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## Article

# The Antecedents of Hotels' Green Creativity: The Role of Green HRM, Environmentally Specific Servant Leadership, and Psychological Green Climate

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**Abstract:** As a consequence of climate change, hotels are under mounting pressure to cut their carbon emissions, reduce their waste, and overall become more responsible in their operations. Given this context, experts claim that organisational human resources practices have immense ability to mould the behaviours of individuals. On the basis of w theory, we used a configuration of green human resources management, environmentally specific servant leadership, and psychological green climate to develop causal recipes for stimulating green creativity in hotel employees. Data were collected from 418 employees and analysed using an fsQCA to test the proposed model. Findings revealed that no single construct was sufficient to predict employees' green creativity, but three causal recipes (i.e., green human resources management, environmentally specific servant leadership, and psychological green climate) can be demonstrated to produce high green creativity. The study findings show that green human resources management practices influence individual green creativity. It also indicated that environmentally specific servant leadership is a key driver of green creativity. Moreover, psychological green climate has a significant influence on green creativity. Our study has meaningful implications for hotel managers that can help them to develop new approaches and strategies to improve the employees' green creativity by paying attention to green human resources management practices, environmentally specific servant leadership, and psychological green climate.

**Keywords:** complexity theory; environmentally specific servant leadership; green creativity; green human resources management; psychological green climate



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## 1. Introduction

The hospitality industry is responsible for the lion's share in expanding the global economy [1,2]. However, the industry is confronted with a number of challenges as a result of the expanding fallouts of its commercial activities, which have resulted in the destruction of the environment [3]. Recently, the hospitality industry has been under fire for its enormous carbon footprint [4]. As people become more concerned about the environment, businesses in the hospitality industry are being forced to implement environmental management plans [5] in order to compete in today's more globalised and cutthroat business context. The implementation of green initiatives enables businesses to respond to the growing pressure from the outside world, satisfy growing customer demand for environmentally friendly goods and services, and impart a green competitive advantage [6].

Green human resource management, often known as GHRM, is an approach that is gaining popularity among hotels as a way to engage with their employees, many of whom are developing an increased awareness of environmental issues. According to prior examination [7], GHRM is concerned with the planned and systematic alignment of human resource management practices with corporate environmental goals in hotels industry.

This is a contention that can be found in the article. It is generally acknowledged in the field of modern HRM that global human resource management (GHRM) makes a contribution to the broader environmental agenda of organisations, including corporate social responsibility (CSR), by integrating environmental and social concerns into HRM policies and procedures [8]. GHRM is particularly important for the hotels, whose environmental imprint has over the last thirty years begun to be recognised by the majority of people as being problematic [3,9]. Since the 1950s, an increasing number of foreign tourists have contributed to the expansion of the global tourism industry, which reached between 3% and 4% of global GDP in 2015. At the same time, it has increased by nearly 5% in the Asia Pacific region [10]. This is a continuing cause for concern for some of the region's poorer nations, such as Bangladesh, that are still developing, and have little with which to tackle the negative effects that tourism has on the environment and society [11]. Prior research reveals that over the course of the next ten years the number of international travellers is expected to increase by 4% per year, resulting in an increased demand for rooms [12].

To this end, in the hospitality industry, hotels are adopting green strategies such as green human resource management (GHRM) to build organizational citizenship behavior toward the environment [7]; green creativity [6,9]; and green hotel performance [11]. There have been calls for the integration of HRM in the sustainability discourse by capitulating the organization's sustainability mantra when crafting HRM policies [5]. At present, GHRM research is nascent, with the bulk of studies focusing on its conceptualization [2]. Recently, prior research illustrated that GHRM enhances the sustainable consumption of resources through ideas, practices and HR policies, which stems down environmental degradation [4]. Researchers are now investigating the various ways of motivating green behavior within the hotel sector [7,9]. Scholars have appealed for research on specific GHRM practices that are related to environmental performance and green creativity in the hospitality industry [3,6,8].

Meanwhile, hotels in Saudi Arabia and elsewhere are coming under increasing pressure to protect the environment by engaging in environmentally friendly activities and providing environmentally friendly services [7]. This is because the hotel sector around the world is responsible for approximately one percent of global carbon emissions, a number that could rise before long if the business continues to expand [13]. As a result, the personnel in hotels have the potential to play an important part in ensuring that the environment remains risk-free throughout the various operating procedures. To this end, businesses in the field of tourism and hospitality are employing environmentally friendly activities such as GHRM, which aims to strengthen organisational citizenship behaviour toward the environment [14]; green creativity [7]; and green hotel performance [15]. The inclusion of HRM has been advocated in discussions about sustainability by incorporating an organisation's sustainability slogan into the process of developing HRM policy [16]. The study of GHRM is now in its infancy, most research focusing on its conception [2,17].

