

INVESTIGATING THE IMPACT OF GREEN TRANSFORMATIONAL LEADERSHIP ON PRO-ENVIRONMENTAL BEHAVIOR IN TOUR OPERATORS. TESTING THE MEDIATING ROLE OF EMPLOYER ATTRACTIVENESS

Tamer Hamdy AYAD^{*} 

King Faisal University, Management Department, College of Business Administration, Al-Ahsaa, Saudi Arabia, e-mail: tayad@kfu.edu.sa

Ahmed M. HASANEIN^{id} 

King Faisal University, Management Department, College of Business Administration, Al-Ahsaa, Saudi Arabia, e-mail: aabdelrazek@kfu.edu.sa

Citation: Ayad, T.H., & Hasanein, A.M. (2025). Investigating the impact of green transformational leadership on pro-environmental behavior in tour operators. Testing the mediating role of employer attractiveness. *Geojournal of Tourism and Geosites*, 59(2), 835–843. <https://doi.org/10.30892/gtg.59228-1460>

Abstract: In an era where sustainability is a pressing global concern, understanding the role of leadership in fostering eco-friendly behaviors within organizations is more critical than ever. Leadership not only sets the strategic direction but also shapes employees' attitudes and behaviors toward sustainability. This study investigates the direct impact of green transformational leadership (GTFL) on pro-environmental behavior (PENB) and its indirect influence through employer attractiveness (EMA) in the tourism sector. Given the increasing environmental challenges faced by the tourism industry, exploring how leadership can drive sustainability at the employee level is of paramount importance. To achieve this, data were collected from 399 tour operators in Egyptian travel agencies. The study employs Partial Least Squares Structural Equation Modeling (PLS-SEM) to assess the relationships between key variables. The findings reveal that GTFL exerts a significant positive impact on both PENB and EMA, indicating that green leaders inspire employees to engage in environmentally responsible behaviors while also enhancing the organization's appeal to eco-conscious talent. Furthermore, the results confirm that EMA partially mediates the relationship between GTFL and PENB. This suggests that organizations with strong green leadership not only directly influence employee sustainability behaviors but also enhance their attractiveness as employers, which in turn strengthens employees' commitment to environmental initiatives. These findings fill critical gaps in the literature by empirically demonstrating the mechanisms through which green leadership fosters sustainable workplace behaviors. From a practical perspective, the study underscores the importance of cultivating green leadership practices to drive sustainability in the tourism sector. By fostering a workplace culture that prioritizes environmental responsibility, organizations can attract and retain employees who are aligned with sustainability values in the Egyptian tourism sector.

Keywords: green transformational leadership, pro-environmental behavior, employer attractiveness, tour operators, tourism sector

* * * * *

INTRODUCTION

The tourism sector, as a major contributor to global economic development, faces increasing scrutiny regarding its environmental impact (Razzaq et al., 2023). Tour operators, positioned at the nexus of consumer demand and destination management, are uniquely situated to influence sustainable practices within the sector (Ogutu et al., 2023). Amid growing environmental concerns, several studies (Sobaih et al., 2022; Ayad et al., 2023; Tong, 2023; Harisinta, 2024) maintained that GTFL practices garnered considerable academic and practical interest and plays a crucial role in inspiring employees' PENB among employees. Furthermore, GTFL may encourage employees to adopt best practices that lessen the adverse environmental impact of tourism operations by integrating environmental ideals into the organizational culture (Tong, 2023).

GTFL is characterized by leaders who articulate a compelling environmental vision, serve as role models for sustainable practices, and provide individualized support to employees to achieve eco-friendly goals. Such leadership can nurture an organizational climate where pro-environmental behavior is not only encouraged but internalized by employees (Ayad et al., 2023; Harisinta, 2024). However, the mechanisms through which GTFL influences PENB require further exploration (Perez et al., 2023). Concerning EMA, in which an organization's ability to appeal to current and potential employees may play a pivotal mediating role in this relationship (Song et al., 2024). According to the work of Luo et al. (2024) who highlighted that the workplace perceived as environmentally responsible and values-driven is likely to attract individuals who prioritize sustainability, thereby amplifying the effects of GTFL on employee behavior.

EMA refers to the degree to which an organization is perceived as a desirable workplace by current and prospective employees (Nilsen et al., 2024). Factors contributing to EMA include a positive organizational reputation, alignment with personal values, opportunities for professional growth, and a commitment to corporate social responsibility (Rosa et al., 2024). Enterprises in which prioritize environmental stewardship and demonstrate eco-friendly practices are likely to enhance their appeal to individuals who value sustainability (Murtaza et al., 2024). PENB comprehends the actions taken by

* Corresponding author

individuals to minimize their negative impact on the environment (Mi et al., 2024). According to a recent study by Alherimi et al. (2024) who argued that PENB can range from simple activities like recycling and energy conservation to more complex practices such as advocating for sustainable policies within organizations. Additionally, PENB is often influenced by organizational culture, leadership, and individual attitudes towards environmental sustainability (Abbas & Tufail, 2024).

To better understand the relationship between GTFL and PENB, this study draws upon the Theory of Planned Behavior (TPB). TPB suggests that an individual's behavior is guided by three key factors: attitude toward the behavior, subjective norms, and perceived behavioral control (Ajzen, 1991). In the context of this research, GTFL is expected to shape employees' attitudes toward environmental responsibility, strengthen social norms favoring sustainable practices, and enhance perceived behavioral control by providing the necessary resources and motivation. Furthermore, EMA may function as a mediator in this process, reinforcing employees' perceptions that their organization values sustainability and thus strengthening their intention to engage in PENB. By integrating TPB, this study aims to provide a robust theoretical foundation for examining how GTFL influences PENB in the Egyptian tourism sector and the mediating role of EMA in this relationship.

