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Developing Sustainable Competitive Intelligence through Green Human Resource Management: Evidence from Hotels in Uttarakhand, India

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Abstract

This study examines the impact of Green Human Resource Management (GHRM) on Organizational Performance and investigates the mediating role of Competitive Intelligence in the relationship between GHRM and Organizational Performance in the hotel sector. A total of 379 managers and supervisors from hotels in Uttarakhand, India, were surveyed, and the data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. The results indicate that GHRM has a significant positive effect on Competitive Intelligence, which in turn enhances Organizational Performance. Competitive Intelligence is also found to significantly mediate the relationship between GHRM and Organizational Performance. This study highlights Competitive Intelligence as a strategic mechanism through which sustainable HR practices contribute to organizational success in the hospitality industry. Theoretically, the study extends the AMO framework by positioning Competitive Intelligence as a key mediating mechanism linking GHRM with organizational outcomes. Methodologically, it validates GHRM as a higher-order construct using PLS-SEM and provides empirical evidence from the hotel industry in an emerging economy context.

Keywords: Environmental Scanning; Intelligence Dissemination; Strategic Responsiveness; Sustainability-Oriented HR Practices; Knowledge Sharing.

1. INTRODUCTION

The global hospitality industry needs to establish a balance between economic development and environmental protection because both forces are currently pushing the industry to their limits. The success or failure of sustainability programs depends on the employees who work at facilities, those who deliver services and carry out the services on a daily basis. Therefore, HRM has become a critical component that hotels should utilize to implement sustainability practices [1-3].

Green Human Resource Management (GHRM) is the application of environmental goals in HR activities such as green hiring and selection, green training, green appraisal, green reward systems, and green employee participation. Research indicates that GHRM implementation in hotels improves environmental outcomes through encouraging environmentally friendly practices among employees [4,5].

Competitive Intelligence (CI) capabilities are growing in importance for organizations to gather, analyze and leverage strategic information to enhance decision-making and gain a competitive advantage [6,7]. Competitive Intelligence assists organizations in turning environmental information into knowledge for the organization to have for long-term adaptability and competitiveness [8,9]. In the context of sustainability, companies operating in the hospitality industry need to constantly adapt to shifts in customer demands, environmental laws, ecological dangers, and technology in order to stay competitive and sustainable. Thus, the need for organizational intelligence to adapt and remain competitive in a sustainable manner is growing.

New Competitive Intelligence literature shows that the ability to systematically monitor the external environment, share strategic information within the organization and respond effectively to the opportunities and threats created in the external environment is becoming a significant factor in the organizational competitiveness. Competitive Intelligence is now considered to be more than an information gathering activity, but rather a business competency that helps organizations make strategic decisions and adapt to their business environment [6,8,9]. For industries that are sensitive to sustainability, like hospitality, intelligence services provide enterprises with the ability to predict environmental trends, evolving expectations of customers, regulatory changes, and sustainability opportunities before their rivals.

GHRM has a very significant role in creating such intelligence capacities. Green recruitment and selections attract employees with environmental consciousness who bring in knowledge of sustainability, and green training boosts the capacity of employees to perceive and interpret environmental information. Similarly, green appraisal, green reward systems, and green employee participation practices seek to inspire employees to share information, learn within the organization, and make decisions regarding sustainability issues. GHRM, therefore, can play a significant role as an antecedent of Competitive Intelligence by building a workforce that can generate, disseminate, and apply sustainability-related knowledge to strategic ends [3,10-12].

Competitive Intelligence gives organizations the power to convert information from outside the organization into knowledge that can be used for strategic planning, resource planning, and respond to the changes in the environment in a timely manner. Organizations with greater intelligence are able to predict market trends, meet stakeholder expectations, and gain a competitive edge, resulting in higher organizational performance [6,8,13].

The Ability-Motivation-Opportunity (AMO) theory describes the factors that influence employee performance in terms of their ability, motivation, and opportunities [14,15]. Based on this perspective, GHRM practices can be considered HR systems that can improve the green capacity of employees through recruitment and training processes, reinforce green motivation through appraisal and reward process, and establish green opportunities through employee participation in the implementation of green activities and decisions.

While the connection between Green Human Resource Management and organizational outcomes has been explored extensively in previous research, most hospitality studies have concentrated on environmental, behavioral, and operational outcomes [5,12,16]. Relatively little research has focused on discovering how GHRM can help enhance organizational competitiveness and through which strategic mechanisms. The intermediate organizational capacity of Competitive Intelligence has been rather under-researched, in particular. Thus, there is not much empirical evidence available on the role of green HR practices in generating intelligence, disseminating intelligence, and reacting strategically within hotel organizations. The gap is particularly relevant as the hotel sector is very dynamic, with fluctuating customer demands, sustainability laws, and growing competitive forces [6,3,17].

The proposed framework was tested by collecting survey data from hotel staff of Uttarakhand, India, and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). This study has three significant contributions to the literature. Firstly, this study fills a gap in the hospitality and GHRM literature by providing empirical evidence on Competitive Intelligence as an organizational capacity and not just a theoretical concept. Secondly, it builds on AMO theory by providing an understanding of the role that green HR practices play in developing the organizational intelligence capabilities that are needed for strategic decision-making and competitiveness. Thirdly, it provides empirical findings on the mediation of Competitive Intelligence in the relationship between GHRM and Organizational Performance in the field of hospitality.

In view of these theoretical arguments, the study proposes a research model consisting of the antecedents of Competitive Intelligence: Green Recruitment and Selection, Green Training, Green Appraisal, Green Reward, and Green Employee Participation, along with mediating mechanism of Competitive Intelligence, which, in turn, influences Organizational Performance. The suggested framework presents a new approach to the use of sustainability-oriented HR practices for creating intelligence capabilities that will help organizations achieve competitiveness.

RQ1: How do Green Training, Green Recruitment and Selection, Green Appraisal, Green Reward, and Green Employee Participation influence Competitive Intelligence in hotels?

RQ2: How does Competitive Intelligence influence Organizational Performance?

RQ3: Does Competitive Intelligence mediate the relationship between Green Human Resource Management practices and Organizational Performance?

2. THEORETICAL FRAMEWORK

2.1. Ability–Motivation–Opportunity (AMO) Theory and Green Human Resource Management

The Ability-Motivation-Opportunity (AMO) theory gives a broader picture of the impact of HRM practices on employee behavior and organizational outcomes. Within the framework of AMO theory, employee performance relies on employee ability, motivation, and organizational opportunities to involve employees in organizational activities [14,15]. Organizations can boost performance by increasing employee knowledge and skills, incentivizing employees to act accordingly, and providing them with chances to engage in organizational activities.

Green Human Resource Management (GHRM) is the integration of environmental goals into HR practices and the encouragement of eco-friendly employee performance in the context of environmental sustainability. Generally, GHRM practices can be divided into five types, including Green Recruitment and Selection, Green Training, Green Appraisal, Green Reward, and Green Employee Participation [5,18]. These practices enable organizations to build their workforce to help them with sustainability efforts and also support them in achieving sustainable competitive advantage.

From an AMO point of view, the components of Green Recruitment and Selection and Green Training are linked to the ability dimension and help recruit and train employees with environmental knowledge and competencies. Green Appraisal and Green Reward are techniques that connect environmental performance with evaluation and reward systems, to reinforce employee motivation. The opportunity aspect is addressed through Green Employee Participation (GEP), which aims to involve employees in environmental projects and in decision-making processes. All of these practices together produce organizational conditions for the generation, sharing, and use of sustainability-related knowledge [3,11,14,15].

The AMO framework for developing Competitive Intelligence capabilities is especially relevant to the present study due to its strong relationship with employees' skills of identifying relevant information, their motivation to share knowledge, and their opportunities to be involved in the organization's learning processes. Hence, AMO theory can be used as a basis to explain how GHRM practices are related to the development of Competitive Intelligence capabilities and thereby improve Organizational Performance.

2.2. Competitive Intelligence Theory

Competitive Intelligence (CI) is the systematic process of gathering, analyzing, sharing, and applying information from the internal and external environments of an organization to inform strategic decision-making and to provide a competitive advantage [6]. The study of Competitive Intelligence has gradually come to be seen as a strategic competency of organizations that can be used to increase their adaptability, learning, and performance [8,9].

