahid, A., & Azhar, S. (2013). Gaining Employee Commitment : Linking to Organizational Effectiveness. Journal of Management Research, 5, 250. https://doi.org/10.5296/jmr.v5i1.2319

Shen, J., Dumont, J., & Deng, X. (2018a). Retracted : Employees' perceptions of green HRM and non-green employee work outcomes : The social identity and stakeholder perspectives. Group & Organization Management, 43(4), 594-622.

Shen, J., Dumont, J., & Deng, X. (2018b). RETRACTED : Employees' Perceptions of Green HRM and Non-Green Employee Work Outcomes: The Social Identity and Stakeholder Perspectives. Group & Organization Management, 43(4), 594-622. https://doi.org/10.1177/1059601116664610

Somers, M. J. (1995a). Organizational commitment, turnover and absenteeism : An examination of direct and interaction effects. Journal of Organizational Behavior, 16(1), 49-58. https://doi.org/10.1002/job.4030160107

Somers, M. J. (1995b). Organizational commitment, turnover and absenteeism : An examination of direct and interaction effects. Journal of Organizational Behavior, 16(1), 49-58. https://doi.org/10.1002/job.4030160107

Syed, M., Li, J., Junaid, M., & Ziaullah, M. (2020). Relationship between human resource management practices, relationship commitment and sustainable performance. Green Finance, 2, 227-242. https://doi.org/10.3934/GF.2020013

Tan Pham, N., Tučková, Z., & Phu Thi Phan, Q. (2019). SECTORAL ANALYSIS OF THE EFFECTIVENESS OF BANK RISK CAPITAL IN THE VISEGRAD GROUP COUNTRIES. Journal of Business Economics and Management, 20(3), 446-465. https://doi.org/10.3846/jbem.2019.9659

Tang, G., Chen, Y., Jiang, Y., Paillé, P., & Jia, J. (2018a). Green human resource management practices : Scale development and validity. Asia Pacific Journal of Human Resources, 56(1), 31-55. https://doi.org/10.1111/1744-7941.12147

Tang, G., Chen, Y., Jiang, Y., Paillé, P., & Jia, J. (2018b). Green human resource management practices : Scale development and validity. Asia pacific journal of human resources, 56(1), 31-55.

Urme, U. (2023). The Impact of Talent Management Strategies on Employee Retention. International Journal of Science and Business, 28. https://doi.org/10.58970/IJSB.2209

Waqas, M., Yahya, F., Ahmed, A., Rasool, Y., & Hongbo, L. (2021). Unlocking employee's green behavior in fertilizer industry : The role of green HRM practices and psychological ownership. https://doi.org/10.22434/IFAMR2020.0109