Green creativity is distinguished from traditional creativity by the fact that it emphasises environmental preservation and environmentally responsible goods and services in hotels [18]. In addition, green innovation is a crucial notion in the process of addressing the global ecological concerns in order to attain a competitive advantage [19]. In today's cutthroat business climate, the key to an organisation's prosperity is its ability to provide innovative services that live up to the requirements of its users [20]. Individual activities are the foundation of sustainable development at the macro level [21]. In order to achieve its goal, this study analyses green creativity on two levels: the individual and the group. Previous studies of green creativity have focused on the phenomenon either at the level of the individual [22] or at the level of the collective [19] without combining the two aspects into a single investigation. Furthermore, although environmentally responsible innovation could advance the discussion about sustainability, the focus of most study has been on environmentally responsible behaviour in general [23], overlooking green creativity, which is a fine-grained form of green behaviour, even though such creativity can advance sustainability [24]. Academic research is currently concentrating on the various strategies

that may be used to encourage environmentally conscious behaviours and practices in the tourism industry [25,26]. Even though the number of studies that concentrate on the topic of sustainability in the hospitality industry has recently grown, the findings that have so far been published in the literature are fragmented and concentrate on various aspects of sustainability. For instance, scholars of the hospitality industry have looked into topics such as environmental strategies [27], carbon footprints [28], and other related topics. Researchers have argued that their colleagues do not conduct sufficient empirical research on employees' aspirations to adhere to environmentally responsible activities and behaviours [12]. This study aims to bridge the research gaps identified above by presenting a research model that integrates GHRM practices with green creativity through the application of complexity theory and fuzzy set qualitative comparative analysis (fsQCA).

Our research extends GHRM and the green creativity literature in the following ways: first, firms in the hospitality industry face massive sustainability challenges, which call for their attention to green management and environmental sustainability [4,7]. Hospitality firms can address these challenges by adopting GHRM practices [3] to achieve green creativity [8]. Second, our study expands the budding stream of research on the role of GHRM in generating green creativity in the hospitality sector. It further adds to individual-level green creativity to the expanding body of green organizational outcomes. Based on an emerging Asia economy (Saudi Arabia), this study seeks to establish empirical evidence linking GHRM and green creativity at the individual level. These findings add to the novelty of this inquiry and enhance further generalization of the results to the hospitality sector in Asia's emerging economies.

## 2. Research Background and Research Propositions

### 2.1. Green HRM and Green Creativity

The policies of businesses all over the world are undergoing a period of fast transformation, and are increasingly embracing more environmentally friendly business practices. The human resources management (HRM) department of a company, which is one of its most significant parts, needs to change its ways by adopting policies and procedures that are more responsible, pro-environmental, and environmentally friendly [29]. According to the literature, "green human resource management" (HRM) refers to "HRM activities which enhance positive environmental outcomes" [8]; it has the potential to influence the beliefs and actions of workers in a company and make them more environmentally friendly, which in turn leads to the adoption of and adherence to sustainable business practices. We expect this to positively affect our bottom line [30]. The evaluation of candidates' positive environmental behaviours (PEBs) during the hiring process, rewards for ecologically responsible behaviour following performance reviews, and education and training in sustainable business practices are all examples of things that fall under the green HRM umbrella [31]. The importance of green human resource management in bringing about sustainable development was best described in earlier research, which argued that employees hold the key to a company's success or failure in its efforts to adopt a more environmentally conscious approach to its operations [32]. This way of thinking has resulted in a shift in corporate priorities toward sustainability, with increased focus on the human element of environmental management [33] and its consequences. This shift in emphasis came about as a result of moving away from a more macro level of thinking.

To illustrate how GHRM influences green creativity at the individual, we borrow arguments from the conservation of resource (COR) theory. The COR theory provides the ideal framework for explaining employees' motivation to acquire resources within a spiral for resource gain to stimulate green creativity [11]. GHRM practices can be viewed as firm's level resources, which help develop values and knowledge related to environmental activities [2]. Individuals with adequate resources tend to be proactive in adopting strategies for gaining resources and practice behaviours that go beyond the basic requirements [3,7], such as green creativity. This theory also suggests the existence of a "resource caravan" [6] where resources are transferable from one form to another, i.e., (social to individual). This way,

individuals (beneficiaries of GHRM-related resources) tend to invest in green creativity because of the availability of sufficient resources acquired from GHRM practices [5].

Green creativity (GC) is defined as the creation of unique, original, and helpful green products, services, processes, and practices [34]. Examples of green creativity include expanding the use of recyclable materials in products and services, replacing the use of paper for printing by IT technologies for communication, and shifting to renewable energy for economic savings as well as environmental sustainability (GC). Several authors have noted in their work the importance of creativity in corporate growth and achieving a competitive advantage [35]. However, GC is a relatively recent concept that was introduced by previous examination in the context of widespread concerns regarding responsible practices among organisations [36].

Green HRM practices, such as environmental education and training, recognising, and rewarding PEBs) at work, and even assessing candidates during the recruitment and selection process, should, in our opinion, help to mould employees' attitudes and behaviours toward more environmentally friendly practices. According to previous research, green recruitment, green training, and green remuneration are three fundamental aspects of green human resource management [37]. These procedures should also contribute to an organisation in projecting a positive image of its being responsible. Therefore, in order for employees to improve their sense of identity and self-worth, social identity theory indicates that they might identify themselves with organisations which are responsible. Their sense of ownership should grow, and in consequence they will devise novel approaches that are kind to the natural world in order to address the challenges they face, which will lead to an increase in GC. They may also regard such organisations as being the more ethical and responsible ones, and as a result, they may recognise that providing out-of-the-box solutions will not negatively impact their career in any way [38]. Similarly, previous examination suggests that green HRM plays an important part in moulding the attitudes and behaviours of employees and in bringing about green creativity in the workplace [39].