It is essential that organizations in dynamic and uncertain environments monitor the developments in the market, customer expectations, technological changes, sustainability trends, and competitor actions. By leveraging Competitive Intelligence, organizations can convert this information into meaningful knowledge that helps them make informed decisions and respond strategically. Thus, intelligence capability has emerged as more and an increasingly vital asset of organizational competitiveness.

Most often, the three dimensions of Competitive Intelligence are seen as Environmental Scanning, Intelligence Dissemination, and Strategic Responsiveness. Environmental Scanning is the process of systematically monitoring and identifying relevant information from the external and internal environment. Intelligence Dissemination involves the sharing and communication of intelligence within the organization to enable informed decision-making. Strategic Responsiveness is the capacity to take timely strategic decisions and respond to environmental shifts [6,8].

In the hospitality sector, Competitive Intelligence plays a pivotal role since the sector is highly competitive, where customer preferences are continuously evolving, sustainability standards are growing, technology is advancing, and regulations are changing. The less intelligence an organization has, the more difficult it will be to spot opportunities, predict obstacles, and remain competitive in the long run.

2.3. Green Human Resource Management and Competitive Intelligence

Green Human Resource Management practices can play a significant role in developing Competitive Intelligence capabilities within organizations. By developing employees' environmental knowledge, motivation, and participation opportunities, GHRM creates conditions that facilitate information generation, knowledge sharing, and organizational learning.

2.4. Green Recruitment and Selection and Competitive Intelligence

Green Recruitment and Selection is about hiring and recruiting individuals who have an environmental awareness, values, and competencies related to sustainability. Staff who are well suited to their jobs through environmentally considered selection processes, have a higher probability of identifying opportunities and challenges related to sustainability, contributing knowledge relevant to the topic, and supporting the learning processes of the organization. So, Green Recruitment and Selection can reinforce the activities of Environmental Scanning and enhance organizational intelligence generation [18,19].

2.5. Green Training and Competitive Intelligence

Green Training builds employees' environmental knowledge, sustainability awareness, and problem-solving skills. Training increases employees' capacity to understand the environment, regulations, sustainability opportunities, and strategic information. Staff with greater environmental competencies can play a more effective role in feeding into organizational intelligence processes, thereby enhancing their Environmental Scanning and Strategic Responsiveness capabilities [20,21].

2.6. Green Appraisal and Competitive Intelligence

Green Appraisal is embedded in employee performance appraisal systems. With the monitoring and assessment of environmental performance, employees become more aware of environmental issues and organizational environmental objectives. These types of evaluation processes encourage workers to discover, share, and make use of environmental information that is relevant for organizational decision-making. As a result, Green Appraisal can enable Intelligence Dissemination and can contribute to organizational learning processes [18].

2.7. Green Reward and Competitive Intelligence

Green Reward systems give rewards for sustainable contributions and for environmentally responsible behavior. Incentivized workers are likely to participate in knowledge sharing activities and to supply strategic information for achieving sustainability goals. The utilization of these motivational mechanisms helps with intelligence dissemination and encourages the use of intelligence in the organization's decision-making processes [22].

2.8. Green Employee Participation and Competitive Intelligence

Green Employee Participation offers employees the chance to participate in environmental decision-making, problem solving, and sustainability efforts. Participation mechanisms enable communication, collaboration, and knowledge sharing within and between organizations. Actively involved personnel can be important sources of strategic information and innovative ideas for environmental initiatives. Thus, Green Employee Participation contributes to Intelligence Dissemination and improves Strategic Responsiveness by facilitating a quicker response of the organization to environmental changes and stakeholder expectations [18,23].

From the above arguments, it can be assumed that Green Human Resource Management practices have positive contributions towards the development of Competitive Intelligence capabilities within hotel organizations.

The Ability-Motivation-Opportunity (AMO) theory is helpful in understanding the role that Green Human Resource Management (GHRM) plays in development of Competitive Intelligence development within organizations. The AMO model of employee effectiveness suggests that it depends on the skills individuals have, their level of motivation, and their ability to participate in achieving the organization's goals [14,24]. GHRM activities, such as green recruitment, green training, green performance appraisal, green rewards and EI facilitate the development of employees' environmental competence and motivate proactiveness in the activities of the organization.

In the hospitality sector, staff members are valuable sources of market and environmental information as they interact with guests, suppliers, regulators and competitors on a daily basis. Employees can be trained and developed to identify, interpret and understand information related to the environment through green training and development. Green rewards and appraisal systems encourage staff to disseminate knowledge and provide strategic information, and empowerment and participation practices facilitates information sharing at different levels within the organization. All these mechanisms contribute to enhancing the organization's ability to collect, process and use strategic information which forms the foundations of Competitive Intelligence.

Competitive Intelligence is a strategic competency and has been proven valuable in identifying new market opportunities, predicting competitive challenges and helping organizations to make key strategic decisions when changes are happening outside the organization. Existing hospitality research indicates that firms with more intelligent operations have higher chances of gaining sustainable competitive advantage and better organizational results. Thus, it may be expected that GHRM would strengthen Competitive Intelligence by improving employees' skills, motivation and opportunities in generating and utilizing strategic knowledge.

H1: Green Human Resource Management positively influences Competitive Intelligence.

2.9. Competitive Intelligence and Organizational Performance

Competitive Intelligence has gained greater acceptance as a strategic competency of an organization that helps it to perform better. A firm with high intelligence will be more capable of noticing new opportunities, predicting threats in the environment, and reacting to market changes. These capabilities help enhance strategic decision-making, resource allocation, organizational agility, and operational efficiency [6].

According to recent studies, organizations that are intelligent are more competitive, innovative, and perform better, since they can turn information into actionable knowledge that drives organizational goals [8,25]. Environmental Scanning helps organizations to gather information that is relevant to their situation; Intelligence Dissemination helps organizations to share that information and promote coordinated decision-making; and Strategic Responsiveness helps organizations to take appropriate action at the right time based on Intelligence insights.

Competitive Intelligence assists hospitality businesses in enhancing their service, customer responsiveness, sustainability adaptation, and strategic flexibility. Hotels that are capable of, and committed to, effectively detecting, disseminating internally, and reacting to market developments in a strategic manner are likely to perform better organizationally. Hence, Competitive Intelligence is expected to have a positive impact on Organizational Performance.

H2: Competitive Intelligence positively influences Organizational Performance.

2.10. Mediating Role of Competitive Intelligence

In addition to having a direct effect on organizational outcomes, the AMO framework also proposes that HR practices shape organizational outcomes indirectly via their influence on intermediate organizational capabilities built through HR practices [14,15]. Green Human Resource Management gives a platform for developing employees' environmental skills, awareness, and opportunities to participate, which in turn facilitates knowledge creation, information sharing, and organizational learning [3,11].

Green Recruitment and Selection, Green Training, Green Appraisal, and Green Reward systems from an AMO perspective improve employees' knowledge and competencies about the environment, and

motivate them to participate in sustainability-related activities. Green Employee Participation allows employees to engage in processes that enable them to share ideas, knowledge, and voice their opinions in environmental decision making. Together, these practices enable the building of organizational competencies related to Competitive Intelligence [14,15,3,12].

Competitive Intelligence helps turn organizational knowledge into actionable intelligence in the form of Environmental Scanning, Intelligence Dissemination, and Strategic Responsiveness. These processes help organizations discover new opportunities and threats, guide strategic decision-making, increase adaptability, and enhance efficiency [6,8,9].

Previous studies often have investigated the mediating effect of the variables of Green Innovation and Organizational Learning in the relationship between GHRM and organizational outcomes, however in this study; the focus is placed on Competitive Intelligence, since the hotel field is very dynamic and information driven. To stay competitive, hotels need to constantly keep an eye on customer preferences, competitor strategies, technological innovations, and sustainability trends. Competitive Intelligence is a strategic competence that converts knowledge and awareness of the environment created by GHRM practices into information to support decision-making. Theoretically, Competitive Intelligence is a pathway in which GHRM can influence Organizational Performance.

H3: Competitive Intelligence mediates the relationship between Green Human Resource Management and Organizational Performance.