LITERATURE REVIEW& HYPOTHESES DEVELOPMENT

1. Green Transformational Leadership and Pro-Environmental Behavior

There is growing research interest in GTFL due to its potential to encourage PENB across various business contexts (Sobaih et al., 2022; Ayad et al., 2023; Goni et al., 2023; Perez et al., 2023; Harisinta, 2024; Larasati & Herachwati, 2024; Luo et al., 2024). While previous studies highlight GTFL's ability to inspire environmental commitment, a deeper analysis of its mechanisms is required. According to Larasati & Herachwati (2024), GTFL fosters a sustainability-oriented mindset by embedding environmental values into organizational leadership. However, its effectiveness depends on leaders' ability to translate this vision into actionable strategies that shape employees' behaviors (Harisinta, 2024). A critical review of the literature suggests that GTFL influences PENB through multiple pathways, including role modeling, participatory decision-making, and reinforcement of sustainability norms (Luo et al., 2024). For instance, Perez et al. (2023) argue that GTFL's impact is contingent on the alignment between leadership practices and organizational culture. With regard to hospitality and tourism context, the study of Sobaih et al. (2022) examined how GTFL could influence PENB among hotel employees. The study suggested that leaders who actively promoted environmental goals and demonstrated eco-friendly practices motivated employees to participate in environmentally sustainable activities, enhancing the overall green image of tourism destinations. Another study by Ayad et al. (2023) suggested that GTFL positively influence both organizational strategies and employees' PENB. Leaders who focus on green innovation and sustainability can inspire their teams to adopt behaviors that promote the environment and enhance the reputation of the tourism industry.

H1: GTFL positively and directly influences PENB

2. Green Transformational Leadership and Employer Attractiveness

Numerous research (i.e., Begum et al., 2022; Florek-Paszkowska & Hoyos-Vallejo, 2023; Nduneseokwu & Harder, 2023; Soni, 2023; Alabdali et al., 2024; Umair et al., 2024) explored the connection between GTFL and EMA in different contexts. GTFL emphasizes the integration of environmental values into leadership practices, fostering innovation and sustainability (Soni, 2023; Umair et al., 2024). The study of Florek-Paszkowska & Hoyos-Vallejo (2023) revealed that green leadership significantly enhances organizational image, making employers more attractive to environmentally conscious talent. Furthermore, a recent study by Rizal et al. (2024) applied on in Indonesian SMEs highlighted that GTFL fosters a culture of sustainability, which can lead to improved organizational performance and a positive corporate image. A strong commitment to environmental sustainability may enhance EMA by appealing to environmentally conscious job seekers (Begum et al., 2022). However, a recent study by Cai et al. (2024), argued that the caution against over-reliance on green initiatives, suggesting that a mismatch between green rhetoric and actual practices can harm employer credibility. In terms of hospitality and tourism context, a study by Agrawal & Pradhan (2023) was adopted in Indian hotel sector which suggested that GTFL positively influences employees' in-role and extra-role green behaviors through environmental value congruence. Such environmentally responsible behaviors can enhance an organization's reputation, potentially making it more attractive to prospective employees. Hence, the following hypothesis was proposed:

H2: GTFL positively and directly influences EMA

3. Employer Attractiveness and Pro-Environmental Behavior

Several studies (e.g., Coelho et al., 2022; Muisyo et al., 2022; Paillé, 2022; Zaidi & Azmi, 2024; Song et al., 2024) have explored the relationship between EMA and PENB, highlighting how organizations that prioritize sustainability and environmental responsibility tend to attract employees who share similar values. The study of Muisyo et al. (2022) suggested that enterprises with strong environmental credentials, such as implementing green practices or offering sustainability-focused benefits, are more appealing to job seekers, particularly those from younger generations who are increasingly concerned with environmental issues. In addition, employees who are drawn to such organizations are more likely to engage in PENB, both at work and in their personal lives (Coelho et al., 2022). The concept of organizational values alignment, where employees feel a sense of purpose and commitment to a company that reflects their own ethical and environmental priorities (Song et al., 2024). Consequently, EMA can serve as a powerful driver of PENB among employees, reinforcing the importance of sustainability in organizational culture (Coelho et al., 2022). Concerning tourism sector, the study by Tong (2023) explored how green tourism practices enhance competitiveness and attract workers who are more likely to engage in green practices as well as fostering pro-environmental behaviors among employees, suggesting that organizations with strong environmental values. Correspondingly, a recent research by Song et al. (2024) found that when potential tourism companies' employees perceive a prosocial orientation and value congruence with their own

environmental beliefs, it increases their intention to pursue a job, which in turn fosters greater pro-environmental behavior within the organization. This study represents one of the first attempts to measure the mediating role of employer attractiveness in the relationship between green transformational leadership (GTFL) and pro-environmental behavior (PENB). By addressing this gap, the research provides novel insights into how leadership practices influence environmental behaviors through the lens of perceived organizational appeal. Based upon these discussions, the following hypotheses were purposed:

H3: EMA positively and directly influences PENB

H4: EMA has indirect influence between GTFL and PENB

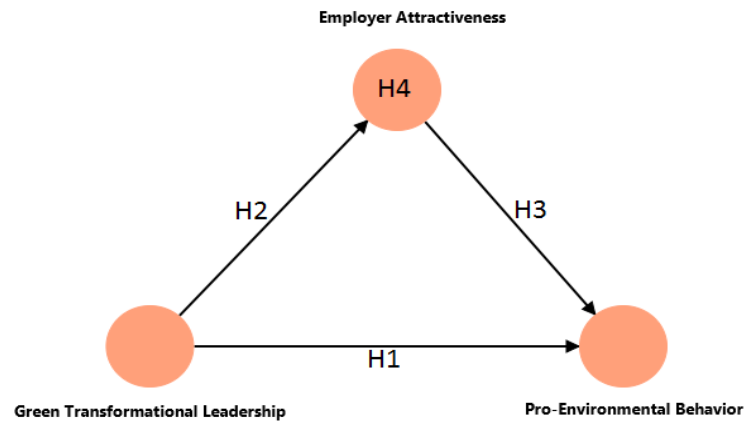


Figure 1. Study Conceptual framework

MATERIALS AND METHODS

The methodology of the study was conducted according to the following Figure 2.

