Research Article

Mediating Role of Green Human Resource Management Practices on Employee Green Behavior in Wipro: A Review and Recommendations for Future Research

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ARTICLE INFO	ABSTRACT
	Purpose: Recent reports suggest that business communities are increasingly aware of the significance of environmental issues. The adoption of green human resource management (GHRM) is now seen as essential for businesses, as the human resource department is pivotal in promoting eco-friendly practices. This study investigates the GHRM practices of Wipro that influence employees green ' behaviours, both within and outside their formal roles. **Design/methodology/approach** - The information was gathered from secondary data from Wipro official websites, their annual reports, internal and external data. **Findings -** The study findings revealed a notable direct impact of GHRM practices on employees' environmentally friendly actions. Consequently, it can be inferred that Green HRM is playing a pivotal role in reshaping traditional management approaches, with deliberate endeavours to safeguard habitats for future generations. **Practical implications -** The environmentally friendly actions of employees need thorough assessment, and their conduct should be synchronized with salary increments and career advancements. Employers should inspire and incentivize their staff to engage in eco-friendly initiatives and play a part in environmental stewardship. **Originality/value**– This research holds importance because it offers new insights into Green Human Resource Management (GHRM) practices and how they influence employee green behaviour. Specifically focusing on the IT sector, the study illuminates the relatively unexplored relationship between green HRM practices and employee conduct. By delving into this area, the research contributes to a better grasp of both green HRM initiatives and employee attitudes, both within and outside their formal roles. **Keywords:** Green HRM practices, Employees Green behaviour (EGB), WIPR

I. Introduction

In recent decades, preserving the natural environment has emerged as a significant concern. Establishing a sustainable culture within organizations is now imperative, with the HR department playing a crucial role in devising strategies to foster it. It's incumbent upon companies to instil an environmental consciousness among their employees. Being environmentally conscious isn't just about awareness; it's a challenge to actively protect the environment and safeguard it from future disasters. In today's business landscape, companies recognize the importance of developing a strong sense of environmental responsibility to address societal needs. Efficiency, energy conservation, and the adoption of green strategies and practices are central to making informed business decisions in the modern era.

Organizations play a central role in both contributing to and addressing climate change, with increasing attention on the various factors influencing employees' environmentally-friendly actions. At the individual level, research underscores the significance of personal values and alignment with one's beliefs. Conversely,

at the organizational level, recent advancements highlight the importance of environmental adaptability, leadership, and HR practices like training.

However, the interaction between these individual and organizational factors suggests that initiatives implemented by organizations don't yield consistent results, as they are contingent upon employees' environmental inclinations. Therefore, there's a call for adopting a dynamic systems approach to comprehensively study all facets of employees' environmentally-conscious behaviours within organizational contexts.

II. Literature Review

Awareness and sustainable development in environmental management have brought Green Human Resource Management (GHRM) into focus in current research. While predominantly concentrated in the West, given the significance of economic progress in Asia, there exists a noticeable gap in this area. Despite considerable potential in GHRM, actual research lags behind, evident from the disparity in publications between academics and practitioners (Muster & Schrader, 2011).

II.1. Green HRM practices

GHRM encompasses all activities, practices, and policies aimed at establishing and maintaining systems within organizations to promote environmentally friendly practices among employees. Recognizing the importance of GHRM, employees are entrusted with the responsibility of contributing functionally to environmental preservation. Though opinions vary, most studies suggest that GHRM practices encompass recruitment, training, performance management, compensation and rewards, and engagement (e.g., CJC Jabbour, 2011; Jackson et al., 2011). This study compares the definitions and characteristics of these five traditional HRM practices with those of GHRM as discussed by Tang et al. (2018) in the context of GHRM.

II.1.1. Employee Green Behaviour (EGB)

Encompasses a range of actions undertaken by employees within the workplace to promote environmental sustainability. These actions address various environmental challenges like global warming, urban air pollution, water scarcity, environmental noise, and biodiversity loss, many of which stem from human behaviour. It is widely recognized that modifying human behaviour is crucial in mitigating these issues. EGB, as defined by Ones and Dilchert (2012), pertains to scalable behaviours executed by employees that either contribute to or diminish environmental sustainability. Examples of EGB activities include turning off lights upon leaving the office to conserve energy, utilizing conference facilities instead of traveling for meetings to optimize resource usage, digitally editing documents instead of printing them to minimize waste, printing drafts on recycled paper, and promptly reporting bathroom leaks.

