

HOW GENERATIVE LEADERSHIP DRIVES ENVIRONMENTAL BEHAVIORS: A DUAL MEDIATION MODEL OF GREEN COMMITMENT AND MAN-NATURE ORIENTATION

Syed Hilal Mubarik¹, Dr. Akhtar Nawaz², Dr. Amjad ur Rehman³

¹Lecturer, Department of economics, Hazara University Mansehra,

²Lecturer, Department of Public Policy and Administration Hazara University, Mansehra.

³Lecturer, Department of Management Sciences, Hazara University Mansehra,

¹akhtar_nawaz@hu.edu.pk, ²hilaleconomics@hu.edu.pk, ³amjadkktk@hu.edu.pk

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Corresponding Author: *

Syed Hilal Mubarik

Abstract

This study examines how Generative Leadership (GL) impacts Extra-Role Behavior (ERB) to enhance environmental sustainability within the tourism and hospitality industry with special considerations on the mediating roles of Green Commitment (GC) and Man-Nature Orientation (MNO). It is suggested that a conceptual framework be used to demonstrate how GL promotes ERB which is critical in accomplishing the long-term sustainable goals in tourism industry. A quantitative and cross-sectional design was used to gather data including 250 executives, managers and business owners in the industry. The results indicate that both GL and GC have a significant positive impact on the protection of the environment through ERB and MNO mediates this correlation to some extent. The research provides valuable recommendations that managers should follow when seeking to promote environmentally friendly practices among the employees and plays a role in making tourism sustainable.

INTRODUCTION

Although tourism provides substantial economic benefits, it causes severe environmental issues because of the high growth rate and unsustainable tourism activities (Li, Wu, and Patwary, 2022). Considering its contribution in the local development, there is a need to embrace sustainable strategies. The impact of employees on Extra-Role Behavior (ERB), or voluntary activities in addition to the job requirements in order to contribute to environmental sustainability is vital in ensuring the success of organizations in this aspect (Islam et al., 2021). Through Leadership we can exhibit the environmental extra role behavior in employees. Ethical, authentic, and servant leadership styles have

already been studied in the previous research (Srivastava and Dhar, 2019; Aboramadan et al., 2022), however it is still unexplored that how it can work in the dynamic tourism environment in Pakistan. As tourism industry in Pakistan has Volatile, ambiguous, uncertain and complex environment (VUCA). Generative Leadership (GL) is one of the potential style which can work in this type of environment. (Bushe, 2019; Kearney and Lichtenstein, 2023). GL focuses on proactive problem-solving and innovation, which complies with sustainability goals in the field of tourism (Afridi et al., 2023; Macaux, 2010). The purpose of the research is to understand how GL impacts ERB in terms of

environmental sustainability and evaluate the intermediary actions of the Green Commitment (GC) and Man-Nature Orientation (MNO) constructs, which can be seen as the attitude of people to nature and the environment. These relationships can be used in informing strategies of promoting tourism sustainability.

2. Literature Review

2.1 Generative Leadership

A new concept of generative leadership (GL) has been introduced in the recent studies of leadership, which highlights the leader's responsibility for creating an atmosphere that allows both individuals and organizations to prosper and develop in a sustainable manner. Focusing on fostering progress, securing the welfare of future generations, and building bright futures are traits of generative leaders. They place a high value on long-term results and have a strong commitment to social responsibility, sustainability, and innovation (Afridi, Javed, Ali, Zafar, & Haider, 2023).

GL is a leadership style which focus at making the future better and more sustainable than the current one (Hazy & Prottas, 2018). GL emphasizes on innovation, flexibility, and the creation of the organizational capabilities to meet the new challenges (Castillo and Trinh, 2019). Generative leaders drive and encourage teams, encourage a sense of purpose, and create learning- and growth-friendly environments (Sun et al., 2019). GL focuses on resilience, experimentation, and vision compared to a traditional leadership model, which upholds the status quo (Bushe, 2019; Afridi et al., 2024). GL cannot be ignored in the current business environment because organizations are moving to being sustainable and value-creating to stakeholders (Hazy et al., 2018; Nawaz et al, 2024). The complex international problems of climate change and resource shortage demand leaders that strike the right balance between short-term goals and long-term objectives (Afridi et al., 2024). GL also flourishes in ambiguous conditions since it is process-oriented and not outcome-oriented (Surie & Hazy, 2016).