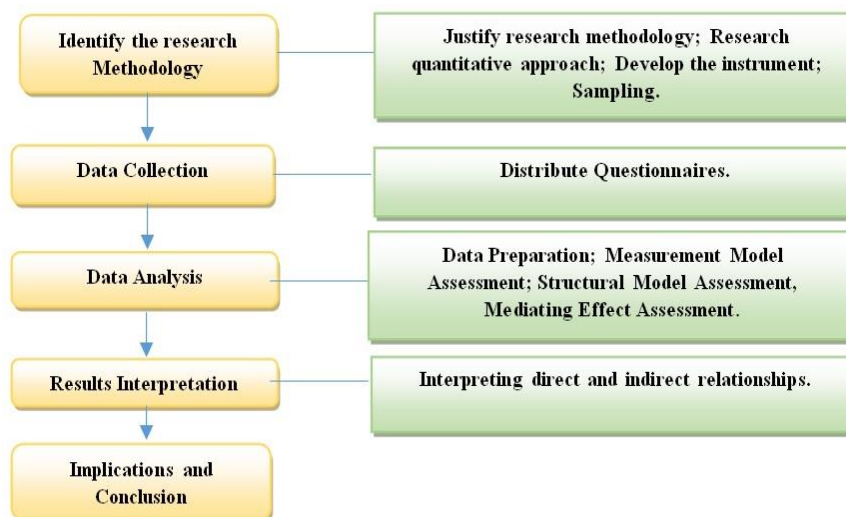


Figure 2. Research methodology flow-chart

Study constructs

The scale used to measure the variables in this study was developed based on the literature reviews. The green transformational leadership was measured by six-item scale, developed by Chen & Chang (2013). The phrases used in this scale to measure the variable are: The leader of the green innovation project takes actions that reflect the environmental values of the team members; the leader of the green innovation project motivates the team with environmental plans; the project leader motivates the team to accomplish the environmental objectives; the project leader offers a clear environmental vision for the team to follow; the leader of the green innovation project inspires the team to consider green ideas; and the leader of the green innovation project unites the team to work towards shared environmental goals. In order to measure the variable of pro-environmental behavior, the scale developed by Robertson & Barling (2013) was adopted. The scale consists of seven statements, investigating: the printing on both sides whenever I can; disposing of compostable items in the compost bin; placing recyclable materials in the appropriate recycling bins; bringing reusable utensils to work; turning off lights when they're not needed; participating in eco-friendly initiatives; and offering suggestions to managers or environmental committees to help improve my organization's environmental impact. As for the mediating variable of this study "Employer Attractiveness", the scale tested and approved by Seara et al. (2023) was adopted, consisting of 5 measurement statements, testing: Development opportunities and recognition from management; Social benefits of working with the employer; Enjoyment of working in an engaging environment; Financial benefits and job stability within the organization; Practical value of contributing by working with this humanitarian organization.

Research Population and Sampling: The study focuses on employees within the tourism industry in Egypt as the target population. Due to the challenge of accurately determining the total workforce size, an estimated population of 20,000 individuals was considered based on industry reports and labor statistics (Ayad, 2024). This estimation follows Veal's (2006) recommendations for handling large or undefined populations, ensuring a representative sampling approach. To determine the appropriate sample size, the study employed the Herbert Larkin equation (Ayad & Hasanein, 2024), which is widely recognized for its applicability in survey research. This calculation yielded a required sample size of 377 responses, which aligns with standard practices for achieving statistical power and generalizability. Additionally, to enhance methodological rigor, the survey was translated into Arabic using a back-translation approach to ensure linguistic accuracy and contextual relevance. A pilot study was conducted with 30 participants to test survey clarity, reliability, and response consistency, leading to minor modifications before full deployment. To address potential common method bias, procedural and statistical remedies were implemented, including the Harman's single-factor test to verify variance distribution.

Data collection: The study employed self-administered questionnaires as part of its quantitative research approach to collect primary data. To ensure the efficiency and validity of the questionnaire, a panel of academics and experts in the field of tourism reviewed and revised the questionnaire. In October and November 2024, the questionnaires were distributed to 414 employees working in the tourism sector in Egypt. In the end, 399 completed surveys were returned, yielding a response rate of 96.4%, and were analyzed statistically. To meet the objectives of the study, the questionnaire was divided into four sections. The demographic data was collected in the first section, and the three sections that follow concentrate on the three research variables: green transformational leadership "GTFL", pro-environmental behavior "PENB", and employer attractiveness "EMA". On a 5-point Likert scale, respondents evaluate items related to these criteria.

Data Analysis Techniques: In order to glean valuable insights from the collected data, which enabling informed decision-making, the Excel v.15-2013 and SPSS v.29-2022 were used to analyze descriptive data and to explore the sample's demographic characteristics. Additionally, the study hypotheses were tested and the relationships between all variables were examined using the partial least squares structural equation modeling PLS-SEM v.4.1.0.9.2024.

RESULTS

The Outer Model

Construct Validity: The construct validity or convergent validity test was conducted to determine whether a test that is designed to measure a specific construct correlates with other tests that evaluate the same construct, which was achieved in this study, as the analysis results showed that the reliability of all the items tested were greater than the recommended cut-off-point of 0.7 (Hair et al., 2017). Also, the composite reliability test was conducted to measure the internal consistency in scale items, and results showed that the "rho_a" of all variables were greater than 0.7, which meet the cut-off-point developed by Bryman & Cramer (2012) and Hair (2017). Moreover, and in order to measure the extent of variance that is explained by a construct in comparison to the variance due to measurement error, the average variance extracted "AVE" test was conducted. The results showed that the "AVE" of all variables were above 0.5, which meet the recommended cut-off-point of Fornell & Larcker (1981). This is a positive result, as the "AVE" for each construct in any measurement model have to be at least 0.50; otherwise the items account for more errors than the variance in the constructs. See Table 1 for more details.