2.11. Conceptual Model

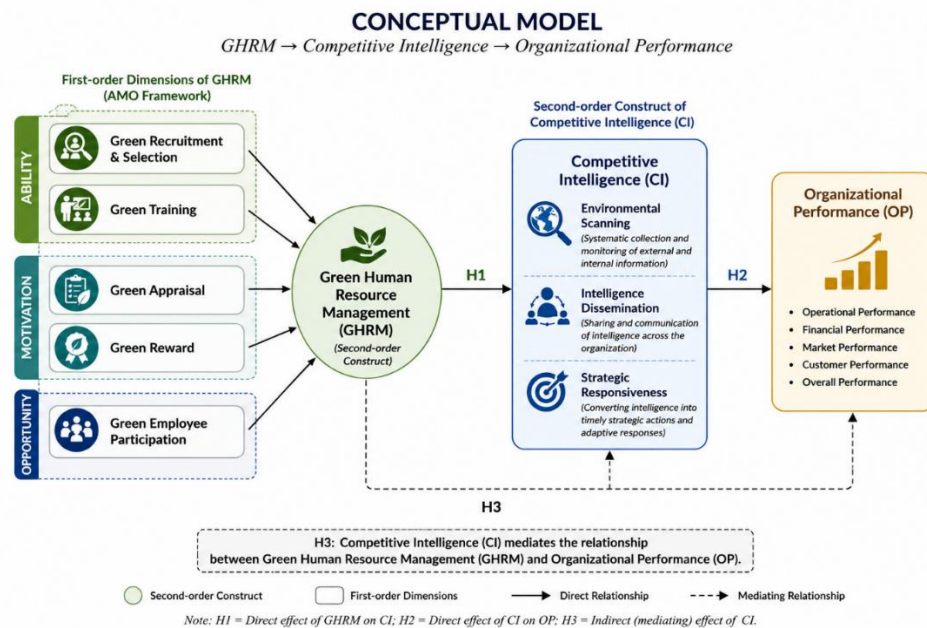


Figure 1. Conceptual model

This study has built upon the Ability–Motivation–Opportunity (AMO) theory and Competitive Intelligence theory, concluding that Green Human Resource Management can improve Organizational Performance by building Competitive Intelligence capabilities. In this regard, the following practices of GHRM, namely Green Recruitment and Selection, Green Training, Green Appraisal, Green Reward, and Green Employee Participation, aim to improve the environmental competencies, motivation, and participation opportunities of the employees. These practices help in the creation of knowledge, environmental awareness, information exchange, and organizational learning.

Competitive Intelligence is a strategic competency that allows an organization to systematically gather intelligence, share it, and react appropriately to changes in the environment. Firms with better intelligence should be able to make better decisions and deliver higher performance results.

Therefore, it is expected that the positive effect of Green Human Resource Management on Organizational Performance through the improvement of Competitive Intelligence will lead to enhanced Organizational Performance. In addition, Competitive Intelligence is hypothesized to mediate the relationship between Green Human Resource Management and Organizational Performance.

3. METHOD

3.1. Research Design and Approach

The research used a quantitative approach and employed an explanatory cross-sectional research design to test the relationships predicted by AMO theory. The researchers adopted a deductive approach, applying theoretical propositions derived from AMO theory and then proceeding to empirical observation in order to test these propositions. Using a cross-sectional design enabled data collection from multiple hotels at a single point in time, allowing the researchers to assess the level of GHRM implementation and its perceived effects. The design offers practical advantages for studies in organizational research, particularly when longitudinal data collection is difficult due to significant logistical challenges.

3.2. Population, Sampling, and Data Collection

The target market comprised the managers and supervisors who work in various 3-, 4- and 5-star hotels of Uttarakhand including their General Managers, HR manager, departmental manager, floor supervisor etc. This group was selected since they are directly involved in and oversee the operational processes, environmental initiatives, and human resource practices, providing them with the necessary information and insights. Hotels rated as three-star or higher were chosen because they tend to have established HR practices and organizational resources that enable them to implement structured Green Human Resource Management (GHRM) practices.

This study used a multi-stage sampling method. We created a sampling frame which divided hotels into three-star-rating categories, 3-star, 4-star, and 5-star hotels. The researchers conducted random selection of hotels from two sources which included commercial directories and official listings that contained national hotel associations and tourism boards for each stratum. The researchers used purposive sampling to select respondents from the hotels which they had already chosen. Two key informants who represented human resources, operations or sustainability management in managerial or supervisory functions were invited to participate in the selected hotel. The hotels were identified using OTA (Online Travel Agencies), Hotel Association Listings, and the Uttarakhand Online Hospitality Database. The questionnaires were sent to selected hotels by an initial emailing, visits, and managerial contacts, with around 433 questionnaires being sent out. Others refused to participate due to operational burdens and internal administrative limitations. A total of 379 valid questionnaires were retained after the elimination of incomplete and unusable responses.

3.3. Pilot Study

A pilot study was conducted with 35 non-sample members working in the hotel sector in surrounding cities. The pilot study aimed to assess the clarity, content validity, readability, and construct reliability of the questionnaire. The results of the pilot study indicated good reliability with all Cronbach's alpha values being greater than the minimum recommended value of 0.70, indicating that the instrument was ready for final administration.

3.4. Response Rate

Three-to-five-star hotels were selected and 433 questionnaires were sent to identified managers/supervisors. The questionnaires were returned 87.5%, yielding 379 usable questionnaires. The high response rate reduces possible non-response bias, and enhances the representativeness of the data for the target population.

3.5. Measurement Instrument and Operationalization

The measurement instrument was designed based on already validated scales borrowed from the literature of Green Human Resource Management, Competitive Intelligence, and Organizational

Performance. All constructs were rated on a seven-point Likert scale from 1 = strongly disagree to 7 = strongly agree. Green Human Resource Management (GHRM) was implemented as a higher order construct with five first order constructs of Green Recruitment and Selection, Green Training, Green Appraisal, Green Reward, and Green Employee Participation. Items for measurement were adapted from Tang et al. (2018) [11], Pham et al. (2019) [5], Renwick et al. (2013) [3], and Jabbour and de Sousa Jabbour (2016) [20]. The ability part of the AMO framework encompasses Green Recruitment and Selection and Green Training; Green Appraisal and Green Reward are the motivation part; and Green Employee Participation is the opportunity part. Competitive Intelligence (CI) was operationalized as a multidimensional construct containing three sub-constructs: Environmental Scanning, Intelligence Dissemination, and Strategic Responsiveness. Environmental Scanning is about systematically gathering and scanning information about environmental changes, market changes, competitors, customers' expectations, and sustainability trends. Intelligence Dissemination is the way in which strategic information is shared and communicated throughout different levels of an organization. Strategic Responsiveness is an organization's ability to leverage intelligence and make timely strategic moves. The items of the measurement were adapted from the Competitive Intelligence studies that have been conducted by Calof and Wright (2008) [6], Cavallo et al. (2021) [8] and Madureira et al. (2021) [9]. Organizational Performance was assessed using a five-item scale developed based on previous studies. The scale measured the perception of overall organizational effectiveness, competitiveness, operational performance, customer satisfaction and financial performance. Answers were taken on a seven-point Likert scale from 1 (strongly disagree) to 7 (strongly agree) [20,5,10]. The operationalization process was used to ensure consistency between the theoretical framework, the measurement model, and the proposed structural relationships. The study, in particular proposes that Green Human Resource Management is a factor that leads to Organizational Performance through the development of Competitive Intelligence capabilities.

3.6. Higher-Order Construct Specification

Building on the work of a previous study, Green Human Resource Management (GHRM) was developed as a second-order construct with five first-order factors: Green Appraisal, Green Employee Participation, Green Recruitment and Selection, Green Reward, and Green Training. Based on previous studies on GHRM [26], GHRM was modelled as a reflective-reflective hierarchical component model (HCM). It was considered that the reflective specification was appropriate as the dimensions are seen as reflecting the overarching construct of "Green Human Resource Management" and are expected to covary. Changes in the overall level of GHRM are reflected through corresponding changes in its underlying dimensions. Moreover, the dimensions collectively describe various aspects of one shared orientation of an organization towards environmental human resource management. The repeated indicator approach was used to estimate the higher-order construct, an approach that puts all indicators of the lower-order constructs into the higher-order construct, which is especially suitable for reflective-reflective hierarchical models. The relationships between the higher-order construct and its dimensions were then examined through bootstrapping procedures.