## *2.2. Environmentally Specific Servant Leadership and a Psychological Green Climate*

Environmentally specific servant leadership (ESSL) requires a company's leaders to lead by example, demonstrate dedication to the green goals, have green values, and support other employees in contributing to the sustainable growth of the company. ESSL also requires leaders to have green values [40]. Therefore, environmental leaders provide guidance on empowering individuals to be ecologically sensitive and display humility and acceptance of one another, in contributing to green performance [41]. Creative environments are known to flourish when servant leaders are in charge of fostering them [42]. Prior research in the hospitality industry concluded that servant leadership has a beneficial influence on the environment for innovation [43]. From this school of thought, a recent study has indicated that servant leadership can impact discretionary behaviours among those who work in the hospitality industry [16,44]. Further research evidence supports the claim that servant leadership is an essential resource that can drive employees to engage in extra-role conduct [45]. It is currently unclear how the many different styles of leadership influence environmentally responsible behaviour. Studies have been conducted on a variety of leadership styles, including despotic leadership [19], transformational environmental leadership [46], ethical leadership [10], green and inclusive leadership [3], and inclusive green leadership [47]. Therefore, it should come as no surprise that various leadership styles have varying impacts on the results related to the environment [48]. While environmental psychologists can show that altruism may inspire environmentally conscious actions [49], the effect of ESSL on the environmentally conscious actions of workers has not received nearly enough consideration [23].

Recent research has shown that ESSL could re-direct the environment towards environmentally conscious creativity [50]. These findings provide evidence that leaders function as organisational stimulants [51], thanks to the abundant resources that they make available to their personnel. Previous studies claim that ESSL provides employees with green-oriented

resources along with green skills and knowledge [17,19,52]. This line of reasoning can be derived from the COR theory [53]. Then the workers reinvest these resources in activities that go outside the scope of their jobs [54], such as green creativity [55]. Current research shows that ESSL causes the components that contribute to the company's increased green behaviour to interact [56]. As a result, we propose that ESSL enhances the influence of GHRM practices on EGC and, eventually, on green creativity at both the individual and team levels.

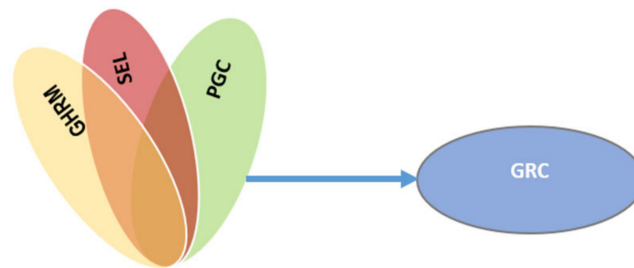
The literature on behavioural aspects of HRM argues that HRM has an effect on employees' work attitudes and behaviour, which in turn has an effect on the performance of the business [57]. Furthermore, the literature on behavioural aspects of HRM reveals that HRM attributions have a significant impact on the employee outcomes of HRM [58]. One of the ways in which green HRM can influence the green behaviour of employees in the workplace is via the close correlation between green HRM practices and an increase in employees' green cognition. These practices include distributing information about the organisation's green focus, emphasising individual employees' green values during the recruitment and selection process, and promoting green values through training [59]. Second, work and job design that are compliant with environmental requirements, as well as green training practices that are designed to improve employees' knowledge, skills, and competence, are critical processes for implementing in order to encourage employees to participate in environmentally responsible behaviours [60]. Third, the literature on HRM attribution implies that the impact of certain HRM practices on employee work behaviour is determined by the employees' perceptions of why their business chooses particular HRM policies and procedures [24,61]. Employees will be more inclined to act in accordance with the organisation's green policies if the organisation has a formalised and widely communicated set of green HRM practices and policies that make its commitment clear.

### 2.3. Complexity Theory and Propositions Development

The theory of complexity postulates that an outcome can be produced by bringing together a variety of occurrences. It operates under the presumption that three fundamental principles—*asymmetry, equifinality, and conjunctural causation*—may coexist in any complicated scenario [62]. Complexity theory is commonly employed to acquire more insights into an outcome, which might result in a heterogeneous observation of this outcome. As a result, complexity theory is useful when we are trying to figure out how various scenarios can result in the same solution. In this regard, the present study proposes that the GPB of employees at work will be the product of intricate interactions between a number of different antecedents. Consequently, by applying complexity theory, we might be able to learn more about the way in which employees' GPB rises by looking at the various configurations that may explain this outcome. The present study uses complexity theory as a core theory to support its proposed configurational model, which was built using a combination of indicators of green HRM, environmentally specific servant leadership, and psychological green climate (See Figure 1). These indicators have frequently been used, modified, and combined to describe GC [11,45,49,51,63]. Given that simple linear equilibrium cannot adequately illuminate "the black box" of indicators' associations because they are obscured by the complex interactions of many components, complexity theory has been used to explain the dynamic processes of phenomena in a variety of fields, such as socioeconomics, politics, biology, and health [16,21,22,27,41,56,64].