Table 1. Construct validity

Variables	Items	" λ "	"AVE"	" α "	"rho_a"
Green Transformational Leadership "GTFL"	GTFL-1	0.909	0.655	0.900	0.941
	GTFL-2	0.761			
	GTFL-3	0.904			
	GTFL-4	0.747			
	GTFL-5	0.918			
	GTFL-6	0.761			
Pro-Environmental Behavior "PENB"	PENB-1	0.761	0.562	0.874	0.919
	PENB-2	0.844			
	PENB-3	0.761			
	PENB-4	0.786			
	PENB-5	0.783			
	PENB-6	0.739			
	PENB-7	0.779			
Employer Attractiveness "EMA"	EMA-1	0.922	0.693	0.888	0.905
	EMA-2	0.806			
	EMA-3	0.869			
	EMA-4	0.762			
	EMA-5	0.795			

Discriminant Validity

The discriminant validity test, a subtype of construct validity, was performed to evaluate how accurately a test measures the concept it was designed to measure and to verify that two tests, which should not be highly correlated, are indeed unrelated. In brief, this test demonstrates the distinctiveness of the constructs within the model, ensuring that each variable in the model is different from the others, thus confirming the discriminant validity of Kock's model (Kock, 2020). This was achieved using the cross-loading method and the Fornell-Larcker criterion test (Fornell & Larcker, 1981) (Table 2 and Figure 2).

Table 2. Fornell-Larcker criterion

Variables	GTFL	PENB	EMA
GTFL	0.810		
PENB	0.737	0.791	
EMA	0.796	0.750	0.833

*The square root of the Average Variance Extracted is shown by the bolded figures

Table 3. HTMT results

Variables	EMA	GTFL	PENB
EMA			
GTFL	0.770		
PENB	0.797	0.768	

According to the results in Table 2, each variable in the suggested model explains the variation of its constituent parts than the other factors, as per the guidelines of Fornell & Larcker (1981) and Hair et al. (2017). The discriminant validity of the model is therefore confirmed. Moreover, every item has a higher loading on its corresponding construct than on any variable construct in the suggested model of the study. Also, the model's discriminant validity, which was proposed and confirmed by Chin (1998), is highly supported by these findings. Additionally, The heterotrait-monotrait ratio of correlations was less than the cut-off-point of 0.9, as stated and proposed by Henseler & Ringle (2015) (Table 3).

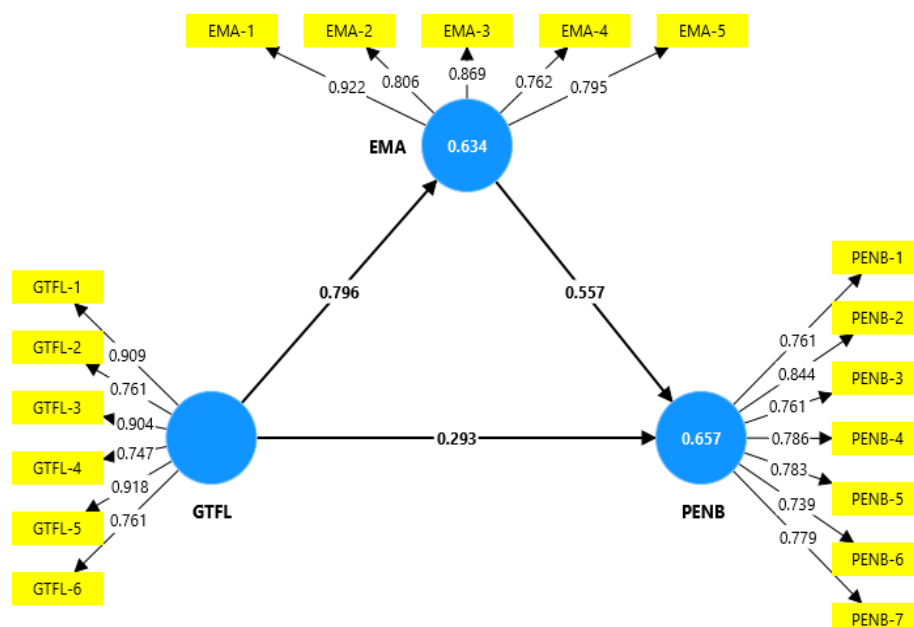


Figure 3. Measurement model

The Inner Model

Coefficient of determination (R^2):

In order to determine how effectively the statistical model predicts the outcome and interpret the proportion of variation in the dependent variable that is predicted by the statistical model. The predictive power of the suggested model was evaluated using the test " R^2 ", which is a value between 0 and 1. A value of 1 signifies a perfect match, while a value of 0 implies that the independent variable has no explanatory power. According to Chin's threshold, the results shown in Table 4 prove that the "IV" significantly influenced the "DV" (Chin, 1998), which was moderate.

Table 4. R^2 Test Results

Variable	R^2	Level
PENB	0.657	Moderate
EMA	0.634	Moderate

Effect size (f^2): The Effect size test " f^2 " was performed to determine the individual constructs power and impact of an "IV" on a "DV" in the proposed model. According to the recommendations of Cohen (1988), the results shown in Table 5 indicate that the effect sizes of the "IVs" on the "DVs" were ranging from small to large effect.

Table 5. Effect Size (f^2)

Variables	PENB	EMA
GTFL	0.292 (Medium)	1.731 (Large)
EMA	0.332 (Medium)	

Examination of "GoF": A goodness of fit test "GoF" was conducted across the measurement, structural, and overall model performance levels to ensure that the study's advised model fulfills the requirements for a global comprehensive fit measure model, as it was proposed and confirmed by Chin (2009):

$$\text{GoF} = \sqrt{R^2 \times \text{AVE}}$$

Where "R²" is the proportion of variance explained by the model, and its unit values between 0 and 1; "AVE" is the average variance explained by the latent variable for its indicators, and its unit values between 0 and 1; and "GoF" is the overall goodness of fit based on R² and AVE and its unit values between 0 and 1.

$$(0.657 + 0.634 / 2) \times (0.655 + 0.562 + 0.693 / 3) = 0.4115$$

$$\text{GoF} = \sqrt{0.4115}$$

$$\text{GoF} = 0.641$$

According to the goodness of fit test result and the recommended point of reference provided by Wetzels et al. (2009), it is possible and conceivable to conclude that the GOF of the advised model is adequate enough to be considered appropriate to serve as a global PLS model.