Although extensive research has been conducted on environmentally friendly behavior in various contexts over the years, the exploration of such behavior specifically within workplace environments, termed EGB, is a relatively recent area of interest (Anderson et al., 2008; Norton et al., 2015; Ones & Dilchert, 2012). This article delves into the advantages of environmental psychology and its potential in fostering environmental sustainability through behavior modification. It offers a systematic approach to evaluating, comprehending, and altering environmental behaviors. Pro-environmental behavior encompasses actions that minimize harm to or positively impact the environment. Sanyal & Durba (2017) contend that effective promotion of behavioral change involves:

1. Thoughtfully selecting behaviors for modification to enhance environmental quality.
2. Investigating the factors driving such behaviors.
3. Implementing tailored interventions to alter relevant behaviors and their drivers.
4. Methodically assessing the impact of these interventions on behavior, its drivers, environmental quality, and human well-being., on the quality of the environment and the quality of human life.

II.1.2. Green Involvement (GI) Employees

Being afforded the chance to engage in environmental stewardship can motivate individuals to advocate for pollution prevention and recognize environmental prospects. Numerous research findings highlight the significance of active participation in green initiatives for enhancing environmental management (EM) systems, including waste reduction, pollution mitigation, and resource optimization (Harris & Crane, 2002). Consistent with the findings of Renwick et al. (2013), five key elements of green involvement (GI) have been identified: a well-defined environmental vision, a supportive learning environment for eco-friendly practices, diverse communication avenues, implementation of green strategies, and fostering active engagement in green initiatives.

A clear green vision entails a set of principles and symbols aimed at supporting environmental stewardship and guiding employees in addressing environmental issues. Various formal and informal communication channels among employees play a crucial role in disseminating a green ethos, fostering an environment where they can enhance their environmental consciousness and behaviours comfortably. Motivating employees to partake in environmental initiatives can be achieved through offering eco-friendly activities like composing bulletins, establishing problem-solving groups, or creating green teams. This approach, termed

GI, encourages employee involvement in enhancing both quality and addressing environmental concerns. Essentially, companies need to determine the most effective human resource strategies to attain environmental conservation goals.

II.1.3 GHRM Influence Toward EGB

For organizations aiming to promote environmental sustainability, implementing Green Human Resource Management (GHRM) is essential to encourage the development of environmentally conscious employee behaviour (EGB). GHRM practices can cultivate a culture of environmental responsibility among staff, starting from the recruitment phase where candidates with environmental concerns are specifically sought after and selection processes incorporate environmental-related inquiries to gauge their views. This approach ensures that employees' attitudes towards the environment are considered from the outset. Moreover, GHRM facilitates deeper environmental understanding and knowledge acquisition, influencing employees' actions and decisions in the workplace. Through strategies such as recruiting environmentally committed individuals, providing environmental training, integrating environmental considerations into performance evaluations, and offering incentives for pro-environmental behaviour, organizations can effectively foster EGB among their workforce.

III. Organisations that help to go green:

Green Peace India addresses the significant challenge of climate change by promoting solar energy and implementing programs to protect the environment. They emphasize the importance of sustainable agriculture, reducing reliance on pesticides, and preventing radioactive emissions into marine environments. Their key objectives include reducing air pollution and decreasing urban waste generation. Concurrently, the Centre for Environmental Research and Education (CERE) assists organizations in assessing their carbon footprints and implementing cost-effective measures to reduce carbon emissions.

These organizations operate in the fields of education, environmental awareness, and advocacy, undertaking initiatives like urban afforestation and river restoration. The Tata Energy and Research Institute (TERI), a non-profit organization, educates through workshops and multimedia materials. It also promotes waste conversion into useful products and works to mitigate the negative effects of human actions. Kalpavriksh, another non-profit group, aims to protect the Delhi Ridge Forest. It emphasizes fostering environmental awareness, especially among young people, through research, campaigns, and resolving environmental conflicts within society.