In order to draw conclusions that can be applied to a wide range of situations, fsQCA combines variable-oriented quantitative methods that can handle many cases with the deductive reasoning and methodological rigour of case-based oriented qualitative techniques for gathering rich contextual information. Among these methods are qualitative approaches with a focus on gathering case-specific context [65]. According to fsQCA theory, the relationships between constructs is understood best through the lens of set membership. The distinctions between various classes is most easily understood if they are part of a set. The purpose of the analysis, which is based on "Boolean algebra", is to determine the

required and sufficient subset relations (“conditions”). In the nomenclature of the fsQCA, the independent variables are referred to as antecedents or conditions of causation, while the dependent variables are referred to as outcomes. The raw data are calibrated when the study variable scores are converted into set membership scores through the use of fsQCA. Knowledge, both theoretical and practical, is an essential component of the calibration procedure, which makes it possible to define set membership in a variety of ways, ranging from a discrete set (0 and 1) to a continuous fuzzy set ([0,1]). The findings that fsQCA generates can be categorised into three distinct tenets [66], each of which represents an essential aspect of complexity theory [67]. The fsQCA is able to illustrate asymmetrical associations because it demonstrates variables that are causally connected in one configuration but are irrelevant or negatively related in another configuration [68]. Through the use of fsQCA, several equally feasible alternative paths to the same conclusion have been found, which indicates equifinality [14,69]. Conjunctural causation is demonstrated by the fsQCA, which indicates that it is the combined size of the connected indicators, rather than the size of the individual indicators, that determines the influence of predecessors on a specific event. This contrasts with the traditional view that the influence of predecessors is determined by the size of the standalone indications [70].



**Figure 1.** Research model, GHRM = Green human resources management; SEL = Environmentally specific servant leadership; PCG = Psychological green climate; GRC = Green creativity.

On the basis of the literature review, this paper suggests:

**Proposition 1.** *Distinct configurations of causal conditions (green HRM, environmentally specific servant leadership, and psychological green climate) are equifinal in achieving high overall green creativity.*

**Proposition 2.** *Green HRM, environmentally specific servant leadership, and a psychological green climate in different combinations are sufficient to predict high green creativity in the hotel industry, but each one alone is not sufficient because green creativity is influenced by various factors.*

### 3. Methods

#### 3.1. Sampling and Data Collection

A positivist research philosophy was utilized with a quantitative approach to validate the proposed framework, and quantitative data were collected using an online survey to address different levels of the study. The data were gathered from hotels in Saudi Arabia, and respondents were assumed to be workers of these establishments. Two types of data were collected from respondents: demographic information about the respondents and information about the main variables (i.e., green creativity, green HRM, environmentally specific servant leadership, and psychological green climate). Our study focused on four- and five-star hotels in Saudi Arabia. We identified 80 hotels from the Ministry of Tourism database, but only 36 with five stars and 51 with four stars consented to participate in our study. After receiving approval from the relevant departments of human resources, the questionnaires were sent to the appropriate employees. It was necessary for the respondents to return the completed questionnaire to their line managers when they had

finished answering the questions. Of the 600 questionnaires that were handed out to employees personally, 300 were given to five-star hotels, and 300 to four-star hotels. With a response rate of 95.21 percent, 439 questionnaires were returned, of which 418 were valid. The questionnaires from the four-star hotels amounted to 261 (62.44%), while 157 (37.56%) came back from the five-star hotels. Most of the respondents (61%) were male. The mean age was 43 and mean service tenure was 5.5 years.

### 3.2. Conceptualising the Measures

Green human resources management was measured using seven items adopted from prior validated measurements [19,23,67,71]. An example of these items is (i.e., “My hotel sets green goals for its employees”). Green creativity was evaluated using five items adopted from previous studies [18,24,36]. An example of these items is (i.e., “I suggest new ways to achieve environmental goals”). Environmentally specific servant leadership was assessed using eight items adopted from prior research [10,15,34,49]. An example of these items is (i.e., “My supervisor cares about my eco-initiatives”). Finally, we measured the psychological green climate using four items adopted from previous research [26,61,72]. An example of these items is (i.e., “Our hotel is interested in supporting the efforts made to handle environmental problems”). The respondents were asked to respond to all the questions by means of a five-point Likert scale. In addition, the measurements were drafted initially in English, and then an expert who could translate between English and Arabic translated the measurements into Arabic. Next, we checked that all of the measurements were comparable by translating them back into English. In order to evaluate the readability of the questions, the amount of time to complete the survey, and any other problems that might have been present, a pilot study asked twenty employees to fill out the questionnaire. The results of the pilot research were positive; thus, it was decided that no changes were needed.

### 3.3. Common Method Bias

For the purpose of controlling the possible effects of common method bias, we measured both before and after the data collection. In terms of ex-ante safeguards, we made certain that all respondents to our poll remained anonymous. In addition, we employed two ex-post methodologies to evaluate the potential for bias introduced by the common method. The first test that we ran was a single-factor version of Harman’s [73]. According to the findings, the proportion of the covariance that can be attributed to the first common component was only 36.29%. In the second step of the confirmatory factor analysis, we included a common method factor and enabled all of the items to load on it. According to the findings, the measurement model that included this common method factor fitted the data very poorly (RMSEA = 0.162, RMR = 0.14, GFI = 0.539, CFI = 0.502, NFI = 0.388, NNFI = 0.371, AGFI = 0.410, IFI = 0.406), performing significantly worse than the measurement model that was proposed. In addition, the loadings of all of the elements on the common method factor were significantly lower than the loadings that they had on their respective constructs.