2.2 Extra-Role Behavior for the Environment

ERB is the practice of self-motivated acts of employees that extend beyond the official job duties in order to

maintain environmentally friendly practices (Islam and Tariq, 2018). Such practices reflect the individual interest in ecological conservation and are opposite to Organizational Citizenship Behavior(OCB) because they place an emphasis on active environmental behaviors (Bakari et al., 2017). ERB is largely predicted by leadership support (Dangelico & Pujari, 2010). Although different leadership styles are already researched, the contribution of GL to the success of ERB in tourism is not thoroughly investigated.

2.3 Generative Leadership and Environmental Behavior

GL's forward-thinking approach prioritizes sustainability and innovation (Afridi et al., 2023). GL promotes creativity and flexibility, which helps employees to participate in more environmentally responsible actions besides their professional duties (Klimek et al., 2008). Studies indicate that GL has a positive impact on such behaviors since it motivates employees to participate in sustainability programs (Norton et al., 2017). Nevertheless, its usage in the tourism industry is still nascent (Goldstein et al., 2010; Hazy and Prottas, 2018).

Hypothesis 1: Generative Leadership has a significant positive relationship with Extra-Role Behavior for the environment.

2.4 Mediating Role of Green Commitment

Employee commitment is defined as the psychological attachment toward the organization. Previous studies indicate that commitment has a profound effect on the behavior of an individual (Afsar et al., 2020). Employees who are aligned with organizational goals and values are likely to contribute towards the realization of the goals. Green dedication, also known as environmental sustainability, or Green Commitment (GC), is based on the psychological affiliation of a person to the ecological principles, their combination with the organizational values, and their personal responsibility towards the ecological preservation (Kim et al., 2019). GC is described as a motivational component that is driven by an obligation to safeguard the natural environment (Montabon et al., 2016). Strong GC is exhibited by the employees who show identification with environmental targets, emotional involvement and awareness of the ecological problems in the

workplace. Devoid of this strong dedication, workers would fail to observe the environmental issues during their work. GC is thus held as critical determinant in the explication of the relationship between leadership styles as well as voluntary green behaviors (VGB). Ethical, paternalistic, transformational, and generative leadership can be considered the most prominent leadership behaviors, which predict the level of organizational commitment (Afridi et al., 2023; Ahmad and Cheng, 2018; Yang and Yeh, 2018). Leaders have a critical role to play in ensuring that the employees are made to feel valued, respected, and supported (Doh and Quigley, 2014; Voegtlin, 2011). This kind of treatment helps improve the sense of belonging and trust that employees have in the organization and eliminates the uncertainty and builds confidence in the future of the organization (Gandolfi and Stone, 2018; Greenleaf, 2007).

With higher GC, employees will be more willing to participate in any environmentally friendly project like energy savings, recycling, and waste minimization (Afsar and Umrani, 2020). Increased GC also promotes the option of employees coming up with innovative solutions to environmental challenges (Vallaster, 2017). Although it is a significant factor, the empirical data of the mediating role of GC between the leadership and pro-environmental behaviors is still scarce. Other researchers have discovered that GC mediates other relations like the relationship between Green HRM and pro-environmental behavior (Ansari et al., 2021; Saleem et al., 2020) or CSR-PEB (Afsar and Umrani, 2020). Using the Self-Determination Theory (SDT) as a reference, employees will also tend to commit to green behaviors when they feel related, competent, and autonomous. Environmentally responsible leaders not only fulfill these psychological needs, but also reinforce GC and promote voluntary green practices. In a similar way, Social Identity Theory (SIT) proposes that leadership that is environmentally responsible has the power to develop group identity and collective commitment, in order to encourage employees to be sustainable. On the basis of these theoretical backgrounds and our previous studies, we suggest:

Hypothesis 2: Green Commitment significantly mediates the relationship between Generative Leadership and Extra-Role Behavior for the Environment.

