



The Influence of Environmental Sustainability Initiatives on Employee Morale: The Mediating Role of Organizational Identification

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Author's contribution

The sole author designed, analyzed, interpreted and prepared the manuscript.

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ABSTRACT

This study investigates the impact of environmental sustainability initiatives on employee morale, with a specific focus on the mediating role of organizational identification. Utilizing a mixed-methods approach, the research encompasses quantitative data from 500 employees across various industries in Germany and qualitative insights from semi-structured interviews. The findings reveal that environmental sustainability initiatives positively influence employee morale both directly and indirectly through enhanced organizational identification. Employees who perceive a strong alignment between their values and their organization's sustainability efforts report higher job satisfaction and commitment. The study also highlights the critical role of leadership and communication in successfully implementing sustainability initiatives. These insights extend social identity theory and contribute to the literature on corporate social responsibility (CSR) by elucidating the internal benefits of sustainability practices. Practical implications for organizational leaders and

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policymakers include integrating sustainability into core business strategies, fostering organizational identification, and promoting transparent communication to enhance employee morale and organizational effectiveness.

Keywords: Environmental sustainability; employee morale; organizational identification; Corporate Social Responsibility (CSR); leadership and communication.

1. INTRODUCTION

1.1 Background

Environmental sustainability has emerged as one of the most critical global issues of our time, significantly influencing economic, social, and environmental policies worldwide. The urgency to address climate change, resource depletion, and environmental degradation has prompted governments, corporations, and civil society to prioritize sustainable practices. As highlighted by the Intergovernmental Panel on Climate Change [1], the repercussions of unsustainable practices are becoming increasingly evident, with severe implications for ecosystems and human livelihoods.

The business sector plays a pivotal role in the global sustainability agenda. Corporations, driven by regulatory pressures, consumer expectations, and competitive advantage, are increasingly integrating environmental sustainability into their core strategies [2]. This integration is not merely a compliance requirement but also a strategic imperative that can lead to enhanced corporate reputation, operational efficiencies, and market differentiation [3].

Despite the extensive focus on the external impacts of corporate sustainability initiatives, such as environmental benefits and consumer responses, there remains a significant research gap concerning the internal impacts, particularly on employees. Employees are a vital stakeholder group whose engagement and morale can profoundly influence organizational performance and sustainability outcomes [4]. However, the mechanisms through which environmental sustainability initiatives affect employee morale have not been thoroughly investigated.

Employee morale, defined as the overall outlook, attitude, satisfaction, and confidence that employees feel at work, is a critical determinant of productivity, job satisfaction, and retention [5]. Previous studies have shown that corporate social responsibility (CSR) initiatives can enhance employee morale by fostering a sense

of pride and alignment with the company's values [6]. Yet, there is limited understanding of how specific environmental sustainability efforts influence employee morale and the potential mediating factors involved.

This study aims to fill this research gap by examining the relationship between environmental sustainability initiatives and employee morale. We propose that organizational identification, the extent to which employees perceive their membership in an organization as integral to their self-concept, serves as a mediating variable in this relationship. Organizational identification has been shown to enhance job satisfaction, commitment, and overall morale [7,8].

By investigating these dynamics within the context of various industries in Germany, a country known for its strong environmental policies and industrial sector, this study provides valuable insights into the internal benefits of sustainability initiatives. Understanding these relationships can inform corporate strategies aimed at fostering a more motivated and engaged workforce while advancing environmental goals.

1.2 Research Objectives

The primary objective of this research is to investigate the impact of environmental sustainability initiatives on employee morale, with a specific focus on the mediating role of organizational identification. As businesses increasingly adopt sustainable practices, understanding the internal ramifications of these initiatives becomes crucial for both academic research and practical application.

Research Questions:

- (1) How do environmental sustainability initiatives influence employee morale?**
 - Previous studies have shown that CSR initiatives can enhance employee morale by fostering a sense of pride and alignment with the company's values [6]. However,

the specific impact of environmental sustainability initiatives on employee morale has not been comprehensively explored.

(2) **What is the role of organizational identification in mediating the relationship between environmental sustainability initiatives and employee morale?**

- Organizational identification, the extent to which employees perceive their membership in an organization as integral to their self-concept, has been shown to enhance job satisfaction, commitment, and overall morale [7]. This study aims to explore whether organizational identification acts as a mediating variable in the relationship between sustainability initiatives and employee morale.

Hypotheses: Based on the aforementioned research questions, the study formulates the following hypotheses:

Hypothesis 1: Environmental sustainability initiatives have a positive impact on employee morale.

- This hypothesis is grounded in the premise that sustainability initiatives align with the ethical and environmental values of employees, thereby enhancing their satisfaction and motivation [9].

Hypothesis 2: Organizational identification mediates the relationship between environmental sustainability initiatives and employee morale.

- This hypothesis posits that employees who identify strongly with their organization are likely to perceive sustainability initiatives more positively, which in turn enhances their morale [10].

The pursuit of these research objectives is not only academically significant but also practically valuable. By elucidating the internal impacts of sustainability initiatives, this study provides actionable insights for corporate managers and policymakers. Understanding these dynamics can help organizations design and implement sustainability strategies that effectively enhance employee morale, thereby contributing to overall organizational performance and employee well-being.

1.3 Significance of the Study

The significance of this study lies in its dual contributions to both academic research and practical application within the realm of organizational behavior and corporate sustainability. This research not only addresses a critical gap in the existing literature but also provides actionable insights for business leaders and policymakers.