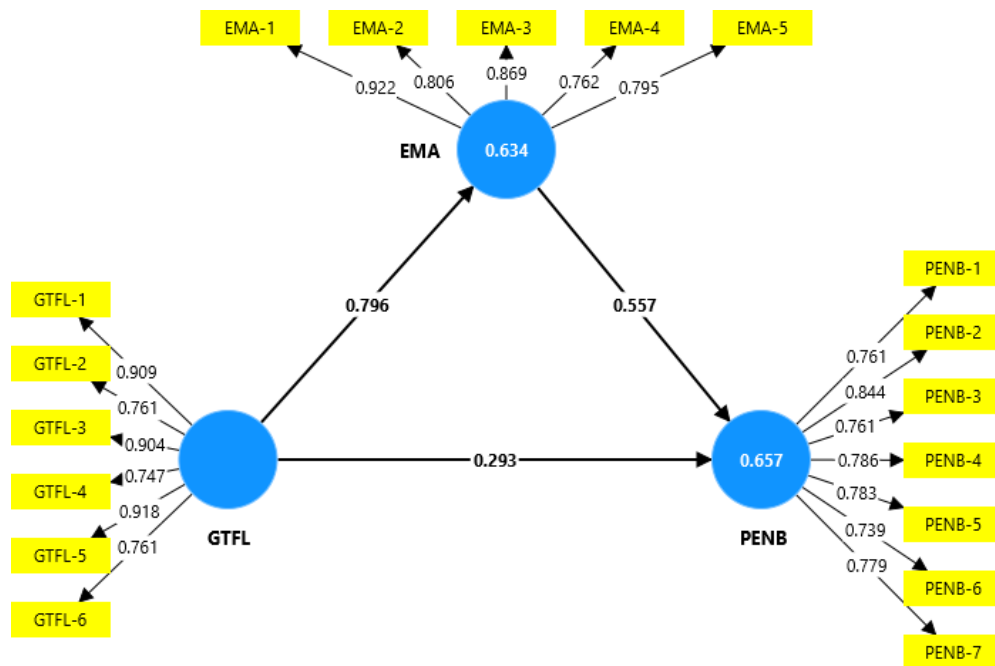


Figure 4. The final model

Examination of the Hypotheses

The effectiveness of the suggested theoretical model's compatibility with the primary data was evaluated using the path coefficient significance test. Tables 6 and 7 present the findings of each hypothesis examination.

Table 6. Direct path coefficient Significant at P** = 0.000

Hypothesis	B	σ	t-score(O/STDEV)	Sig.	Result
H-1: GTFL ->PENB	0.293	0.089	3.290	0.001	√
H-2: GTFL ->EMA	0.796	0.010	77.171	0.000	√**
H-3: EMA ->PENB	0.557	0.071	7.897	0.000	√**

The SEM results at tables 5&6 and the three direct proposed hypotheses (Figure 1). As demonstrated by Figure 4, "GTFL" has a direct positive and significant impact on "PENB" [Original sample score = 0.293; $f^2 = 0.292$; P-value = 0.001] and "EMA" [Original sample score = 0.796; $f^2 = 1.731$; P-value = 0.000]. Moreover, "EMA" positively and significantly influences "PENB" [Original sample score = 0.557; $f^2 = 0.332$; P-value = 0.000]. Therefore, all of the direct impacts hypothesis H1, H2 and H3 received empirical support (Figure 4).

Table 7. Indirect path coefficient Significant at P** = 0.000

Hypothesis	β	σ	t-score(O/STDEV)	Sig.	Result
H-4: GTFL ->EMA ->PENB	0.444	0.058	7.672	0.000	√**

As for the indirect relationship between the study variables, "EMA" shows a mediating impact on the relationship between "GTFL" and "PENB" [Original sample score = 0.444 and P-value = 0.000]. The results revealed a significant mediating effect, leading to the acceptance of hypothesis H4 (Table 7 and Figure 5).