3.7. Control Variables

The study controlled for the heterogeneity of the organizations and for the risk of omitted variable bias by including three control variables: firm size, firm age, and chain affiliation. The variables were chosen for their likely impact on performance outcomes, based on previous research in the hospitality and organizational development fields. Firm size was captured by the number of employees and was used as a control variable since larger firms often have greater access to financial, technological, and HR capabilities that could positively affect organizational performance, especially in larger firms. Firm age was measured as the number of years since establishment and was controlled for, as older firms may have more established routines, experience and institutionalized management practices that may impact on performance outcomes. Chain affiliation was also treated as a binary variable, meaning that it was assumed to be a dichotomy between independent firms and chain-affiliated firms, because chain-affiliated firms may benefit from more uniform management systems, better brand images, access to common resources, and common processes. In line with previous studies, these control variables were directly related to Organizational Performance to eliminate the influence of other variables on the

dependent variable and isolate the influence of Green Human Resource Management and Competitive Intelligence.

3.8. Measurement Instrument

The final instrument used for measurement in the study is presented in Table 1. The constructs and items were adapted based on the existing literature on GHRM, sustainability, and organizational performance. A number of items were developed contextually to account for aspects of knowledge sharing oriented towards sustainability, environmental sensing, environmental monitoring, and strategic responsiveness linked to the Competitive Intelligence (CI) perspective of this research.

Table 1. Final Measurement Instrument

Construct	Dimensions	No. of Items	Sources
GHRM	Green Recruitment & Selection, Green Training, Green Appraisal, Green Reward, Green Employee Participation	20	Jabbour et al. (2008) [2]; Pham et al. (2019) [5]; Renwick et al. (2013) [3]; Tang et al. (2018) [11]
Competitive Intelligence	Environmental Scanning, Intelligence Dissemination, Strategic Responsiveness	12	Calof & Wright (2008) [6]; Cavallo et al. (2021) [8]; Madureira et al. (2021) [9]
Organizational Performance	Organizational Performance	5	Pham et al. (2019) [5]; Singh et al. (2020) [10]

Note. GHRM = Green Human Resource Management. All constructs were rated on a seven-point Likert scale from 1 = strongly disagree to 7 = strongly agree. The final instrument comprises 37 items: GHRM (20 items), Competitive Intelligence (12 items), and Organizational Performance (5 items).

3.9. Data Analysis Technique

The study aims to employ the methods of prediction, theory extension, and examining complex hierarchical constructs, which are achieved through the use of Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4. When the constructs being studied can be described at a higher level, relate to a mediating construct, or represent a research model that is developing in an exploratory fashion, PLS-SEM is an ideal method of analysis [26]. In addition, the method is versatile for data that are not normally distributed and can be used for research that focuses on explaining variance and prediction.

Two higher-order constructs were chosen for the current study, Green Human Resource Management (GHRM), comprising Green Recruitment and Selection, Green Training, Green Appraisal, Green Reward, and Green Employee Participation, and Competitive Intelligence (CI), which consists of Environmental Scanning, Intelligence Dissemination, and Strategic Responsiveness. As the constructs were hierarchical and the study aimed to explore the mediating effect of Competitive Intelligence between GHRM and Organizational Performance, PLS-SEM was chosen over covariance-based structural equation modeling (CB-SEM).

Both stages of analysis suggested by Hair et al. (2022) [26], for a higher-order construct were used. First, the measurement model was tested using indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Second, the structural model was evaluated by analysing the path coefficients, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and the bootstrapping process for testing the significance of direct and indirect relationships. Further, the size of the hotels, hotel category, and hotel chain affiliation were also used as control variables with direct links to Organizational Performance.

4. RESULTS AND DISCUSSION

4.1. Demographic Profile of Respondents

Demographic information about the 379 managers and supervisors who were surveyed is provided in Table 2. The sample was mainly male (83.9%) and 66.0% of the respondents had received formal hospitality education. The respondents were well spread across the 3-star, 4-star, and 5-star Hotel segments with the majority coming from Dehradun (42.0%), Haridwar (26.1%) and Nainital (24.0%). Supervisors (45.9%), managers (39.1%) and senior managers (15.0%) were among the sample, from various departments such as Food & Beverage Service (21.9%), Housekeeping (21.1%) and Front Office (19.0%).

Table 2. Demographic information

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	318	83.9
	Female	57	15.0
	Other / Prefer not to say	4	1.1
Age Group	Up to 35 years	163	43.0
	Above 35 years	216	57.0
Educational Qualification	Intermediate / High School	23	6.1
	Bachelor's Degree	140	36.9
	Master's Degree	80	21.1
	Diploma in Hotel Management	110	29.0
	Certificate Course	19	5.0
	Other	7	1.8
Professional Education in Hospitality	Yes	250	66.0
	No	129	34.0
Work Experience	Up to 5 years	117	30.9
	6–10 years	102	26.9
	11–15 years	87	23.0
	Above 15 years	73	19.3
Job Position	Supervisor	174	45.9
	Manager	148	39.1
	Senior Manager / GM	57	15.0
Hotel Star Rating	3-Star	129	34.0
	4-Star	136	35.9
	5-Star	114	30.1
Department	Front Office	72	19.0
	Housekeeping	80	21.1
	Food & Beverage Service	83	21.9
	Kitchen (Culinary)	68	17.9
	Sales & Marketing	38	10.0
	Human Resources	23	6.1
	Other	15	4.0
Location (District)	Dehradun (incl. Rishikesh)	159	42.0
	Haridwar	99	26.1
	Nainital (incl. Corbett)	91	24.0
	Other	30	7.9

N = 379. Percentages may not total exactly 100% due to rounding. "Other" categories include respondents who selected alternative qualifications, departments, locations, or preferred not to disclose their gender.

4.2. Preliminary Data Analysis

We first conducted analyses of missing values, data distribution, and data anomaly detection on the data collected from 379 participants prior to running our hypothesis testing. We did not see any missing values in the measurement items. The descriptive data indicated that the means were between 5.78 and 5.96, and the standard deviations were less than 1.00. The findings indicated that there was a high level of agreement among the respondents, leading to highly similar responses. Three normality tests were used: the skewness test, kurtosis test, and Cramér-von Mises test. The findings showed moderate negative skewness and excess kurtosis for a number of items, which indicate deviations from normality. This is a common theme in research studies utilizing perceptual surveys. One of the major problems that arises due to deviations from multivariate normality was not present in this case, since the PLS-SEM testing method does not require multivariate normality. Data analysis could proceed as the data were found to be suitable for further analysis.

4.3. Common Method Bias (Full Collinearity Test)

The full collinearity assessment approach suggested by Kock (2015) [27] was used to test for the possibility of common method bias (CMB). As presented in Table 3, The variance inflation factor (VIF) values of all measurement indicators were below the recommended value of 3.3 and ranged between 1.97 and 2.55. The results suggest that common method bias is not likely to threaten the validity of the study. Thus, the data obtained did not suffer from any important common method variance.

Table 3. Common Method Bias (Full Collinearity Assessment)

Assessment Criterion	Result
VIF Range	1.97 – 2.55
Threshold	< 3.30
Conclusion	No Common Method Bias

Note: Common method bias was assessed using Kock (2015) full collinearity approach. VIF values below the threshold of 3.30 indicate the absence of significant common method bias.

4.4. Measurement Model Assessment

Indicator reliability, internal consistency reliability, convergent validity, and discriminant validity were used as the criteria to test the measurement model. SmartPLS 4 was used to analyze the reflective measurement model. Outer loadings of the measurement items were first examined to determine the reliability of the indicators.