2.5 Mediating Role of Man-Nature Orientation Man-Nature Orientation (MNO)

MNO is the individual's attitude toward living in harmony with nature (Kluckhohn & Strodtbeck, 1961). Higher magnitude of MNO maintains a positive attitude toward environmentally responsible behavior (Wijaya, 2009). This value includes awareness of ecology, the emotional connection to nature, and care for the protection of the environment (Mayer & Frantz, 2004). Past research has shown that MNO can serve as a mediator between leadership styles and pro-environmental behavior (Bissing-Olson et al., 2013). It is expected that Generative Leadership affects ERB through MNO by strengthening the employees' connection to nature and eliciting active environmental behavior.

Hypothesis 3: Man-Nature Orientation significantly mediates the relationship between Generative Leadership and Extra-Role Behavior for the environment.

3.0 Methodology

3.1 Research Design

The cross-sectional design has been followed in the present research study to explore the relationships among Generative Leadership, Green Commitment, Man-Nature Orientation, and Extra-Role Behavior within the tourism sector in the Khyber Pakhtunkhwa region of Pakistan. The ecological setting and the rapid growth of the industry provide a suitable context for this study.

3.2 Sampling and Data Collection

We used stratified and convenience sampling methods to gather data from different hotels, restaurants, tour operators, and travel agencies operating in the Kaghan Velly. A total of 350 questionnaires were distributed; 260 questionnaires were returned to us and 250 of them were usable.

3.3 Measures

In this study all the measurement scales were adapted from previously validated studies. Generative Leadership was assessed using a 27-item scale developed by (Çetin and Demirbilek 2019). Green Commitment was measured with an 8-item scale from (Raineri and Paillé 2012). Man-Nature Orientation was evaluated using a 5-item scale by (Chan 2001),

while Extra-Role Behavior for the Environment was measured using a 12-item scale by Boiral and Paillé (2012).

3.4 Control Variables

Control variables included business age, size, education level, and managerial experience. These

variables are incorporated to ascertain the findings of the study to reflect the true impact of the main variable.

4.0 Data Analysis

Various Statistical methods that include, correlation, regression, and the mediation analysis, to test the proposed hypothesis.

Descriptive Statistics

	N	Mean	Std. Deviation
Gender	250	1.2840	.45184
Age	250	2.9200	.94082
Education	250	2.9680	.88663
Experience	250	2.1000	.86079
GL	236	3.7168	.43316
GC	250	3.7000	.51423
ERB	250	3.6622	.37506
MNO	250	3.6808	.63502

The descriptive analysis will give a review of the sample parameters as well as the main variables under investigation in this research. The responses of the respondents are relatively positive, with the mean values of Generative Leadership (3.7168), Extra-Role Behavior (3.6622), Green Commitment (3.7000), and Man-Nature Orientation (3.6808). These findings indicate that participants perceive their leaders to be helpful, are involved in environmental responsibility behaviours, and have a high nature orientation.

4.1 Regression Analysis

The regression analysis was done to evaluate the effect of Generative Leadership and Man-Nature Orientation on Extra-Role Behavior towards

environment. The results indicate that Generative Leadership is a predictive factor of ERB at a significant level, hence confirming Hypothesis 1. The result of this finding shows that as generative leadership practices are reinforced, there are greater chances that employees would engage in voluntary activities that foster sustainability of the environment. Also, the research involved the mediating effects of Green Commitment and Man-Nature Orientation in the connection between Generative Leadership and ERB. The test of mediation was performed with the help of bootstrapping that is highly recommended by modern research due to its potency and precision (Hair et al., 2016).