III .1. Green behaviour and its environmental benefits in Indian companies

Tata Consultancy Services (TCS) is a multinational corporation offering IT services, consulting, and business solutions. It emphasizes environmentally friendly practices, as outlined in Anand Sivasubramaniam's article "Make IT Green-The TCS Way" (2008). TCS implements green initiatives such as deploying energy-efficient LED lighting and employing sensor-based systems for light control. Additionally, the company engages in rainwater harvesting and groundwater replenishment efforts to minimize water usage and promote conservation.

The staff at TCS actively participate in minimizing waste by cutting down on paper usage. Additionally, they embrace eco-friendly habits such as commuting to work via cycling or public transport to reduce fuel consumption and carbon emissions. TCS also employs teleconferencing and video conferencing as alternatives to in-person meetings, yielding significant savings in travel expenses and reducing carbon footprints. These green initiatives have not only led to cost savings but also environmental benefits.

The company has accomplished a 12.5% decrease in electricity usage, a 67% reduction in paper and printer cartridge consumption, saved 1.5 million cubic meters of water, and generated 76 megawatt-hours of solar energy, resulting in a 2% reduction in carbon footprint. Originally established as Western India Palm Refined Oil Limited (WIPRO) to produce vegetable and refined oils, the company diversified into the IT sector in 1980. Over time, they expanded their production line to include heavy-duty industrial cylinders, mobile hydraulic cylinders, and established an overseas design centre.

To facilitate internet services in India, a collaborative entity named Wipro Net Limited was established through a partnership between Wipro and the global telecommunications giant, KPN (Royal Dutch Telecom). Anurag Srivastava, the author of "Going Green Is Inevitable" (2009), noted that Wipro campuses are accredited with LEED (Leadership in Energy and Environmental Design) ratings. Wipro emphasizes the implementation of natural ventilation and lighting, employing double-glazed glass to reduce cooling requirements. They advocate for the use of energy-efficient personal computers, TFT monitors, and exclusively CFL lights. Additionally, Wipro engages in various eco-friendly practices, including routine energy assessments and life cycle analyses of equipment such as air conditioning systems and elevators.

III.2. Psychological outcome of employee green behaviour

Ones and Dilchert (2012) outline the traits demonstrated by employees who participate in environmentally-friendly actions as:
1. Engaging in sustainable work practices,
2. Preserving resources,

3. Influencing their peers,
4. Demonstrating initiative, and
5. Preventing harm.

Employees engage in sustainable practices by developing eco-friendly products, opting for paperless solutions over printing. They conserve resources by turning off lights when not in use, recycling bottles, paper, and cans, and setting monitors to sleep mode when inactive. To prevent harm to the environment, employees plant trees in their workplace and segregate biodegradable and non-biodegradable waste. They influence others by offering training to colleagues and raising awareness among them. Employees take the initiative to implement environmentally-friendly programs and policies, prioritizing environmental concerns such as rejecting projects with adverse environmental impacts. Engaging in sustainable practices benefits employees by fostering the development of new skills and enhancing job satisfaction. It provides employees with fresh experiences beyond their typical workplace environment and also offers the opportunity to implement practices learned in the office at home.

The benefits of employers adopting sustainable practices include cost savings, enhanced credibility and reputation with employees, consumers, and investors, and an increase in market share and revenue. According to Ken Strassner and Diane Wood (2009) of the National Environmental Education Foundation (NEEF), in their report "The Engaged Organization: Corporate Employee Environmental Education Survey and Case Study Findings," engaging employees enables companies to instigate innovative changes in everyday business operations, resulting in cost savings and reductions in environmental and social impacts. This engagement also inspires employees to make sustainable choices both at home and in their communities. Companies that foster these behaviors among employees have a significant impact on reducing carbon footprints and preventing environmental exploitation.

