

Examining the Role of Employees in Enhancing Organizational Environmental Performance: A Focus on Eco-Initiatives and Engagement

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Abstract

This paper explores the part played by employees in improving organizational environmental performance, with a focus on eco initiatives and employee involvement in Indian manufacturing firms. The first research question is to determine how levels of engagement and the organisational environment impact the extent of employee participation in eco-initiatives. This work adopted a quantitative research approach with 600 participants comprising both employees and members of the community who are impacted on by CSR activities. To test the hypotheses, the research used multiple linear regression to determine the significance of the employee engagement, the organization's environmental performance and the employee eco-initiatives. With respect to the research questions, these results indicate that employees with high level of engagement might not be as involved in environmental initiatives as expected, perhaps because of low organizational support, low congruence between personal values and sustainability activities, and low recognition of their efforts. The research clearly identifies the difficulties of implementing employee led environmental programs and shows that more needs to be done with regard to organizational culture, management support and correct association of organizational sustainability agenda with employee personal values. The study results imply that there is a need to increase the overall involvement of environmental activities as part of the organization's mission and employees' responsibilities. This study should be extended in the future to examine the detailed reasons for low employees' engagement in eco-initiatives as well as examine how organizational culture and leadership influence environmental perceptions.

Keywords: Employee Engagement, Organizational Environmental Performance, Eco-Initiatives, and Corporate Social Responsibility.

Introduction

Over the last decades, the growing concern for environmental conservation has forced organizations to change their operational strategies and involve sustainable measures (Wiradirja et al., 2020). Out of many factors affecting an organization environmental performance, employees have been established to play a very significant role (Ahmed et al., 2024). Not only are employees the key agents in operation execution but they also have the responsibility of promoting sustainability in organisations. This paper analyses the role of employee generated WWTS (Workplace Waste and Treatment Systems) and their involvement in raising organisational EP (Netto, 2024) strategies (Wiradirja et al., 2020). Among the many factors influencing an organization's environmental performance, the role of employees has emerged

as a critical determinant (Ahmed et al., 2024). Employees are not only the driving force behind operational execution but also play a pivotal role in fostering sustainable practices within an organization. This study delves into the significance of employee-driven eco-initiatives and their engagement levels in enhancing organizational environmental performance (Netto, 2024).

Employee eco-initiatives as defined are those actions and attitudes of employees who act in the best interest of the environment by supporting conservation of resources, energy, and products through several efforts including energy conservation, waste recycling, and supporting sustainable practices (Paillé& Raineri, 2015). Such programmes are sometimes a result of organisational culture, employees' knowledge and or management's concern towards sustainable development (Khan et al., 2021) eco-friendly strategies(Wiradirja et al., 2020). Among the many factors influencing an organization's environmental performance, the role of employees has emerged as a critical determinant (Ahmed et al., 2024). Employees are not only the driving force behind operational execution but also play a pivotal role in fostering sustainable practices within an organization. This study delves into the significance of employee-driven eco-initiatives and their engagement levels in enhancing organizational environmental performance(Netto, 2024).

Employee eco-initiatives refer to proactive measures and behaviours demonstrated by employees to minimize environmental impact, such as reducing energy consumption, promoting waste recycling, and advocating for sustainable practices (Paillé& Raineri, 2015). These initiatives often stem from a combination of organizational culture, employee awareness, and leadership commitment to sustainability(Khan et al., 2021). When the employees engage in such practices, they enhance the organization's sustainable development goals considerably, thereby cascading their efforts down to meet corporate environmental plans and policies (Rapo, 2024).

The last but not the least, employee engagement is another important concept explored in this study and it underlines the role that organisations' employees play in defining the extent to which the introduced eco-initiatives are actually effective. Committed employees show passion in their work, are motivated and bear responsibilities towards organizational objectives (Amin et al., 2021). It is translated into a greater readiness to embrace and promote sustainable practices (Gusmerotti et al., 2023). Said the opposite, they can weaken the potential of eco-initiatives, turning them into mere window dressing or inefficient.

As suggested by the above intertwined variables, organizational environmental performance, which measures the extent to which an organization has achieved its environmental goals, is a measure of the success. The best performers tend to attribute their successes to a more integrated model, one where people are not simply implementers of change but stakeholders in a grander concept of sustainability. This knowledge of how the employees' behaviour is linked to organizational results is critical when developing effective environmental strategies.

This research is relevant given increasing emphasis on sustainable development throughout the world. Legal requirements, customers' demands, and competitor forces make it essential for organizations to have effective environmental management. However, though the technological advancement and policy framework are crucial to the success of the green procurement strategy, the human factor or the employee's part in the procurement process is understudied. Filling this gap is critical to realising the potential of organisational environmental initiatives.