Extra Role Behaviour Model Summary

R	R-sq	MSE	F	df1	df2	p
.7975	.6361	.0543	135.1614	3.0000	232.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1.7051	.1395	12.2202	.0000	1.4302	1.9800
GL	.1620	.0436	3.7169	.0003	.0761	.2478
GC	.0727	.0427	1.7030	.0009	.1568	.0114
MNO	.4423	.0356	12.4265	.0000	.3722	.5124

The regression model analyzing the effects of GL, GC, and MNO on ERB shows a very strong explanatory power. In all, the variance in ERB accounted for by the model stands at 63.61% ($R^2 = .6361$), meaning that all three predictors put together substantially explain employees' environmental extra-role behavior. In sum, the overall model is statistically significant at $F(3,232) = 135.16, p < .001$.

Generative Leadership is positively and significantly related to Extra Role Behaviour, $\beta = .1620, t = 3.7169, p = .0003$. This suggests that the higher levels of generative leadership practices—such as fostering innovation, empowerment, and forward-thinking—lead to greater employee engagement in voluntary, environmentally responsible behaviors at work. While the effect size is modest, it is statistically strong and meaningful.

Green Commitment exhibits a positive but marginally significant effect on ERB: $\beta = .0727, t = 1.7030$. Compared with other predictors, this effect is relatively weaker, which indicates that while employees with higher commitment to the environment may exhibit more extra-role environmental efforts, this relationship may not be strong or consistent. Borderline significance suggests that GC contributes to ERB, though its relative impact may vary according to contextual or organizational factors.

Man-Nature Orientation has the greatest influence on Extra Role Behaviour ($\beta = .4423, t = 12.4265, p < .001$). On average, employees who view humans as interconnected with nature are more likely to perform pro-environmental extra-role behaviors. This finding underlines the importance of MNO as a key psychological driver of employees' voluntary environmental behaviors beyond their formal job responsibilities.

5.0 Discussion and Conclusion

Results show that Generative leadership exhibits Environmental extra role behaviours in employees. While Green Commitment has a significant direct effect on ERB, yet a moderate indirect effect, Man-Nature Orientation is the most effective mediator. The interaction of GL and MNO offers the highest power in predicting ERB, which implies that enhancement in MNO acts as a key path via which GL influences environmentally responsible behaviours. Based on the findings, it is suggested that environmental sustainable practices within tourism and hospitality organizations can be enhanced by incorporating GL practices, which further facilitate a strong connectedness with nature in employees. It is imperative for managers to develop an enabling and innovative organizational culture, aligned with sustainability goals.

This research provides empirical evidence on the positive role played by GL in encouraging ERB, wherein GC and MNO act as significant mediators. This study provides the insights for the practitioners and policy makers who are seeking to enhance sustainability initiatives and encourage voluntary pro-environmental behaviors in workforce of tourism and hospitality sector.

6.0 Limitations

Although the current study gives significant information on the relations between GL, GC, MNO, and ERB, a number of limitations should be admitted. First, the study used cross-sectional data, which limits the possibility of establishing the causality between variables. Longitudinal research would be more convincing on directional effects.

Second, all data were self-reported by means of questionnaires thus subject to common method bias and social desirability bias and subjectivity of interpretation of questions. Third, the research happened in a particular organizational or geographical environment, which restricted how the results would be applicable to other areas or industries. Fourth, the model considered only three intermediaries (GC and MNO) but did not consider other psychological and organizational aspects that can affect ERB. Lastly, there is a limitation of the sample size as sufficient to yet possibly statistically detect more complex interaction effects or moderating mechanisms.

7.0 Future Research Directions These limitations can be overcome in future research to enhance theoretical and practical input. It is also advisable that researchers use longitudinal or experimental design that can capture causal pathway between leadership variables and the behaviors of employees better. By adding various data sources e.g. supervisor or peer rating would reduce common method variance and maximize validity of the results. The model can also be extended by further research through including more mediators like organizational commitment, psychological empowerment or perceived organizational support to come up with more comprehensive view of factors that have an impact on ERB. The research in various cultural contexts, industrial sectors or company structure would enhance the external validity of the findings. Finally, the discussion of moderating variables that might include gender, organizational climate, job autonomy, or differences in leadership styles might provide additional information when and with whom the relationships are strongest.

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