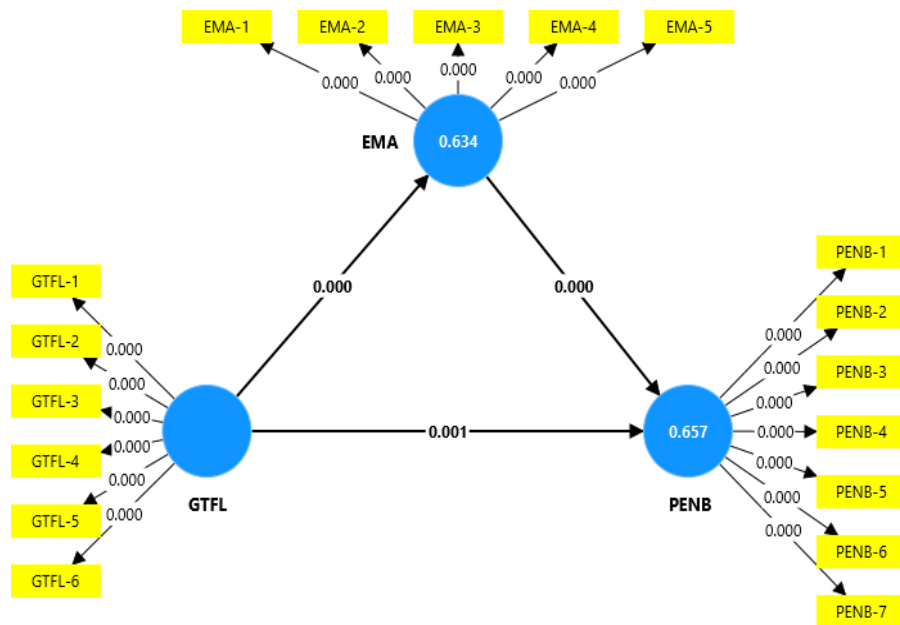


Figure 5. Significance of Path Coefficients

DISCUSSION AND IMPLICATIONS

This study aims to investigate how pro-environmental behavior (PENB) tourism sector is impacted by green transformational leadership (GTFL). The mediating function of employer attractiveness (EMA) in the link between "GTFL" and "PENB" is also examined. According to the results, "GTFL" significantly and favorably affects "PENB" among workers in the Egyptian tourism sector. This is largely consistent with the findings of Perez et al. (2023), who claimed that green transformational leadership qualities encourage organizational change and encourage staff members to take actions that lessen their environmental impact. Additionally, the results showed that "GTFL" significantly and favorably affects "EMA" among workers; this finding is in line with Florek-Paszkowska & Hoyos-Vallejo's (2023) assertion that green leadership improves organizational image and increases employers' appeal to environmentally conscious talent. The results also showed that "EMA" has a significant and positive impact on "PENB" among employees, which is in line with earlier research by Coelho et al. (2022), who contended that companies that prioritize sustainability draw in eco-aware workers who are more inclined to participate in PENB. Additionally, by highlighting the indirect impact of "GTFL" on "PENB" among employees through the partially intermediary role of "EMA," the results validate the mediating function of "EMA" between these variables.

Numerous findings from the study are important for both theoretical and practical implications within Egyptian tourism industry. This study extends existing theoretical frameworks by offering a nuanced perspective on the mediating role of Employer Attractiveness (EMA) in the relationship between Green Transformational Leadership (GTFL) and Pro-Environmental Behavior (PENB). While prior research (e.g., Coelho et al., 2022; Song et al., 2024) has explored EMA's mediating influence in various organizational contexts, this study advances the discussion by examining its specific application within the tourism sector, an industry with distinct sustainability challenges. By demonstrating that EMA not only mediates but also amplifies the impact of GTFL on PENB, this research highlights the mechanisms through which leadership strategies translate into sustained pro-environmental actions.

The findings suggest that organizations with strong environmental branding can further reinforce the leadership-behavior link, positioning EMA as a dynamic rather than passive mediator. This contributes to a deeper theoretical understanding of how leadership and employer perceptions interact to shape sustainable workplace behaviors, offering fresh insights beyond the conventional application of EMA in organizational studies.

These findings have significant managerial implications for the travel and tourism sector, highlighting the need for targeted strategies to foster a sustainable workplace culture. Decision-makers should integrate GTFL principles into leadership development programs, ensuring that managers receive specialized training in sustainability-driven leadership. Leaders should set measurable sustainability goals, actively reward eco-friendly behaviors, and embed green values into performance evaluation metrics to reinforce pro-environmental behavior (PENB). Moreover, enhancing employer attractiveness (EMA) requires concrete actions beyond value alignment.

Organizations should implement green HRM practices, such as sustainability-focused recruitment criteria, eco-conscious onboarding programs, and incentives for employees demonstrating environmental stewardship. Establishing green committees or employee-led sustainability initiatives can also strengthen engagement and encourage participatory decision-making in sustainability policies. Managers should prioritize the development of a structured framework for continuous sustainability training, ensure clear communication of environmental objectives, and provide tangible resources—such as energy-efficient infrastructure or waste reduction programs—to facilitate green behavior. By embedding sustainability into core business strategies and actively involving employees in shaping environmental policies, organizations can create a lasting impact on both workplace culture and industry-wide sustainability efforts.

CONCLUSION

The purpose of this study is to investigate how "GTFL" directly affects "PENB" in Egypt's tourism sector as well as how "EMA" indirectly affects "PENB." Data were received from 399 tour operators working in Egyptian tourism companies. Excel v.15-2013 and SPSS v.29-2022 were used to analyze descriptive data in order to look at the participants' demographics. Additionally, to evaluate the research hypotheses and look into the direct and indirect associations between variables, PLS-SEM v.4.1.0.9.2024 was used. "GTFL" has a good and considerable impact on "PENB" and "EMA" in Egypt's tourism business, according to the SEM results. Furthermore, the findings showed that "EMA" acted as a partial mediator in the relationship between "GTFL" and "PENB".

By recognizing and utilizing these mutually beneficial relationships, tourism decision-makers may create leadership development initiatives that prioritize green transformational practices and cultivate a sustainable culture that encourages staff members to embrace PENBs. By putting EMA first and making clear promises to uphold environmental principles, businesses may draw in and keep eco-aware workers while improving their reputation as green companies. Additionally, putting strategies into place that combine employee involvement in sustainability projects with leadership vision can increase the beneficial effects of GTFL on organizational performance and employee behaviors. These initiatives not only help Egyptian tourism sector become more sustainable, but they also put businesses in a position to satisfy the growing demand for environmentally responsible travel strategies worldwide.

Author Contributions: Conceptualization, T.A. and A.H.; methodology, T.A.; software, T.A.; validation, T.A. and A.H.; formal analysis, T.A.; investigation, A.H.; data curation, T.A.; writing original draft preparation, T.A. and A.H.; writing - review and editing, T.A. and A.H.; visualization, T.A. and A.H.; supervision, T.A. and A.H.; project administration, T.A. All authors have read and agreed to the published version of the manuscript.

Funding: This work was funded by the Deanship of Scientific Research, Vice Presidency for Graduate Studies and Scientific Research, King Faisal University, Saudi Arabia [Project No. KFU250595].

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: The data presented in this study may be obtained on request from the corresponding author.

Acknowledgments: This work was supported through the Annual Funding track by the Deanship of Scientific Research, Vice Presidency for Graduate Studies and Scientific Research, King Faisal University, Saudi Arabia [GRANT No. KFU250595].

Conflicts of Interest: The authors declare no conflict of interest.