Numerous businesses have proactively tackled the adverse effects of pollution and environmental decline. However, they face hurdles in implementing green initiatives, chiefly due to the initial expenses, such as constructing rainwater harvesting systems. Employee cooperation is vital for success. Unfortunately, environmental initiatives within organizations often lack substantial support from senior management and suffer from insufficient budgets. Consequently, actions promoting environmental responsibility, such as turning off lights and consolidating personal bins for better recycling, are adopted at a minimal rate due to entrenched habits (Whiteman, 2011).

IV. Materials and Method

The research approach utilized in the current EGB analysis is primarily exploratory. Exploratory research aims to elucidate and define the essence of a problem, offering a deeper comprehension of a particular concept. Within exploratory research, one method involves conducting secondary research, which entails reviewing existing literature. In this particular study, the researchers conducted a literature review to gain insights into employee green behaviour, a component of employee engagement programs. The study delves into the various strategies employed by Indian IT companies to promote environmentally friendly practices. Additionally, it endeavours to comprehend the psychological effects on employees' work behaviour stemming from their environmental attitudes, laying the groundwork for potential further quantitative research.

IV.1. Objectives

1. Identify specific Green HRM practices implemented by Wipro and their effectiveness in promoting environmentally responsible behaviour among employees.
2. To identify the Green HRM practices impacting Employee Green Behaviour (EGB) in Wipro.
3. To provide suggestions to the organizations for successful implementation of Green HRM Practices.

IV.2. RESEARCH METHODOLOGY

A brief outline of the methodology for the study is given below:

Data Sources:

Data sources are secondary. Data relating to Green HRM and Sustainable practices followed by the organisation are studied through secondary sources.
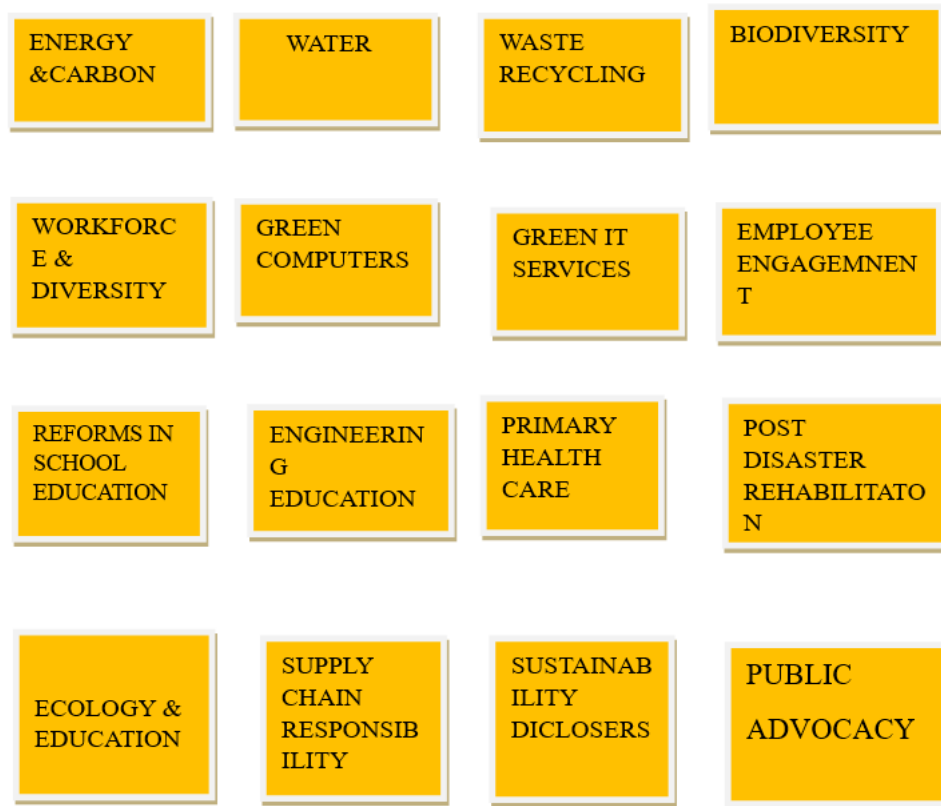
Data Collection:

 The required secondary data was collected through the means of official websites and annual sustainable reports journals etc.