The purpose of this research is to establish the relationship between employee eco-initiatives, engagement and organizational environmental performance, with an understanding of the interaction between the three factors (Abdou et al., 2023). In this way, the goals of the study are to identify the reasons, barriers, and consequences of engaging employees in environmentally responsible activities with the aim of enriching the scholarly discussion regarding sustainability.

Background of study

Environmental sustainability is now an important consideration for organizations in the global economy as business organizations have embraced the idea of having a social corporate responsibility of reducing on their effects on the environment. In this regard, the actions of employees in promoting sustainability within organizations have received

much interest (Buhl et al., 2016). Employees are not only workers that implement organizational plans and actions but also agents of change. Knowledge of the attitudes, practices and behaviours of employees in relation to organizational environmental performance is crucial in the creation of sustainable business strategies and practices.

Employee eco-initiatives refer to voluntary actions performed by the employees in order to support environmental responsibility (Zappalà et al., 2023). Such action may include encouraging waste minimization, proper management of resources, encouraging the adoption of environmentally friendly practices, and supporting organizational initiatives towards the achievement of sustainable development goals. Many such programs are based on personal environmental concern, organizational culture, and the readiness in terms of leadership support and training programs. If facilitated and supported, employee eco-initiatives can effectively decrease the organization's impacts on the environment and increase its sustainability image (Anwar et al., 2020).

A clear relationship between employee engagement as an imperative aspect of organizational performance and the implementation of eco-initiatives can be inferred. Engagement leads to attitude that is congruent with organizational culture, hence the employees are more likely to have a personal stake in achievement of environmental goals. The literature has demonstrated that motivated staff is likely to be more productive, innovative, and environmentally compliant; therefore, they are organizational treasures when it comes to addressing environmental issues. On the other hand, negative attitudes from the employees may slow down the progress through negative attitudes towards change, and insufficient sensitivity to environmental concerns, especially those related to sustainability.

Organizational environmental performance therefore refers to the extent to which an organization discharges its environmental responsibilities such as emissions of greenhouse gases, resource conservation and waste minimization. Despite the fact that organizational technologies and strategic management contribute a lot to the enhancement of environmental performance, the human factor is also important. People at the workplace engage in activities that either contribute positively or negatively to an organization's achievement of the environmental goals.

However, there is still a shortage of research on the relationship between employee behaviour and firm environmental performance (Raza et al., 2021). The implication is that most research has targeted organizational practices, technology, and environmental forces and left out the inherent part played by employees as the drivers of change. Therefore, this study aims to fill this gap and contribute to the understanding of the effects of employee eco-initiatives and engagement on organizational environmental performance, and how organizations may best cultivate a sustainable workforce (Palupiningtyas, 2024).

Literature review

In the study of **Afsar et al. (2023)**, the authors explored the link between SHRM (Strategic Human Resource Management), environmental policies of hospitals, eco-initiatives of the nurses and environmental performance. Their study revealed that the healthcare organizations that implemented ES (Environmental Sustainability) had more enhanced performance and overall cost saving particularly on recycling and disposal. **Faezah et al. (2022)** explored qualitative research to explore the practices and implementation of EEB (Environmentally Engaged Behaviours) among academicians in the Malaysia public universities. The study was centered on green practices, design, and implementation that brought to the surface main, main peripheral, and intermediate ecological attitudes. **Stritch and Christensen (2016)** identified the antecedents of voluntary pro-environmental behaviours of public employees that define the environmental responsibility of public organisations. Based on the theoretical model that includes connectedness with nature, organizational commitment, public service motivation (PSM), and organizational citizenship behaviour (OCB), this study employed employee level survey data collected in a large city in the southeast United States. **Rouhani Rad and Keshavarz (2022)** have performed a study to examine the moderating effects of green policies on the employees' eco-initiatives and the role of environmental concern and effective organisational commitment. Through descriptive and survey approaches, the present research aimed to involve 350 employees of environmental organizations in Semnan province, and through Cochran's formula and convenience sampling method, 189 employees participated in the study.

Ababneh et al. (2021) undertook a study to test empirically the research questions that examined the link between green HRM practices, transformational leadership, and engagement of employees on environmental initiatives. Self-administered questionnaires were completed by 474 employees working in hotels in Jordan. CFA (Confirmatory Factor Analysis) and SEM (Structural Equation Modelling) were used to examine the measurement model and test the hypotheses of the study. The analyses showed that there is a significant and positive relationship between green HRM practices and employee engagement. The study also offered new knowledge about the contextual and institutional interaction between the TLPBs (Transformational Leadership Practices and Behaviours) and green HRM practices to improve employees' engagement in environmental activities. These studies underscore the need to align leadership and green human resource management to enhance environmental participation in organisations.