REFERENCES

- Abbas, S. M., & Tufail, M. S. (2024). Greening the Workplace: Understanding the Link Between Organizational Culture and Pro-Environmental Behavior in Pakistan's Tourism and Hospitality Sector. *Contemporary Issues in Social Sciences and Management Practices*, 3(1), 135-152. <http://dx.doi.org/10.61503/cissmp.v3i1.120>
- Agrawal, S., & Pradhan, S. (2023). Employee green behavior in hotels: the role of green human resource management, green transformational leadership and value congruence. *Consumer Behavior in Tourism and Hospitality*, 18(2), 241-255. <http://dx.doi.org/10.1108/CBTH-11-2022-0191>
- Alabdali, M. A., Yaqub, M. Z., Agarwal, R., Alofaysan, H., & Mohapatra, A. K. (2024). Unveiling green digital transformational leadership: Nexus between green digital culture, green digital mindset, and green digital transformation. *Journal of cleaner production*, 450, 141670. <http://dx.doi.org/10.1016/j.jclepro.2024.141670>
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Alherimi, N., Marva, Z., Hamarshah, K., & Alzaatreh, A. (2024). Employees' pro-environmental behavior in an organization: a case study in the UAE. *Scientific reports*, 14(1), 15371. <http://dx.doi.org/10.1038/s41598-024-66047-4>
- Ayad, T. H., Hasanein, A., & Elsayed, R. M. (2023). The Antecedence of Pro-Environmental Behavior Through Green Transformational Leadership at Hospitality Sector: Organizational Pride as a Mediator. <https://doi.org/10.46222/ajhtl.19770720.446>
- Ayad, T. H., Khalil, R. A., & Dwedar, M. A. (2024). Effect of Sellers' Ethical Behavior in Traditional Markets on Tourists' Souvenir Purchase Intention. Does Ethnocentrism Matter? *Journal of Ecohumanism*, 3(7), 224-235. <https://doi.org/10.62754/joe.v3i7.4194>
- Ayad, T., & Hasanein, A. M. (2024). How Does Spiritual Leadership Drive Employee Performance in the Hospitality Sector? Unraveling the Role of Affective Commitment. *Geo Journal of Tourism and Geosites*, 53(2), 697-705. <https://doi.org/10.30892/gtg.53233-1245>
- Begum, S., Ashfaq, M., Xia, E., & Awan, U. (2022). Does green transformational leadership lead to green innovation? The role of green thinking and creative process engagement. *Business Strategy and the Environment*, 31(1), 580-597. <https://doi.org/10.1002/bse.2911>
- Bryman, A., & Cramer, D. (2012). *Quantitative data analysis with IBM SPSS 17, 18 & 19: A guide for social scientists*. Routledge.
- Cai, H. H., Lee, H. F., Khan, N. U., & Yuan, Q. (2024). Are natural resources a curse, a blessing, or a double-edged sword? Implications for environmental sustainability. *Journal of Environmental Management*, 367, 122008. <https://doi.org/10.1016/j.jenvman.2024.122008>
- Chen, Y. S., & Chang, C. H. (2013). The determinants of green product development performance: Green dynamic capabilities, green transformational leadership, and green creativity. *Journal of business ethics*, 116, 107-119. <http://dx.doi.org/10.1007/s10551-012-1452-x>
- Chin, W. W. (1998). *Commentary: Issues and opinion on structural equation modeling*. *MIS quarterly*, vii-xvi. <http://www.jstor.org/stable/249674>
- Chin, W. W. (2009). *How to write up and report PLS analyses*. In *Handbook of partial least squares: Concepts, methods and applications*. 655-690, Berlin, Heidelberg: Springer Berlin Heidelberg.
- Coelho, M. P., Cesário, F., Sabino, A., & Moreira, A. (2022). Pro-environmental messages in job advertisements and the intentions to apply - the mediating role of organizational attractiveness. *Sustainability*, 14(5), 3014. <https://doi.org/10.3390/su14053014>
- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Routledge. <https://doi.org/10.4324/9780203771587>