V. Green HRM Practices and Sustainability at Wipro

Over the past six years, Wipro has achieved numerous milestones in the field of sustainability. It has consistently led in sustainability reporting and the adoption of eco-friendly IT practices. Wipro was recognized as one of the top ten companies contributing to India's green initiatives, being one of only two IT firms on the list (Thambi, 2011). Additionally, Wipro claimed the top position in Greenpeace's most recent

rankings for green electronics, commended for its bold pledges to reduce carbon emissions and utilize renewable energy sources.

Figure 1
SUSTAINABILITY DIMENSIONS at WIPRO

ENERGY &CARBON	WATER	WASTE RECYCLING	BIODIVERSITY
WORKFORCE & DIVERSITY	GREEN COMPUTERS	GREEN IT SERVICES	EMPLOYEE ENGAGEMNENT
REFORMS IN SCHOOL EDUCATION	ENGINEERING EDUCATION	PRIMARY HEALTH CARE	POST DISASTER REHABILITATON
ECOLOGY & EDUCATION	SUPPLY CHAIN RESPONSIBILITY	SUSTAINABILITY DICLOSERS	PUBLIC ADVOCACY

IV.1 Eco Eye and Green IT initiatives Wipro

Eco Eye, launched in 2008, aimed to establish a thorough plan for ecological sustainability. The goal was for the company to reach carbon neutrality, maintain a positive water balance, minimize its biodiversity impact, enhance waste recycling practices, and encourage employees to adopt greener habits in their daily lives. The initiative seeks active involvement from various stakeholders, such as employees, partners, suppliers, customers, and local communities. Additionally, it fosters close cooperation with suppliers to decrease their ecological impact and uphold labor and human rights standards.
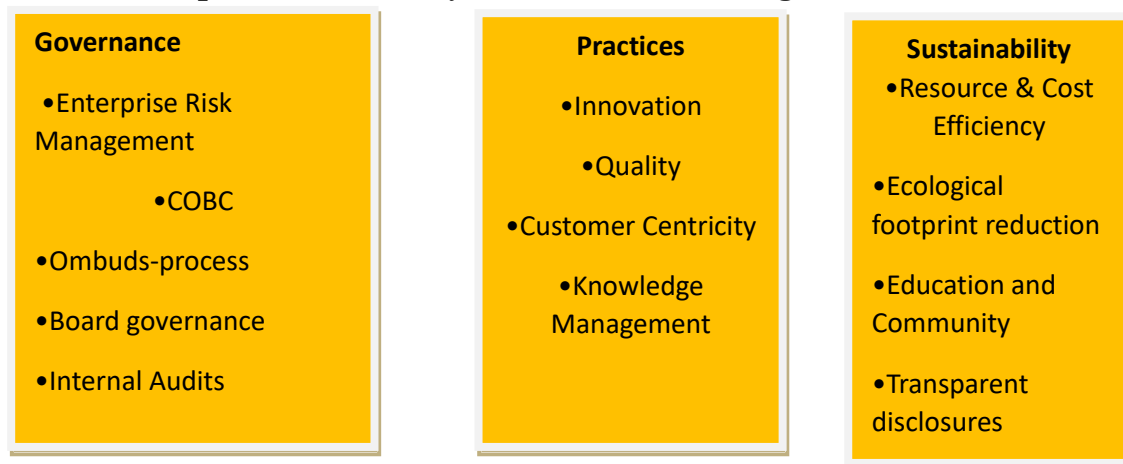
Eco Eye serves as our guiding perspective, driving actions towards ecological sustainability. We hold the firm conviction that business growth must not come at the expense of the environment; such a model is inherently unsustainable. Ecological sustainability is poised to emerge as the pivotal force shaping both societal and business landscapes worldwide. At Wipro, we view ecological sustainability as not only the ethical choice but also the imperative path forward. Our commitment entails efforts towards achieving carbon neutrality, maintaining water equilibrium, improving waste management, and preserving biodiversity. - Azim Premji, Chairman, Wipro (Bose, 2011).