## 4. Data Analysis and Results

### 4.1. fsQCA

This study made use of fuzzy set qualitative comparative analysis (fsQCA), which goes beyond the finding of simple correlations between independent variables and dependent outcomes to identify patterns of factors that contribute to a result. When employing fsQCA, the outcome and the predictor variables may sometimes be on a fuzzy scale (continuous), rather than on a dichotomous scale (binary). In addition, fsQCA provides users with two distinct sorts of setup, each of which includes both necessary and sufficient conditions. It is possible for certain configurations to be identified by their existence, their absence, or a state that indicates “do not care.” A separation between core and peripheral components can be drawn once the essential conditions as well as the sufficient ones have been met. Core



factors are those that have a robust causal relationship with the result, whereas peripheral elements are those that have a less robust relationship [74].

Multiple solutions are provided by fsQCA to explain the same outcome, with the configurations being either present, absent, or in a “do not care” condition. These configurations are constructed using both necessary and sufficient criteria (i.e., either present or absent). Using necessary and sufficient conditions, one can identify factors that are central (i.e., strongly causal) to the outcome and others that are tangential (i.e., weakly causal) to the outcome [75]. As a first step, we conduct a necessity analysis to determine which, if any, of the above factors was required for achieving green creativity. From a set-theory perspective, ‘necessity’ means that a condition is a superset of the outcome [76]; hence, in every instance of the sample, the outcome’s fuzzy-set membership score is lower than that of the causative conditions. A condition is required if and only if its consistency is greater than 0.9 [77]. Consistency refers to how well the chosen examples share a causal condition or how well a configuration exhibits a central consequence [78].

Data calibration: The next step was to calibrate the variables into fuzzy sets by assigning them numbers between 0 and 1, where 1 indicated full-set membership and 0 indicated full-non-set membership. Full membership, full non-membership, and the crossover point are the three thresholds that must be determined for data calibration. These describe the degree to which an instance belongs to a set [77]. The term “direct calibration” refers to this particular approach. The researcher chooses three qualitative cut-offs to use in the direct technique, whereas in the indirect method, measurements must be rescaled in light of qualitative evaluations. Depending on the available evidence and theoretical framework, any approach may be adopted. Here, we followed the method established by prior research [79], with the three cut-offs established by a questionnaire scale (a five-point Likert scale). Much research uses methods of calibration that are very similar to this one [80]. We used a value of 5 to indicate full membership, a value of 1 to indicate complete non-membership, and a value of 3 to indicate a transitional status between the two. The three cut-offs were determined by calibrating all the values on a logistic function.

Obtaining the solutions: Following this, fsQCA generates a truth table with  $2^k$  rows, where  $k$  is the number of result predictors and each row represents a unique permutation of these predictors. When there are two criteria (variables) in a truth table, for instance, four distinct permutations are listed. Frequency and internal consistency must be used to order the truth table [76]. The frequency measures the total number of times that each possible combination has been observed. “The degree to which situations correspond to the set-theoretic relationships indicated in a solution” is what is meant by the term ‘consistency’ [78]. To guarantee a sufficient number of empirical observations, a frequency threshold should be established. A cut-off value of 1 is reasonable for small and medium-sized samples, while a higher cut-off point is required for large-scale samples (“e.g., over 150 instances”) [79]. The threshold for this case was established at a frequency of 3 (Fiss, 2011). Additionally, with a lower consistency threshold, more required conditions were found, which decreased the number of type II errors (“i.e., false negatives”) while raising the number of type I errors (“i.e., false positives”) [77]. A threshold of 0.85 was thus chosen for consistency, which was above the suggested value of 0.75 but still reasonable.

#### 4.2. Validity and Reliability of the Variables

A confirmatory factor analysis was needed in order to validate the factor structure of the components. The constructs that were used in this investigation were analysed in terms of their reliability as well as their validity. The Cronbach alpha indicator, which is used in reliability testing, demonstrates that sufficient indices of internal consistency may be found when all constructs can exceed the minimum requirement of 0.70. (Table 1). For validity to be established, the average variance extracted (AVE) must be greater than 0.50, the correlation between the various variables in the confirmatory models must be less than 0.8 points (a correlation higher than this indicates a lack of discrimination), and the square root of each factor’s AVE must be greater than its correlations with other factors [81]. Each

of the correlations in the present case was less than 0.80, and the square root AVEs for each of the constructs exceeded their respective correlations. The AVE for each of the constructs fell somewhere between 0.46 and 0.81 (Table 2).