4.4.1. Indicator Reliability (Outer Loadings)

The outer loadings of the measurement items were analyzed to determine the reliability of the indicators. All the indicators showed good loadings on their corresponding constructs, ranging from 0.722 to 0.873 as presented in Figure 1 and Table 4. The scores for the factors of Green Appraisal ranged from 0.834 to 0.861, Green Employee Participation from 0.860 to 0.866, Green Recruitment and Selection from 0.834 to 0.863, Green Reward from 0.837 to 0.857, Green Training from 0.837 to 0.873, Competitive Intelligence from 0.722 to 0.782, and Organizational Performance from 0.830 to 0.867. All of the outer loading values were above the recommended value of 0.70 therefore all measurement items were retained for further analysis.

Table 4. Indicator Reliability (Outer Loadings)

Construct	Item	Loading
Green Appraisal	GA1	0.834
	GA2	0.852
	GA3	0.861
	GA4	0.835
Green Employee Participation	GEP1	0.860
	GEP2	0.861

Construct	Item	Loading
Green Recruitment & Selection	GEP3	0.861
	GEP4	0.866
	GRS1	0.863
	GRS2	0.848
	GRS3	0.834
Green Reward	GRS4	0.848
	GR1	0.857
	GR2	0.856
	GR3	0.837
Green Training	GR4	0.851
	GT1	0.864
	GT2	0.850
	GT3	0.837
Competitive Intelligence	GT4	0.873
	ES1	0.731
	ES2	0.747
	ES3	0.742
Organizational Performance	ES4	0.739
	ID1	0.729
	ID2	0.744
	ID3	0.777
	ID4	0.763
	SR1	0.722
	SR2	0.782
	SR3	0.739
	SR4	0.764
	OP1	0.830
	OP2	0.848
	OP3	0.836
	OP4	0.843
	OP5	0.867

Note: All indicator loadings exceeded the recommended threshold of 0.70, confirming satisfactory indicator reliability (Hair et al., 2022).

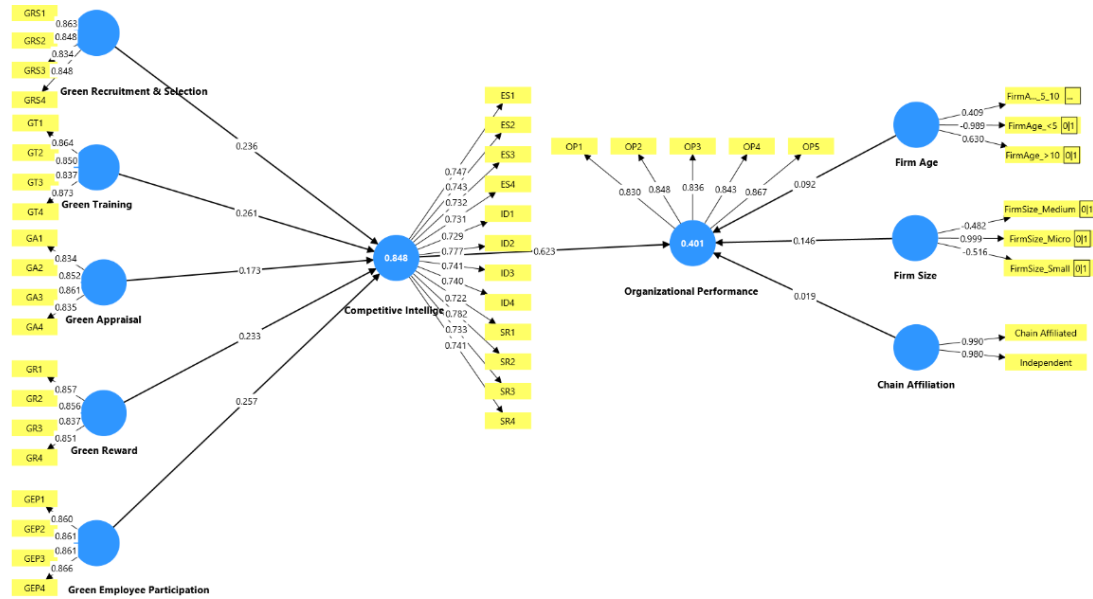


Figure 1. Measurement Model Assessment of the Reflective Constructs

Note: Standardized outer loadings and R^2 values obtained from SmartPLS 4 are reported. All retained indicators exhibited loadings above 0.70, supporting indicator reliability and convergent validity of the measurement model.

4.5. Reliability and Convergent Validity

The reliability and convergent validity of the constructs were assessed using Cronbach's Alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) were used to evaluate the reliability and convergent validity. The reliability and convergent validity of all constructs were satisfactory with Cronbach's alpha and CR above 0.70 and AVE above 0.50 as shown in Table 5.

Table 5. Reliability and Convergent Validity

Construct	Cronbach's Alpha	Composite Reliability	AVE
Green Appraisal	0.867	0.909	0.715
Green Employee Participation	0.885	0.920	0.743
Green Recruitment & Selection	0.870	0.911	0.719
Green Reward	0.872	0.913	0.723
Green Training	0.879	0.917	0.733
Competitive Intelligence	0.926	0.937	0.553
Organizational Performance	0.900	0.926	0.713

Note: All constructs met the recommended criteria (Cronbach's Alpha ≥ 0.70 , Composite Reliability ≥ 0.70 , and AVE ≥ 0.50), confirming reliability and convergent validity.

4.6. Assessment of Higher-Order Construct (GHRM)

Based on the study, GHRM (GHRM) was constructed as a second-order construct consisting of five first-order constructs, namely, Green Appraisal, Green Employee Participation, Green Recruitment and Selection, Green Reward, and Green Training. The repeated indicator approach was used in the evaluation of the hierarchical component model, according to recommendations by Hair et al. (2022) [26].

The results indicated that all five dimensions significantly contributed to the higher-order GHRM construct. As presented in Table 6, Green Recruitment and Selection exhibited the strongest contribution ($\beta = 0.281$, $t = 30.007$, $p < 0.001$), followed by Green Employee Participation ($\beta = 0.265$, $t = 28.473$, p

< 0.001), Green Appraisal ($\beta = 0.238$, $t = 25.061$, $p < 0.001$), Green Training ($\beta = 0.236$, $t = 20.082$, $p < 0.001$), and Green Reward ($\beta = 0.234$, $t = 21.671$, $p < 0.001$). These findings confirm the multidimensional and reflective nature of the Green Human Resource Management construct.

Table 6. Higher-Order Construct Assessment (Green Human Resource Management)

First-Order Dimension	B	t-value	p-value
Green Appraisal → GHRM	0.238	25.061	<0.001
Green Employee Participation → GHRM	0.265	28.473	<0.001
Green Recruitment & Selection → GHRM	0.281	30.007	<0.001
Green Reward → GHRM	0.234	21.671	<0.001
Green Training → GHRM	0.236	20.082	<0.001

Note. β = standardized regression weights; all paths are significant at $p < 0.001$.

4.6.1 Internal Consistency Reliability

Internal consistency reliability was assessed using Cronbach's alpha and Composite Reliability (CR). The results demonstrated satisfactory reliability across all latent constructs. Cronbach's alpha values ranged from 0.867 to 0.926, while composite reliability values ranged between 0.909 and 0.937. Competitive Intelligence reported the highest Cronbach's alpha value ($\alpha = 0.926$), followed by Organizational Performance ($\alpha = 0.900$), Green Employee Participation ($\alpha = 0.885$), Green Training ($\alpha = 0.879$), Green Reward ($\alpha = 0.872$), Green Recruitment and Selection ($\alpha = 0.870$), and Green Appraisal ($\alpha = 0.867$). Similarly, all composite reliability values exceeded the recommended threshold of 0.70, confirming adequate internal consistency reliability of the measurement model.

4.6.2 Convergent Validity

Convergent validity was evaluated through the Average Variance Extracted (AVE). The AVE values ranged from 0.553 to 0.743, exceeding the recommended minimum threshold of 0.50. Green Employee Participation reported the highest AVE value (0.743), followed by Green Training (0.733), Green Reward (0.723), Green Recruitment and Selection (0.719), Green Appraisal (0.715), Organizational Performance (0.713), and Competitive Intelligence (0.553). These findings confirm that the constructs explain more than 50 percent of the variance of their respective indicators and therefore exhibit satisfactory convergent validity.