Methodology

The rationale of this study explains the comprehensive approach used in this study to assess the impact of employee eco-initiatives and engagement on organizational environmental performance. It is centered on the examination of how these variables influence sustainability outcomes in organizations and the relationships between them.

Research Design

This present research uses a quantitative research approach to examine the interconnections between organisational environmental performance, employee engagement, eco-initiatives, and the impacts on their community environment. Conducting quantitative research is therefore more structured and formal, and can help in getting data in a numerical form to support empirical research (Bryman, 2016). This method is useful because it uses standard measurement instruments that make it reliable and valid in measuring variables like employee engagement, organizational environmental performance. Correlation analysis and regression modelling are used to assess direction and strength of associations between variables powerfully and systematically. This design also facilitates generalization of the findings so that they can be taken to other populations.

Sampling Design

In order to obtain the maximum number of cases covering the entire spectrum of the population of interest, this study employs a well-planned sampling technique that targets the employees of the manufacturing firms of India and the community members benefiting from the CSR activities.

Sampling Strategy

The cross-sectional survey uses the basic random sampling technique that involves the selection of each respondent as a possibility in the target population. The use of this approach minimizes the problem of selection bias and increases external validity of the research, (Sekaran & Bougie, 2016). This way of sampling guarantees a wide range of viewpoints from the employees of different organizational positions and other community members that are important for the achievement of the objectives of the research.

Sample Size

The work is based on 600 subjects, 300 of which are employees and 300 are members of the community. The participants' number in this study exceeds the statistically defined minimum of 522, thus providing sufficient power for defining the significant connections between the variables. Hence, the study takes into account any variation and possible non-responses in order to increase the accuracy of the findings.

Data Collection Procedure

Structured Questionnaire Development: The basic instrument used in this study is a structured questionnaire as consistent with the objectives of the study. The questionnaire is constructed in a sequential manner, using results from prior studies combined with advice from specialists to guarantee its reliability and applicability. A pilot test is done on a small group of people in order to modify the questions and thus increase the chances of their understanding the questions well.

Questionnaire Structure: The questionnaire is divided into sections, each focused on particular constructs; employee

engagement, eco-initiatives, organizational environmental performance, and community impact. Questionnaire responses are ordinal values on a 1 to 5 Likert scale where 1 represents strongly disagree and 5 represents strongly agree. This structure helps reduce variation in data collection hence enabling extensive statistical analysis of the variables. Thus, the study uses this comprehensive approach to offer useful insights into how employee engagement and eco-initiatives improve the organization's environmental performance and benefit the community.

Data Analysis

Survey data is further analysed using multiple linear regression method in SPSS to test the hypothesized relationship between the level of employee eco-initiatives, engagement and organizational environmental performance. Multiple linear regression enables one to determine how more than one independent variable affects the dependent variable; an important aspect in the evaluation of environmental performance. Descriptive statistics followed by Regressions analysis of the data are done where by the hypotheses are tested on the strength and significance of these relationships are checked using SPSS software. This approach assists in establishing major antecedents of organizational environmental performance through employees' participation and ownership of eco-projects.

Objectives

1. To analyse the influence of employee eco-initiatives on organizational environmental performance.
2. To examine the relationship between employee engagement and organizational environmental performance.

Result and analysis

This result disaggregates the outcome from the study on the nexus between employee engagement, organizational environmental performance, and employee eco-initiatives. In this study, the modality of these variables and their effect on employee participation in eco-initiatives were examined through multiple linear regression. There are three tests used in the analysis of these relationships: the model summary, the analysis of variance (ANOVA), and coefficients. What the results show is the important findings of the relationship between employee engagement and eco-initiatives and it will give a deeper understanding of the challenges organizations face in promoting the effective implementation of environmental practices.

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.161 ^a	.026	.023	.60823
a. Predictors: (Constant), Employee Engagement, Organizational Environmental Performance				

The summary of the regression model for the analysis done shows that the correlation between the employee engagement and the organizational environmental performance is low, with the R value being 0.161. The obtained R Square value of 0.026 indicates that employee engagement can predict only 2.6% of the variation in the target variable, namely organizational environmental performance, and the Adjusted R Square of 0.023 takes into consideration the degrees of freedom of the model. The value of the Standard Error of the Estimate is 0.60823 to give us the measure of the accuracy of the prediction. In summary, the low R Square value shows that employee engagement and organizational environmental performance as a whole have a relatively poor ability to explain environmental results in this model.