**Table 1.** Measurement statistics of construct scales.

Construct/Indicators	SFL	Mean	Standard Deviation	Cronbach's $\alpha$	CR	AVE	t-Values	Skewness	Kurtosis
Green human resources management (GHRM)	0.938	2.783	1.403	0.918	0.940	0.583	23.109	−1.34	1.78
GHRM1	0.908	3.018	1.167				11.983	−1.17	1.49
GHRM2	0.919	2.699	1.093				10.347	−1.26	1.12
GHRM3	0.943	3.160	1.214				29.038	−1.90	1.18
GHRM4	0.899	2.893	1.026				19.430	−1.23	1.02
GHRM5	0.936	2.364	1.132				22.375	−1.64	1.83
GHRM6	0.916	3.107	1.089				14.093	−1.07	1.24
GHRM7									
Green creativity (GRC)	0.937	2.679	1.753	0.948	0.970	0.518	18.438	−1.64	1.08
GRC1	0.908	3.084	1.891				25.208	−1.20	1.34
GRC2	0.945	2.827	1.234				21.209	−1.74	1.78
GRC3	0.978	3.109	1.408				17.304	−1.23	1.20
GRC4	0.940	3.128	1.236				6.093	−1.37	1.28
Environmentally specific servant leadership (ESL)	0.940	2.308	1.503	0.926	0.951	0.608	27.209	−1.43	1.21
ESL1	0.912	3.012	1.123				10.283	−1.20	1.90
ESL2	0.907	2.309	1.603				7.039	−1.23	1.34
ESL3	0.932	3.472	1.276				23.029	−1.19	1.47
ESL4	0.893	2.398	1.209				21.298	−1.32	1.20
ESL5	0.872	3.025	1.245				22.378	−1.27	1.26
ESL6	0.906	3.128	1.127				27.309	−1.24	1.08
ESL7	0.917	2.467	1.093				22.376	−1.26	1.73
ESL8	0.934	2.889	1.244				11.209	−1.08	1.26
Psychological green climate (PGC)	0.921	2.783	1.218	0.928	0.941	0.571	27.230	−1.34	1.35
PGC1	0.963	3.209	1.370				13.208	−1.73	1.74
PGC2	0.939	3.128	1.336				23.209	−1.41	1.24
PGC3	0.918	2.990	1.782				29.037	−1.20	1.19

Notes. SFL: standardized factor loading; SFL is significant at the 0.001 level; AVE = Average variance extracted; CR = Composite reliability.

**Table 2.** Discriminant Validity of the Correlations between Constructs.

Construct	Correlations and Square Roots of AVE			
	GRHM	RGC	ESL	PGC
GRHM	0.764			
RGC	0.379	0.719		
ESL	0.518	0.446	0.779	
PGC	0.353	0.498	0.377	0.756

### 4.3. Findings

#### 4.3.1. Necessity Analysis for High Green Creativity

A necessity analysis allows conditions that are necessary but not sufficient for the sought outcomes to be identified [76]. A minimum consistency score of 0.9 and a coverage exceeding 0.75 must be achieved to make a condition necessary [79]. We began by conducting a necessity analysis. The results revealed that consistency values for green creativity exist between 0.32 and 0.61 in both the presence and absence (i.e., negation) of the causative circumstances (Table 3). The threshold for a condition to be regarded as a superset of the outcome of interest is 0.9; hence none of these conditions could be considered necessary for green creativity. Since none of the factors was crucial (required) to the outcome, we

proceeded with the fuzzy-set analysis, the major analysis of this work, to devise sufficient combinations of the causative conditions to explain the presence of high green creativity.

**Table 3.** Necessary conditions for high green creativity.

	Consistency	Coverage
GHRM	0.61	0.57
~GHRM	0.59	0.53
PGC	0.37	0.41
~PGC	0.32	0.36
ESL	0.56	0.54
~ESL	0.53	0.49

#### 4.3.2. Sufficiency Analysis for High Green Creativity

Applying the fsQCA to our data, four highly informative possible configurations (Table 4) with a consistency coefficient close to 0.89 were identified. These configurations jointly explain 88% of green creativity. Table 4 summarizes the fsQCA results, indicating with the black circle (●) the presence of the condition, and with the crossed circle (⊗) its absence. A blank cell was used to indicate the do not care condition, (i.e., “the specific condition is not considered in a solution”) [79].

**Table 4.** Conditions for achieving high level of green creativity.

Conditions	Solutions				
	S1	S2	S3	S4	S5
GHRM	●	●	●	●	⊗
PGC	●	●	⊗	●	●
ESL	⊗		●	●	
Consistency	0.961	0.949	0.921	0.889	0.962
Raw coverage	0.320	0.317	0.292	0.417	0.275
Unique coverage	0.023	0.008	0.031	0.005	0.042
Overall solution consistency			0.887		
Overall solution coverage			0.885		

The overall solution coverage demonstrates the extent to which high green creativity can be achieved according to the identified causal recipes and is comparable to the R2 value. An overall solution coverage of 0.885 suggests that the five solutions reached here accounted for a substantial proportion of the outcomes.

The results of the fsQCA procedure show that alternative combinations of green human resources management, environmentally specific servant leadership, and psychological green climate lead to high green creativity. Configuration 1 is the combination of green human resources management and psychological green climate. It shows hotels achieving green creativity because of green human resources management and psychological green climate (raw coverage is 0.320). The remaining variable (i.e., environmentally specific servant leadership) is not relevant for achieving high level of green creativity.

Solution 2 indicated that a combination of green human resources management with a strong psychological green climate, even without environmentally specific servant leadership, results in high green creativity, regardless of the level of environmentally specific servant leadership.

Solution 3 is the combination of green human resources management and environmentally specific servant leadership with the lowest coverage. It shows a hotel can achieve high level of green creativity only because of green human resources management and environmentally specific servant leadership (raw coverage is 0.292).

Solution 4 is the combination of green human resources management, psychological green climate, and environmentally specific servant leadership with the highest coverage. It shows a hotel can achieve high level of green creativity because of green human resources management, psychological green climate, and environmentally specific servant leadership (raw coverage is 0.417). Solution 5: green creativity can be achieved when the psychological green climate is high, despite a low level of green human resources management and the absence of environmentally specific servant leadership. Indeed, a complex phenomenon, such as green creativity, is moved by a combination of green human resources management, psychological green climate, and environmentally specific servant leadership that jointly influence green creativity. Green human resources management appears in four of the combinations, and it plays a complementary role, leading to green creativity.