4.7. Assessment of Higher-Order Construct (Green Human Resource Management)

4.7.1. Significance of First-Order Dimensions

The significance of the first-order dimensions was evaluated using bootstrapping procedures. The results revealed that all five dimensions significantly contributed to the higher-order GHRM construct. Green Recruitment and Selection exhibited the strongest contribution ($\beta = 0.281$, $t = 30.007$, $p < 0.001$), followed by Green Employee Participation ($\beta = 0.265$, $t = 28.473$, $p < 0.001$), Green Appraisal ($\beta = 0.238$, $t = 25.061$, $p < 0.001$), Green Training ($\beta = 0.236$, $t = 20.082$, $p < 0.001$), and Green Reward ($\beta = 0.234$, $t = 21.671$, $p < 0.001$). These findings provide empirical support for the multidimensional nature of the GHRM construct.

4.7.2. Measurement Model Fit

All the measures were reviewed for overall adequacy before evaluating the structural model. The reliability, convergent validity, and discriminant validity all indicated that the measurement model had acceptable psychometric characteristics. In addition, all constructs had adequate scores for indicator reliability, internal consistency reliability, and convergent validity, and discriminant validity was established using the HTMT criterion. Thus, the measurement model was deemed suitable for testing the hypothesized structural relationships in the conceptual framework.

4.7.3. Predictive Model Fit

The predictive quality of the model was evaluated through the PLSpredict procedure. The results indicated that the Q^2 values for Competitive Intelligence and Organizational Performance were 0.843

and 0.419, respectively. Since all Q^2 values were greater than zero, the model demonstrated strong predictive relevance and adequate out-of-sample predictive capability.

4.8. Discriminant Validity

Heterotrait-Monotrait (HTMT) ratio was used to evaluate discriminant validity. As shown in Table 7, most of the correlation values between the constructs were less than 0.90, indicating discriminant validity among the constructs. The highest HTMT value was found between the variables of Green Recruitment and Selection and Competitive Intelligence (HTMT = 0.916). This figure was slightly above the conservative threshold of 0.90, but below the more liberal threshold of 0.95. Thus, the discriminant validity of the study was judged to be acceptable.

Table 7. Discriminant Validity Assessment Using HTMT Criterion

Constructs	CI	GA	GEP	GRS	GR	GT	OP
Competitive Intelligence (CI)	—						
Green Appraisal (GA)	0.770	—					
Green Employee Participation (GEP)	0.833	0.653	—				
Green Recruitment & Selection (GRS)	0.916	0.723	0.749	—			
Green Reward (GR)	0.762	0.569	0.555	0.712	—		
Green Training (GT)	0.766	0.469	0.564	0.718	0.411	—	
Organizational Performance (OP)	0.686	0.561	0.556	0.673	0.558	0.571	—

Note. CI = Competitive Intelligence; GA = Green Appraisal; GEP = Green Employee Participation; GRS = Green Recruitment & Selection; GR = Green Reward; GT = Green Training; OP = Organizational Performance. All correlations are significant at $p < 0.001$ (two-tailed). $N = 379$.

4.9. Phase II: Structural Model Assessment

4.9.1. Collinearity Assessment (Inner VIF)

The Variance Inflation Factor (VIF) was used to test for collinearity among the predictor constructs before testing the structural relationships. It is important to investigate collinearity because the predictor constructs may overlap too much, otherwise the estimation and interpretation of path coefficients may be affected. The VIF values were below the recommended threshold of 3.3; hence, there were no critical multicollinearity problems, following Hair et al. (2022) [26] recommendation.

The results indicated that all the VIF values of the predictor constructs ranged from 1.000 to 2.496, which is below the recommended value. Specifically, the VIF values for Green Human Resource Management were between 1.898 and 2.496, while the VIF values for Chain Affiliation (1.004), Firm Age (1.011), Firm Size (1.021) and Competitive Intelligence (1.024) were also within an acceptable range. These results show that multicollinearity was not an issue in the structural model. Hence, the predictor constructs were deemed sufficiently distinct, and the estimates of the structural model were interpreted with confidence. Table 8 shows the results of the collinearity assessment.

Table 8. Collinearity Assessment (Inner VIF)

Predictor Construct	VIF
Chain Affiliation	1.004
Firm Age	1.011
Firm Size	1.021
Competitive Intelligence	1.024
Green Appraisal	2.496
Green Employee Participation	2.398
Green Recruitment & Selection	2.392
Green Reward	2.124

Predictor Construct	VIF
Green Training	1.898

Note. *VIF = Variance Inflation Factor. All values < 5, indicating no multicollinearity.*

4.9.2. Structural Model Results and hypothesis testing

The structural model was assessed using the bootstrapping procedure with 5,000 resamples. The results revealed that Green Human Resource Management exerted a significant positive effect on Competitive Intelligence ($\beta = 0.919$, $t = 97.594$, $p < 0.001$), thereby supporting H1. Similarly, Competitive Intelligence significantly influenced Organizational Performance ($\beta = 0.623$, $t = 18.759$, $p < 0.001$), providing support for H2.

The results further demonstrated that all five first-order dimensions significantly contributed to the higher-order Green Human Resource Management construct. As illustrated in Figure 2 and reported in Table 9, Green Recruitment and Selection showed the strongest contribution ($\beta = 0.281$, $t = 30.007$, $p < 0.001$), followed by Green Employee Participation ($\beta = 0.265$, $t = 28.473$, $p < 0.001$), Green Appraisal ($\beta = 0.238$, $t = 25.061$, $p < 0.001$), Green Training ($\beta = 0.236$, $t = 20.082$, $p < 0.001$), and Green Reward ($\beta = 0.234$, $t = 21.671$, $p < 0.001$). These findings provide empirical support for the multidimensional conceptualization of Green Human Resource Management.

Among the control variables, Chain Affiliation ($\beta = 0.019$, $t = 0.425$, $p = 0.671$), Firm Age ($\beta = 0.092$, $t = 0.723$, $p = 0.470$), and Firm Size ($\beta = 0.147$, $t = 0.789$, $p = 0.430$) were not significantly associated with Organizational Performance. Therefore, the effects of these control variables were not supported.

Overall, the findings indicate that Green Human Resource Management serves as a significant organizational capability that enhances Competitive Intelligence, which subsequently contributes to improved Organizational Performance. Thus, the proposed structural model received substantial empirical support.

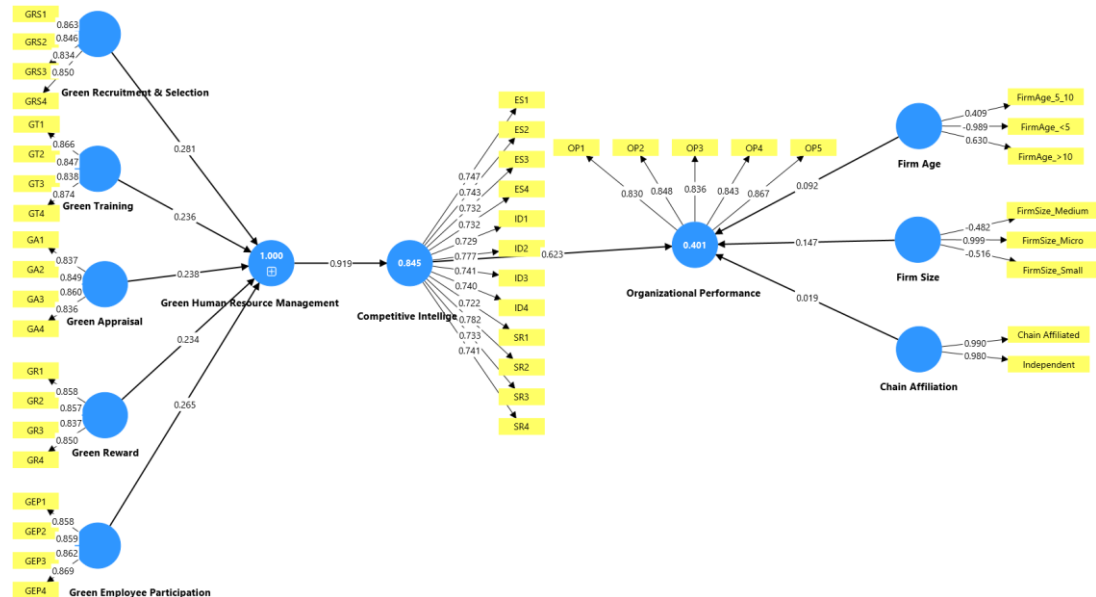


Figure 2. Higher-Order Green Human Resource Management Model and Structural Model Results

Note: Values on the paths represent standardized path coefficients (β), values within endogenous constructs indicate R^2 , and values beside indicators represent standardized outer loadings.