- Florek-Paszowska, A., & Hoyos-Vallejo, C. A. (2023). Going green to keep talent: Exploring the relationship between sustainable business practices and turnover intention. *Journal of Entrepreneurship, Management and Innovation*, 19(3), 87-128. <http://dx.doi.org/10.7341/20231933>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50. <https://doi.org/10.2307/3151312>
- Goni, K. M., Isa, Y. Z. B. M., & Abdullah, T. B. (2023). Moderating Role of Green Transformational Leadership on the Relationship between Green Human Resource Practices and Environmental Performance of Hotels in Kano, Nigeria. *Journal of Human Resource and Sustainability Studies*, 11(3), 415-440. <http://dx.doi.org/10.4236/jhrss.2023.113024>
- Hair Jr, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107-123. <https://doi.org/10.1504/IJMDA.2017.087624>
- Harisinta, T. (2024). Green Transformational Leadership in Improving Green Work Behaviour of Employee, with Green Organizational Citizenship Behaviour as Mediation. *International Journal of Review Management Business and Entrepreneurship (RMBE)*, 4(1), 10-21. <https://doi.org/10.37715/rmbe.v4i1.4805>
- 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, 115-135. <http://dx.doi.org/10.1007/s11747-014-0403-8>
- Kock, N. (2020). Multilevel analyses in PLS-SEM: An anchor-factorial with variation diffusion approach. *Data Analysis Perspectives Journal*, 1(2), 1-6.
- Larasati, P. D., & Herachwati, N. (2024). A Systematic Literature Review: The Function Green Transformational Leadership of Green Human Resource Management. *Journal of Economic, Business and Accounting (COSTING)*, 7(4), 9592-9599. <https://doi.org/10.31539/costing.v7i4.9778>
- Luo, J., Zaman, S. I., Jamil, S., & Khan, S. A. (2024). The future of healthcare: green transformational leadership and GHRM's role in sustainable performance. *Benchmarking: An International Journal*. <http://dx.doi.org/10.1108/BIJ-08-2023-0523>
- Mi, L., Zhang, W., Yu, H., Zhang, Y., Xu, T., & Qiao, L. (2024). Knowledge mapping analysis of pro-environmental behaviors: research hotspots, trends and frontiers. *Environment, Development and Sustainability*, 1-35. <http://dx.doi.org/10.1007/s10668-024-05046-x>
- Muisyo, P. K., Qin, S., Julius, M. M., Ho, T. H., & Ho, T. H. (2022). Green HRM and employer branding: the role of collective affective commitment to environmental management change and environmental reputation. *Journal of Sustainable Tourism*, 30(8), 1897-1914. <http://dx.doi.org/10.1080/09669582.2021.1988621>
- Murtaza, S. H., Khan, A., & Mustafa, S. M. (2024). Eco-centric success: Stakeholder approaches to sustainable performance via green improvisation behavior and environmental orientation in the hotel industry. *Business Strategy and the Environment*, 33(7), 7273-7286. <http://dx.doi.org/10.1002/bse.3860>
- Nduneseokwu, C. K., & Harder, M. K. (2023). Developing environmental transformational leadership with training: Leaders and subordinates environmental behaviour outcomes. *Journal of Cleaner Production*, 403, 136790. <https://doi.org/10.1016/j.jclepro.2023.136790>
- Nilsen, E. R., Olafsen, A. H., & Nadeau, J. (2024). Rethinking Employer Attractiveness: A Qualitative Exploration of Potential Employees' Perception of Employer Attractiveness Attributes. *Corporate Reputation Review*, 1-13. <http://dx.doi.org/10.1057/s41299-024-00207-0>
- Ogutu, H., Adol, G. F. C., Bujdosó, Z., Andrea, B., Fekete-Farkas, M., & Dávid, L. D. (2023). Theoretical nexus of knowledge management and tourism business enterprise competitiveness: An integrated overview. *Sustainability*, 15(3), 1948. <https://doi.org/10.3390/su15031948>
- Paillé, P. (2022). Managing green recruitment for attracting pro-environmental job seekers: Toward a conceptual model of "Handicap" principle. In *Sustainable human resource management*, 57-89, River Publishers.
- Perez, J. A. E., Ejaz, F., & Ejaz, S. (2023). Green transformational leadership, GHRM, and proenvironmental behavior: An effectual drive to environmental performances of small-and medium-sized enterprises. *Sustainability*, 15(5), 4537. <https://doi.org/10.3390/su15054537>
- Razzaq, A., Fatima, T., & Murshed, M. (2023). Asymmetric effects of tourism development and green innovation on economic growth and carbon emissions in Top 10 GDP Countries. *Journal of Environmental Planning and Management*, 66(3), 471-500. <http://dx.doi.org/10.1080/09640568.2021.1990029>
- Rizal, A., Nuswantara, D. A., & Ali Alnajar, A. E. (2024). The role of Green Transformational Leadership and Green Product Innovation in Emerging Economies: Green Employee Behaviour and Green Human Resource Management as Intervening Variables. *Journal of Entrepreneurship and Business*, 5(3), 263-288. <https://doi.org/10.24123/jeb.v5i3.6867>
- Robertson, J. L., & Barling, J. (2013). Greening organizations through leaders' influence on employees' pro-environmental behaviors. *Journal of Organizational Behavior*, 34, 176-194. <http://dx.doi.org/10.1002/job.1820>
- Rosa, A., Capolupo, N., & Marolla, G. (2024). The role of employees' perceptions of corporate social responsibility in the relationship between organizational reputation and organizational attractiveness. Evidence from Italy. *Corporate Social Responsibility and Environmental Management*. <https://doi.org/10.1002/csr.3036>
- Seara, M., Proença, T., & Ferreira, M. R. (2023). Do corporate social responsibility practices have an impact on employer attractiveness—an approach to corporate volunteering programs. *European Journal of Management and Business Economics*. <http://dx.doi.org/10.1108/EJMBE-02-2022-0041>
- Sobaih, A. E. E., Hasanein, A., Gharbi, H., & Abu Elnasr, A. E. (2022). Going green together: effects of green transformational leadership on employee green behaviour and environmental performance in the Saudi food industry. *Agriculture*, 12(8), 1100. <https://doi.org/10.3390/agriculture12081100>
- Song, B. L., Liew, C. Y., Tee, P. K., & Wong, L. C. (2024). Corporate social responsibility and job pursuit intention: the role of job seekers' perception on employer prosocial orientation, value congruence and employer attractiveness. *Social Responsibility Journal*, 20(9), 1809-1831. <http://dx.doi.org/10.1108/SRJ-04-2023-0235>
- Soni, M. (2023). Mediating role of pro-environmental behavior in environmentally specific transformational leadership and subjective well-being. *Benchmarking: An International Journal*, 30(5), 1485-1505. <https://doi.org/10.1108/BIJ-04-2021-0209>
- Tong, B. (2023). Retracted Article: Green tourism to greenenvironment: unleashing green pro-tourism behavior for green tourism competitiveness in China. *Environmental Science and Pollution Research*, 30(55), 117923-117931. <http://dx.doi.org/10.1007/s11356-023-30395-x>
- Umair, S., Waqas, U., & Mrugalska, B. (2024). Cultivating sustainable environmental performance: The role of green talent management, transformational leadership, and employee engagement with green initiatives. *Work: A Journal of Prevention, Assessment & Rehabilitation*, 78(4), 1093-1105. <https://doi.org/10.3233/wor-230357>
- Veal, A. J. (2006). *Research Methods for Leisure and Tourism*. 3rd Edition, Prentice Hall, London.
- Wetzels, M., Odekerken-Schröder, G., & Van Oppen, C. (2009). Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS quarterly*, 177-195. <https://doi.org/10.2307/20650284>
- Zaidi, H., & Azmi, F. T. (2024). Workplace pro-environmental behaviour: A review and bibliometric analysis. *International Journal of Productivity and Performance Management*, 73(1), 158-185. <http://dx.doi.org/10.1108/IJPPM-09-2021-0507>