These results offer support for the study propositions. First, high green creativity can be produced by more than one causal recipe, demonstrating equifinality (Proposition 1). Second, the findings indicate configurations of high green creativity in which one condition, depending on its connection with the other causal recipes, might be either present or absent, demonstrating causal asymmetry (Proposition 2).

## 5. Discussion and Implications

### 5.1. Key Findings

This study built an integrated research model by relying on complexity theory as its foundation. The model made two propositions. According to the findings of this research, green human resource management, environmentally focused servant leadership, and a psychological green climate can all combine to generate configurations that accurately predict green creativity. As a means to achieving this goal, a conceptual model was developed to serve as the foundation for determining the above combinations. The findings, particularly the clear role of green human resources management, included as a key element in three of the four solutions, are particularly interesting for a number of reasons. In point of fact, green human resource management results in high levels of green creativity regardless of whether environmentally specific servant leadership and psychological green climate are present or absent (Solutions 1–3). Surprisingly, enhanced green human resources management, regardless of psychological green atmosphere, paired with very ecologically focused servant leadership will increase green creativity, when all other structures are missing (Solution 4).

This is consistent with observations from past researchers [19,34,41,55,78]. They indicate that members of hotel staff are able to implement the green human resources management principles within their facilities in order to boost their level of environmentally conscious creativity. When employees are made aware of the green values held by their business, they are more likely to offer fresh proposals on green ideas and solutions that can contribute to the attainment of green goals. The tenets of Social Cognitive Theory [82], which postulate that the interplay of individual elements with environmental factors impacts on behavioural outcomes, are likewise inconsistent with these findings. This is another way in which they are incongruent.

Therefore, our research offers an innovative perspective to the understanding of factors affecting green creativity and demonstrating that managers achieve green creativity through human resource management with a strong psychological green climate and environmentally specific servant leadership. Overall, the results of the novel methodological

approach show that a single methodology might limit the overall findings when it comes to complex phenomena (i.e., green creativity). The findings indicated that five solutions can lead to high level of green creativity, which underlies the complexity of the phenomenon.

We may deduce from the findings that green human resource management plays a vital part in developing hotel employees' green creativity. This finding is consistent with the findings of previous studies of green creativity in the context of human resource management [23,45,67]. In one study, the researchers discovered that green dynamic capabilities had an impact on the green creativity of employees. Our finding corroborates theirs. Our finding is also consistent with the research that was conducted by previous scholars [37,82–84], who discovered that green human resources management had a beneficial impact on the green creativity of employees working in the hotel industry in Saudi Arabia. They also investigated the mediating role that green human resources management has in the connection between the top management team and green innovation. We contend that green human resources management policy and practices are among the green dynamic capacities that empower and motivate workers to act more responsibly, as described by prior research [26,49,56]. This view is grounded in the idea that green human resources management policies and practices illustrate a competence that allows the growth of green dynamic capabilities. Important inferences can be derived from this study, including the fact that green creativity is an additional green consequence of sustainable human resource management. Recent studies [11,34,47,85] have shown the importance of green human resource management in encouraging green workplace behaviours among employees. The goal of the research is to address this information gap. The second inference is that HRM practices have a significant influence on individual behaviour, as we have shown in our study [39,45,67].

### 5.2. Theoretical Implications

Our findings from the hospitality business allow us to make the following range of contributions to the previous research: first, the research identifies green human resources management as an important prerequisite for environmentally conscious creativity at the individual level. By examining green creativity at the individual level, we extended prior research, which has largely limited itself to the validation of the association between human resources management and hotels' creativity [34,78,81], at the expense of the association between corporate green policies expressed through human resources management and their effect on employee innovativeness. We did this by investigating green creativity at the individual level. Even in cases where researchers have sought to investigate the connection between green human resources management and green creativity, they have only done so at the organisational level [33,74] or the personnel level [14], without combining the two points of view in a single research project. In addition, the research offers a complete and unified model which serves as the basis for a road map showing how hotels can individually reap the benefits of green innovation. By doing this, we go beyond the application of each construct (green human resources management, environmentally specific servant leadership, and psychological green climate) and combine them to provide a fuller description of how hotels can build green creativity. Specifically, we focus on how hotels can create a psychological green climate. The present study shows that linear analyses might be suboptimal when explaining green creativity. The results suggest the existence of asymmetrical relationships among key drivers of green creativity.

Second, the research contributes to the existing body of hospitality literature by presenting a novel idea of "green creativity". Previous studies have investigated the mediating role that green culture has in the connection between green human resources management and the environmental performance of hotels [34,51], but they have not probed further into the factors that favour a green culture. This is the first research of its kind to explore the topic of environmentally conscious servant leadership within the context of the hospitality literature. This idea has, however, been researched extensively in the past in the context of companies that manufacture products [35,67,86,87]. In addition, we outlined the bound-

ary conditions necessary for keeping the employee–management interphase in sync, in order to promote environmental behaviours through the application of environmentally specialised servant leadership. This helps to promote environmentally friendly behaviours. In conclusion, the findings of this research not only broaden the applicability of complexity theory in the field of green management research, but also offer a theoretical complement to the social exchange theory, which is a theory that is typically used in green management research [21,67,72]. The link between green human resources management and environmentally conscious creativity, which lends validity to the resource caravan notion, was investigated in this empirical study. Our study provides further support for green human resource management as a key driver of green creativity.