Table 9. Hypothesis Testing

Hypothesis Path	B	t-value	p-value	Decision
H1 GHRM → Competitive Intelligence	0.919	97.594	<0.001	Supported

Hypothesis Path		B	t-value	p-value	Decision
H2	Competitive Intelligence → Organizational Performance	0.623	18.759	<0.001	Supported
Control	Chain Affiliation → Organizational Performance	0.019	0.425	0.671	Not Supported
Control	Firm Age → Organizational Performance	0.092	0.723	0.470	Not Supported
Control	Firm Size → Organizational Performance	0.147	0.789	0.430	Not Supported

Note: β = standardized path coefficient; t-values and p-values were obtained using bootstrapping. Significant paths ($p < 0.05$) indicate support for the hypothesized relationships.

4.9.3. Coefficient of Determination (R^2)

The coefficient of determination (R^2) was used to determine the explanatory ability of the structural model. As presented in Table 10, Green Human Resource Management explained 84.8% of the variance in Competitive Intelligence ($R^2 = 0.848$). Moreover, Competitive Intelligence, along with the control variables, explained 40.1% of the variance in Organizational Performance ($R^2 = 0.401$). The values of these are substantial for Competitive Intelligence and moderate for Organizational Performance.

Table 10. Coefficient of Determination (R^2)

Endogenous Construct	R^2	Interpretation
Competitive Intelligence	0.848	Substantial
Organizational Performance	0.401	Moderate

Note: R^2 values indicate the proportion of variance explained by the predictor variables in the structural model.

4.9.4. Effect Size (f^2)

The effect size analysis revealed that Competitive Intelligence exerted a large effect on Organizational Performance ($f^2 = 0.640$). As presented in Table 11, Among the dimensions of Green Human Resource Management, Green Training demonstrated the strongest effect on Competitive Intelligence ($f^2 = 0.264$), followed by Green Employee Participation ($f^2 = 0.222$), Green Reward ($f^2 = 0.209$), Green Recruitment and Selection ($f^2 = 0.121$), and Green Appraisal ($f^2 = 0.108$). These findings indicate that Green Training and Green Employee Participation are particularly influential dimensions in enhancing Competitive Intelligence.

Table 11. Effect Size (f^2)

Relationship	f^2	Effect Size
Green Appraisal → Competitive Intelligence	0.108	Small
Green Employee Participation → Competitive Intelligence	0.222	Medium
Green Recruitment & Selection → Competitive Intelligence	0.121	Small
Green Reward → Competitive Intelligence	0.209	Medium
Green Training → Competitive Intelligence	0.264	Medium
Competitive Intelligence → Organizational Performance	0.640	Large

Note. f^2 = effect size. Interpretation thresholds: small (≥ 0.02), medium (≥ 0.15), and large (≥ 0.35) per Cohen (1988).

4.9.5. Predictive Relevance (Q^2)

The blindfolding procedure was used to test the structural model. As presented in Table 12, The findings showed that the Q^2 values for Competitive Intelligence and Organizational Performance were 0.843 and 0.419 respectively. Both values were well above zero, indicating that the model had good predictive relevance. The results indicate that the proposed model has high prediction accuracy in explaining Competitive Intelligence and Organizational Performance.

In SmartPLS, blindfolding procedure was used to determine the level of predictive relevance. To comply with recommended guidelines, the omission distance was established as 10, thus avoiding the estimation bias and providing robust prediction assessment. The value of Q^2 was greater than zero for all the constructs that were endogenous, which indicates that the model has predictive relevance. The numerical value of the Q^2 was near the value of the R^2 for Competitive Intelligence, but they measure different properties of the model. R^2 measures the power of the model to explain the data within the sample while Q^2 measures the power of the model to predict out-of-sample data. Thus, the observed values demonstrate that the proposed model possesses both strong explanatory and predictive capabilities of the proposed model.

Table 12. Predictive Relevance (Q^2)

Construct	Q^2	RMSE	MAE
Competitive Intelligence	0.843	0.399	0.320
Organizational Performance	0.419	0.768	0.625

Note. Q^2 = cross-validated predictive relevance (Stone–Geisser); RMSE = Root Mean Square Error; MAE = Mean Absolute Error. Q^2 values > 0 indicate predictive relevance (Chin, 1998).

4.9.6. Mediation Analysis

The bootstrapping procedure with 5,000 resamples was used to explore the mediating role of Competitive Intelligence in the relationship between Green Human Resource Management and Organizational Performance. According to Hypothesis 3, GHRM has a significant relationship with organizational performance through the mediator of Competitive Intelligence.

The findings indicated that Green Human Resource Management had a significant indirect effect on the Organizational Performance through Competitive Intelligence ($\beta = 0.572$, $t = 17.289$, $p < 0.001$). As presented in Table 13, The indirect effect was positive and statistically significant, which suggests that Green Human Resource Management can positively improve Organizational Performance by improving Competitive Intelligence capabilities. Hence, H3 was supported.

Furthermore, the specific indirect effects of the first-order dimensions of Green Human Resource Management were also examined. Table 13 shows that Green Recruitment and Selection had the strongest indirect effect on Organizational Performance through Competitive Intelligence ($\beta = 0.161$, $t = 17.117$, $p < 0.001$), followed by Green Employee Participation ($\beta = 0.152$, $t = 17.337$, $p < 0.001$), Green Appraisal ($\beta = 0.136$, $t = 15.367$, $p < 0.001$), Green Training ($\beta = 0.135$, $t = 14.097$, $p < 0.001$), and Green Reward ($\beta = 0.134$, $t = 15.199$, $p < 0.001$). All indirect effects were statistically significant at the 0.001 level.

The results of this study corroborate the relevance of Competitive Intelligence as a mediating variable between the variables of Green Human Resource Management and Organizational Performance. The findings indicate that companies that adopt GHRM practices are more likely to achieve better intelligence gathering, information processing, and strategic decision-making capabilities, and thus achieve better Organizational Performance.

Table 13. Mediation Analysis

Hypothesis	Indirect Relationship	β	t-value	p-value	Decision
H3	GHRM → Competitive Intelligence → Organizational Performance	0.572	17.289	<0.001	Supported

Hypothesis Indirect Relationship	β	t-value	p-value	Decision
Green Appraisal → Competitive Intelligence → Organizational Performance	0.136	15.367	<0.001	Supported
Green Employee Participation → Competitive Intelligence → Organizational Performance	0.152	17.337	<0.001	Supported
Green Recruitment & Selection → Competitive Intelligence → Organizational Performance	0.161	17.117	<0.001	Supported
Green Reward → Competitive Intelligence → Organizational Performance	0.134	15.199	<0.001	Supported
Green Training → Competitive Intelligence → Organizational Performance	0.135	14.097	<0.001	Supported

Note. β = standardized indirect effects; all paths are significant at $p < 0.001$ (two-tailed). GHRM = Green Human Resource Management; CI = Competitive Intelligence.

4.9.7. Hypothesis Testing Summary

The hypothesis test was performed after examining the structural model and the mediation effects, and the values of path coefficients, bootstrapped t-values, and significance levels were considered. The results demonstrated that all hypothesized relationships were statistically significant and supported. More specifically, Green Human Resource Management had a significant positive impact on Competitive Intelligence, which supported H1. Similarly, Competitive Intelligence was found to positively impact Organizational Performance, which supports H2. In addition, the mediation analysis results showed that Competitive Intelligence significantly mediated the relationship between Green Human Resource Management and Organizational Performance, which supports H3.

The overall results confirm the theoretical framework proposed and suggest that Green Human Resource Management has an indirect positive relationship with Organizational Performance via Competitive Intelligence capabilities. The summary of the hypothesis testing results is presented in Table 14.