IV.2. Wipro Greenleaf

It is an intelligent automated power management system designed to identify power-saving opportunities, measure carbon footprint reductions, and help implement the green objectives of customer organizations. This initiative fosters a culture of responsible computing within Wipro. The scalable deployment of Greenleaf facilitates automated power management across various system levels. Continuous monitoring ensures ongoing reporting of achieved savings compared to set targets across all organizational tiers. It also enables groups of computers to adhere to power management standards using centralized and customizable dashboards.

Employees have real-time access to the Greenleaf savings tree, allowing them to easily track the current status of power savings within their network. Each leaf on the tree represents a percentage of systems, color-coded to indicate their energy conservation performance. Green indicates systems meeting or exceeding savings goals, yellow signifies energy savings below the target, and red highlights areas of concern where systems lack programmed power schedules, resulting in no savings.

Figure: 2
Wipro's Sustainability Governance and Management framework

Governance	**Practices**	**Sustainability**
•Enterprise Risk Management	•Innovation	•Resource & Cost Efficiency
•COBC	•Quality	•Ecological footprint reduction
•Ombuds-process	•Customer Centricity	•Education and Community
•Board governance	•Knowledge Management	•Transparent disclosures
•Internal Audits		

IV.3. Server Virtualization: Advancing Energy-Efficient Computing

Recognizing the escalating energy usage of IT infrastructure, Wipro has developed a range of initiatives to curb consumption, with virtualization being a key component. Computing currently represents 32-35% of Wipro's total electricity consumption, making it a primary target for enhancing energy efficiency. Virtualization not only enhances computing efficiency but also reduces resource usage and energy consumption footprint.

Wipro offers a variety of sustainability solutions that extend beyond the IT industry, making a significant impact in energy and material-sensitive sectors such as Oil and Gas, Utilities, Consumer Goods, Supply Chain, and Distribution. These sectors, being energy-intensive, greatly benefit from green IT solutions that effectively reduce carbon emissions. Wipro's IT-enabled sustainability solutions are categorized into four groups:

IV.5. Portfolio of Sustainability Solutions

1. Green IT Infrastructure:
   a. Includes initiatives like Data Centers and Cloud Computing.
   b. Incorporates energy-efficient computing such as Energy Star Desktops and Laptops, as well as remote data center and desktop management for energy optimization.

2. IT for Green:
   a. Involves IT-driven solutions aimed at enhancing enterprise sustainability, including Carbon, EH&S, and Sustainability Performance Management Services, as well as Smart Grids and process optimization services for Supply Chain and Logistics, focusing on dematerialization and inventory efficiency.

3. Clean Energy:
   a. Encompasses the development of utility-scale MW Solar Plants, Rooftop Solar Plants, and Biogas facilities.
   b. Also involves Green Buildings initiatives such as LEED Certification and Turnkey Project Management.

4. Managed Energy Services:
   a. Utilizes an IT platform for remote management of energy infrastructure, integrating data, analytics, predictive diagnostics, and automation.
   b. Services offered include Energy Efficiency Services, Regulatory & Monetization Services, and Procurement and Billing Optimization.

Conclusion

Wipro has numerous additional initiatives and solutions dedicated to sustainability and Green IT. Among these, Greenware stands out as a significant product. Greenware provides radiation-free monitors and energy-efficient components. It incorporates recyclable and biodegradable packaging materials and complies with the Restriction of Hazardous Substances (RoHS) regulation.

Based on this assessment, it can be inferred that the interpretation of Green Human Resource Management (GHRM) underscores environmental considerations within an organization, encompassing its managerial operations. Moreover, by comprehending and broadening the scope and depth of GHRM practices, companies can enhance employees' environmentally-friendly behaviors, thereby advancing the company's environmental objectives sustainably.

Humanity has nearly devastated the environment in pursuit of selfish gains, resulting in widespread repercussions for life on Earth. Now, it is imperative to shield nature from additional harm. Through Environmentally Green Behavior (EGB), not only do employees gain advantages and enhance organizational

productivity, but they also contribute to the preservation of nature. Therefore, advocating for EGB in various forms within every organization is crucial for the preservation of life on Earth.

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