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.860	2	2.930	7.920	.000 ^b
	Residual	220.858	597	.370		
	Total	226.718	599			
a. Dependent Variable: Employee Eco-Initiative						

b. Predictors: (Constant), Employee Engagement, Organizational Environmental Performance

The above ANOVA table also indicates that the regression model is significant at 0.05 level of significance, $F = 7.920$ and 0.000 . This means that the model expounds a negligible prediction of employee eco-initiatives. The regression sum of squares is 5.860 and the residual sum of squares is 220.858 giving a mean square of 2.930 for the regression and 0.370 for the residual. Total sum of squares is 226.718 , has total degree of freedom of 599 . The obtained p-value of 0.000 also indicates that employee engagement and organizational environmental performance as a set of variables are valuable predictors of employee eco-initiatives.

Coefficients^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	4.622	.183		25.241	.000
Organizational Environmental Performance	-.035	.026	-.055	-1.356	.176
Employee Engagement	-.143	.037	-.155	-3.836	.000

a. Dependent Variable: Employee Eco-Initiative

The last table, coefficients, gives further information about the extent to which each predictor variable has contributed to the final analysis. The unstandardized coefficient for the intercept is 4.622 , an estimate of the level of employee eco-initiatives when both organizational environmental performance and employee engagement are at zero. For the organizational environmental performance, the unstandardised regression coefficient is -0.035 and the standardized regression coefficient is -0.055 . The negative coefficient means a negative correlation with the subject of eco-initiatives of employees, though not very strong for an inverse relationship and also not significant as the p-value of 0.176 is greater than the cut-off value of 0.05 .

On the other hand, employee engagement has a negative relationship with the employee eco initiatives, though small and insignificant with unstandardized coefficient of $(-) 0.143$ and the standardized coefficient (Beta) of $(-) 0.155$. The relationship that has been established here is significant at $p < 0.000$. Thus, although organizational environmental performance is not a significant predictor, it is found that employee engagement is an important predictor of employee eco-initiatives.

Discussion

The findings of this study can be useful to understand the connection between EE, OEP, and ESI, which is the subject of the literature. The regression analysis shows a low level of signification in the sense that the R-squared value is 0.026 , which means that the composite of the two independent variables employee engagement and organizational environmental performance explains a very small fraction of the variation in the dependent variable employee eco-initiatives. The analysis also reveals that organizational environmental performance and employee engagement have moderate positive correlation, though not significant ($p = 0.176$), while the negative impact of engagement on eco-initiatives is highly significant ($p = 0.000$). This negative relationship suggests that where there is increased employee engagement, there may be little increase in participation in eco-initiatives-a fact that goes against the obvious notion that engaged employees would be more inclined to partake in eco-efforts. There are possible reasons for this counterintuitive result. For example, while it may be true that engaged employees are those who dedicate their efforts to the accomplishment of organizational goals, the same employees may not have time for environmental initiatives. Moreover, the organisation's culture or its support for green programs may not be sufficient to engage interest even from highly committed personnel in sustainability programs. The coefficients that are negative for employee engagement may also indicate the lack of the employees' values in the company's environmental management or may suggest that the employees would not be recognized or rewarded for their participation in eco-projects. Moreover, the fact that

organizational environmental performance is statistically insignificant implies that it may not be a priority in the organization or among the employees, which may mean that sustainability practices must be made more central in the company's strategy. Altogether, the findings point to the multi-faceted nature of employee engagement with regard to eco-initiatives and indicate that support, culture, and relevance to values may be critical to environmental performance. Future studies are required to understand the rationale for these results and to examine other factors that can affect the effectiveness of the employee-led eco-projects.

Conclusion

In conclusion, this research examines the moderating role of employee engagement on the association between organizational environmental performance and employee eco-initiatives. Despite a highly significant correlation between EE and eco-initiatives, the direction of the correlation was counter-intuitive – negative, implying that high levels of EE do not translate into high levels of participation in environmental activities. This may be due to lack of adequate organisational support to sustainability practices, and/or lack of congruity between employees' and the company's environmental ethos. The statistical insignificance of the organizational environmental performance also reveals that, at the current stage, environmental endeavours are most likely not prioritised as an organisational concern, or, at least, the organisational environmental initiatives are not sufficiently embedded into the employees' job descriptions. Nevertheless, the study offers insights into some of the issues that characterise the process of encouraging employee engagement in eco-activities. It implies that there is a possibility that organizational culture, leadership support and organizational sustainability goals that are in congruent with the values of the employees may be crucial in increasing employees' participation in environmental activities. Thus, the management should pay extra attention to the way sustainability initiatives are implemented and how the employees are engaged in these initiatives and how they are congruent with their primary work responsibilities and rewards. Further research should focus on other antecedents of employees' participation in eco-efforts and investigate how culture and management can affect the perception of organizational environmental responsibility. Further examination of what might lie between employee engagement and eco-initiatives could help lend more insight into how best to encourage employees to become involved in sustainable practices.

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