Table 14. Hypothesis Testing Summary

Hypothesis	Hypothesized Relationship	β	t-value	p-value	Decision
H1	Green Human Resource Management → Competitive Intelligence	0.919	97.594	< 0.001	Supported
H2	Competitive Intelligence → Organizational Performance	0.623	18.759	< 0.001	Supported
H3	Green Human Resource Management → Competitive Intelligence → Organizational Performance	0.572	17.289	< 0.001	Supported

Note: β = standardized path coefficient; t-values and p-values were obtained using the bootstrapping procedure with 5,000 resamples.

4.10. Theoretical Implications

The present study extends the knowledge of the current literature on Green Human Resource Management (GHRM) because of the addition of a deeper understanding of the mechanisms that link the positive impact of green HR practices to organizational outcomes. Competitive Intelligence is an important mediating variable between GHRM and Organizational Performance that has not been extensively examined in previous research. The results show that the impact of GHRM on the Organizational Performance is indirect via Competitive Intelligence capabilities, which provide a better explanation of the performance-enhancing impacts of green HR practices.

Moreover, the study contributes to the Ability-Motivation-Opportunity (AMO) framework by providing a typical example of how each of the three elements positively contributes at the organizational level beyond employee-level outcomes. The higher-order GHRM construct was significantly supported by the significant contribution of lower-order constructs of Green Recruitment and Selection, Green Employee Participation, Green Appraisal, Green Reward, and Green Training, which provides empirical evidence that organizations can boost their strategic capabilities by enhancing the strategic contribution of their employees through employee knowledge, employee motivation, and employee participation opportunities.

Lastly, the study provides an empirical confirmation of Competitive Intelligence as an organizational capability through which environmental management practices contribute to organizational outcomes, which adds to the literature on hospitality and SMEs. This paper fills an existing gap in the literature related to the link between sustainability-related human resource practices and organizational performance.

4.11. Managerial Implications

The results have several important implications for managers trying to improve the performance of their organizations by applying sustainable HR practices. First, managers need to consider Green Human Resource Management as a strategic investment and not just an environmental compliance program. It can be inferred that GHRM has a significant impact on Competitive Intelligence, indicating that companies can enhance their intelligence collection and decision-making processes by incorporating environmental factors in HR policies and practices.

Secondly, organizations must consider the environmental dimension in recruitment and selection to draw employees who are environmentally aware and have values related to sustainability. Organizations can enhance their green abilities by recruiting employees who align with their environmental goals; given that Green Recruitment and Selection proved to be the most powerful factor contributing to the higher-order GHRM construct, this component is crucial.

Third, the managers should promote the involvement of employees in environmental programs and offer ongoing environmental education programs. The contributions of Green Employee Participation and Green Training also show how critical employees are in not only creating, but sharing strategic information that helps generate organizational intelligence and performance.

Fourth, there is the need to match performance appraisal and reward systems to environmental goals. Managers can reinforce the commitment of employees to environmental responsibility, by acknowledging and rewarding environmental responsibility, and can help develop intelligence-related capabilities that contribute to the competitiveness of their organization.

Lastly, managers should proactively create Competitive Intelligence systems and processes to ensure that the environmental knowledge created by the GHRM practices is effectively used for strategic insights and organizational actions. These can enhance the quality of decision making, strategic responsiveness and the overall performance of the organization.

4.12. Policy Implications

The results of this study have implications for policymakers and industry players who want to encourage SMEs to make their businesses sustainable. The government should promote GHRM practices by conducting awareness and training programs and incentivizing environmentally responsible organizational behavior.

Industry associations and professional bodies have the potential to promote the dissemination of best practices in green recruitment, environmental training, employee involvement, and sustainable performance management. These can be useful for SMEs to address resource constraints and enhance their capacity of the SMEs to integrate effective GHRM systems.

Policymakers should also consider the inclusion of sustainability related HRM in the overall environmental and industrial development policies. Financial incentives, tax breaks, certification programs, and technical support mechanisms may incentivize companies to implement green HR practices that will benefit the environment and organizational competitiveness.

Moreover, it is necessary to integrate sustainability and Competitive Intelligence concepts into management development programs in order to train managers for the challenges of the new business environment, which is becoming more and more dynamic and environmentally conscious.

5. CONCLUSION

The present study investigated the correlation among Green Human Resource Management (GHRM), Competitive Intelligence, and Organizational Performance in Indian SMEs. The study was based on the Ability-Motivation-Opportunity (AMO) model and hypothesized that Competitive Intelligence is a mediator between GHRM and Organizational Performance.

The results showed that the Competitive Intelligence was positively and significantly influenced by Green Human Resource Management. The findings show that organizations with green HR practices are more likely to be able to implement intelligence capabilities that can aid in information collection, environmental scanning, knowledge sharing, and strategic decision making. Moreover, the results revealed that Competitive Intelligence had a significant positive impact on Organizational Performance, highlighting the role of intelligence in improving the performance and competitiveness of organizations.

The mediation analysis supported the results of the study, revealing that Competitive Intelligence is a significant mediator between Green Human Resource Management and Organizational Performance. This discovery implies that there is value added by green HR practices beyond the benefits of improving the organization, and that organizations can develop intelligence through green HR practices to effectively deal with the dynamism of their business environment. Thus, Competitive Intelligence was identified as an important strategic function that connects the human resource strategy with sustainability to the organizational success.

The study contributes to the literature in terms of several aspects. First, it extends the GHRM research by incorporating the Competitive Intelligence as an important mediating variable. Second, it offers empirical evidence for the Resource Based View because it suggests that GHRM can be a strategic resource that can build valuable organizational capabilities. Third, it extends the ability-motivation-opportunity framework by showing how all the three dimensions together increase the ability of the organization at levels other than individual level.

It is also important to consider the implications of the findings in practice. Managers should regard Green Human Resource Management as a strategic investment for the organization to build its competitiveness and performance. Organizations should improve their green recruitment and selection programs, environmental training, employee involvement, evaluation, and incentive systems to boost their intelligence and promote organizational performance. Awareness programs, training, and policy support are also required to promote the use of GHRM practices by policymakers and industry stakeholders.

Although the study contributed to the existing body of knowledge, there are certain limitations. It is important to recognize a number of limitations to this study. First, the sample was limited to hotel employees and managers working in the state of Uttarakhand, India. Thus, the results are not necessarily applicable to other geographic areas, hospitality industries or cultural settings. The proposed model could be further tested using samples from other states, countries and hospitality sectors in future research.

Secondly, Organizational Performance was measured using perceptual measurements provided by managerial respondents. While the use of subjective measures in hospitality and management research is commonplace and has been shown to correlate strongly with objective measures of performance, subjective measures may be vulnerable to respondent bias. Future studies should incorporate objective measures such as occupancy, RevPAR, profitability, customer retention and environmental performance measures to measure organizational outcomes more fully.

Finally, the study shows that Green Human Resource Management is a valuable organizational resource that can lead to better Organizational Performance through building Competitive Intelligence capacities. With the growing context of competition and sustainability, the importance of the alignment of HR Practices, sustainability, and HR Intelligence for organizational success and sustainable competitive advantage has become a necessity.

Author Contributions

Devashish Pandey: Conceived and designed the overall study, conducted the literature review, drafted the manuscript, and incorporated revisions. Conceived and designed the analysis and overall study; performed the analysis and interpretation of findings;

Dr. Jitendra Singh: Provided overall supervision and guidance throughout the research and writing process; contributed to conceptualization and critical revisions of the manuscript.

Ethical considerations: This study was conducted in accordance with established ethical guidelines for research involving human participants. Participation in the survey was entirely voluntary, and respondents were informed about the purpose of the study before completing the questionnaire. Informed consent was obtained from all participants prior to data collection. Participants were assured that their responses would remain anonymous and confidential and would be used solely for academic research purposes. No personally identifiable information was collected, and participants were free to withdraw from the study at any stage without any consequences. The study posed minimal risk to participants, as it involved only the collection of self-reported perceptions and experiences related to regional cuisine consumption. All data were securely stored and analyzed in aggregate form to protect participant privacy.

Consent to participate: Not applicable.

Declaration of conflicting interest: The authors have no conflict of interest to disclose.

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Data Availability Statement: The datasets generated and/or analyzed during the current study are available from the corresponding author on reasonable request.

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