Finally, this study extends the applicability of the conservation of resource in the green management research as well as provides a theoretical complementary to the social exchange theory that has been commonly applied in green management research [21,29]. While the social exchange perspective explains how the staff exchange resources (reciprocity), the conservation of resource explains why employees engage in the resource investment process (i.e., accrue and conserve resources). Additionally, the conservation of resource provides for the interunit transfer of resources (from source to recipient) as well as from one form (personal) to another (task) within a certain entity. This interunit transfer demonstrates a resource caravan [37]. This empirical study gives support for the resource caravan concept through the link between green human resources management and green creativity.

### 5.3. Managerial Implications

This research has three actionable repercussions to report, all of which are connected to greening the hospitality industry. First, the findings are advantageous to organisations, particularly in the hotel industry, in encouraging employee behaviour that is environmentally friendly. This is because the research objectives were fulfilled by the findings. According to the findings, having green human resources management traits can help an organisation to recruit, retain, and cultivate staff members who are aware of the environment and who, as a result, support the greening agenda of the business. This study will persuade management authorities in the hotel sector to revisit and adhere to what prior research [47] designated as refining HR processes for green results. This conclusion follows our confirmation that green human resources management and green creativity are correlated at the individual level.

Second, the findings of the research suggest that decision-makers and top management should encourage ecologically focused servant leadership in order to develop a green culture and stimulate green innovation in employees. Previous studies have shown that green human resources management is responsible for the development of environmentally conscious creativity [21,45,78]. According to the findings of the study, top management should devote more resources to the implementation of green human resources management because it is the origin of the four factors that make green culture possible. In this context, hotels may design rubrics to measure and monitor the effects of green human resources management in spreading green culture among the workforce and overall green innovation. These rubrics may also be used to evaluate the effectiveness of green human resources management. Third, the results of this research demonstrate that, as well as ecologically specialised servant leadership, a psychologically green climate does, in fact, have a moderating role in the connections between green human resources management practices and green innovation. This suggests that the mode of leadership has an effect on the efficacy of environmentally friendly efforts. Providing employees with green training helps to enhance their awareness of environmental management values. In addition, such training programmes equip employees with the needed skills, which enable them to work effectively on management green agendas. This sends a message to the hotel employees that their green attitudes and behaviours are critical, which then encourages them to be engaged in green tasks and suggests novel green ideas to enhance environmental performance.

The results of the study call for policymakers and top management to nurture the green human resources management to build a green culture and boost green creativity among individuals and teams. Past research has found that green human resources management gives rise to green human resources management [21,36]. In this case, the study suggests that top management should commit more resources toward the adoption of green human resources management, which is the source of the four enablers of green culture. As a result, the findings of this study imply that upper management should make it a priority to foster ecologically focused servant leadership in order to reinforce the beneficial connection that exists between green human resources management practices and green innovation. This can be achieved by requiring leaders to make the needs of their employees and the organisation's environment their priority [17,56,81].

## 6. Conclusions

The main purpose of this study was to develop an integrated model that could supply the main causal recipes leading to high green creativity in the hotel industry. We used complexity theory and fsQCA to develop a combination of green human resources management, environmentally specific servant leadership, and psychological green climate that would precede high green creativity. Data were collected from employees in Saudi Arabian hotels to address the research questions. Our findings revealed four main causal recipes that can lead to high levels of green creativity. It also indicated that no single factor was sufficient to drive employees' green creativity, but three causal recipes (i.e., green human resources management, environmentally specific servant leadership, and psychological green climate) were demonstrated as achieving high green creativity. Our study provides hotels managers with meaningful implications that can help them to develop new approaches and strategies to improve employees' green creativity.

Our study contributes to the green human resources management and green creativity literature in different ways. First, businesses in the hospitality sector confront significant sustainability difficulties that necessitate a focus on green management and environmental sustainability. To combat these difficulties, the hospitality industry can implement green human resources management methods to foster environmentally responsible innovation. Second, our research contributes to the growing body of literature on the function of green human resources management in inspiring environmentally conscious innovation in the hospitality industry. It is a further contribution to the growing body of green organisational results, including green creativity at the person level. This research, conducted in a rising Asian economy (Saudi Arabia), aims to provide empirical evidence connecting green human resources management and green innovation at the human level. These results expand the scope of the investigation and strengthen the possibility of extrapolating the findings to the hospitality industry in Asia's developing economies.

Our study has some limitations that may help future researchers to develop it and generalise the results. First, we gathered data from only one country (Saudi Arabia) to test the proposed conceptual framework. Future research can collect data from other countries, such as developed countries, and compare the results to generalise the findings of this study. Second, we used a survey to collect the required data. Further examinations can use other methods such as experiments and qualitative methods to avoid the concerns about common method bias and social desirability. Third, our model focused on green human resources management, environmentally specific servant leadership, and a psychological green climate to develop the causal recipes that can improve green creativity. To improve the predictive power of our proposed model, future studies can include other variables such as psychological empowerment. Finally, our study proposed an integrated model to explore the causal recipes that stimulate green creativity at the individual level. Future research can explore the relationships between these causal recipes at the organisational level.

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