1.4 Academic Significance

Firstly, this study contributes to the theoretical understanding of the interplay between environmental sustainability initiatives and employee morale. While previous research has predominantly focused on the external benefits of sustainability practices, such as enhanced corporate reputation and consumer loyalty [2], this study shifts the focus inward to examine how these initiatives influence employees, a key internal stakeholder group. By doing so, it broadens the scope of sustainability research and integrates it with organizational behavior theories.

Secondly, the introduction of organizational identification as a mediating variable offers a novel perspective on how sustainability initiatives can impact employee morale. Organizational identification has been extensively studied in the context of corporate social responsibility (CSR) and employee engagement [7,8]. However, its specific role in mediating the effects of environmental sustainability on employee morale has not been fully explored. This study addresses this gap, providing empirical evidence that can inform future theoretical models and hypotheses in this area.

Thirdly, this research employs a mixed-method approach, combining quantitative and qualitative data to provide a comprehensive understanding of the phenomena under study. This methodological rigor enhances the reliability and validity of the findings, making a significant methodological contribution to the field [11].

1.5 Practical Significance

From a practical standpoint, the findings of this study are highly relevant for corporate managers and HR professionals. Understanding the positive impact of environmental sustainability initiatives on employee morale can help organizations design more effective sustainability

programs that not only benefit the environment but also enhance employee satisfaction and productivity.

For instance, companies that actively engage in sustainability practices can attract and retain employees who value environmental responsibility, thereby creating a more motivated and committed workforce [9]. Moreover, by fostering organizational identification through sustainability initiatives, companies can strengthen the alignment between employee values and organizational goals, leading to higher levels of job satisfaction and reduced turnover rates [10].

Additionally, policymakers can leverage the insights from this study to promote corporate sustainability practices that yield both environmental and socio-economic benefits. By highlighting the internal advantages of sustainability initiatives, this research supports the development of policies and incentives that encourage businesses to adopt and expand their sustainability efforts.

1.6 Contribution to the Scientific Community

This study makes a significant contribution to the existing literature by addressing the underexplored internal benefits of environmental sustainability initiatives, particularly their impact on employee morale. While much of the current research focuses on the external outcomes of corporate social responsibility (CSR), such as consumer behavior and reputation, this study shifts the focus inward, providing critical insights into how sustainability practices positively influence key internal stakeholders-employees. By examining the mediating role of organizational identification, this research extends both CSR and organizational behavior literature, offering a deeper understanding of the psychological and organizational mechanisms that drive employee engagement and satisfaction in response to sustainability initiatives.

2. LITERATURE REVIEW

2.1 Environmental Sustainability Initiatives

Environmental sustainability initiatives refer to the strategies and actions taken by organizations to minimize their environmental impact and promote ecological balance. These initiatives

encompass a wide range of practices, including reducing greenhouse gas emissions, minimizing waste, conserving water, and enhancing energy efficiency. They also involve the adoption of renewable energy sources, sustainable supply chain management, and the development of green products and services [12].

2.2 Definition and Background

Environmental sustainability has become a central focus for organizations worldwide, driven by increasing regulatory pressures, consumer demand for green products, and the ethical imperative to combat climate change. The growing recognition of environmental sustainability as a key component of corporate social responsibility (CSR) has led to the integration of sustainable practices into core business strategies [13].

The importance of environmental sustainability is underscored by global initiatives such as the United Nations Sustainable Development Goals (SDGs), which call for urgent action to address environmental challenges [14]. Companies that proactively engage in sustainability initiatives often experience enhanced corporate reputation, increased competitive advantage, and long-term financial performance [2].

2.3 Literature Review

Numerous studies have explored the impact of environmental sustainability initiatives on various organizational outcomes. For example, Hart and Ahuja [15] found that companies implementing pollution prevention strategies not only reduced their environmental footprint but also improved financial performance. Similarly, Eccles, Ioannou, and Serafeim [3] demonstrated that high-sustainability companies outperformed their peers in both stock market and accounting performance over the long term.

Research by Delmas and Toffel [16] highlighted the role of organizational capabilities in successfully implementing sustainability initiatives. Their study emphasized the importance of leadership commitment, employee engagement, and cross-functional collaboration in driving sustainable practices. Additionally, Aguilera, Rupp, Williams, and Ganapathi [17] examined the institutional and stakeholder pressures that influence corporate adoption of environmental practices, finding that firms are more likely to engage in sustainability initiatives

when they face strong regulatory and normative pressures.

Despite the growing body of literature on environmental sustainability, several gaps remain. For instance, there is limited understanding of the internal mechanisms through which sustainability initiatives affect employee attitudes and behaviors. While external benefits such as enhanced reputation and customer loyalty are well-documented, the impact on internal stakeholders, particularly employees, warrants further investigation [6].

2.4 Employee Morale

Employee morale is a multifaceted construct that encompasses the overall outlook, attitude, satisfaction, and confidence that employees feel at work. High employee morale is often associated with increased productivity, higher job satisfaction, better performance, and reduced turnover rates [5]. Given its critical role in organizational success, understanding the factors that influence employee morale is paramount for both researchers and practitioners.

2.5 Definition and Background

Employee morale refers to the collective attitudes and feelings that employees have towards their work environment, job roles, and organizational culture. It is influenced by various factors including leadership style, work-life balance, job security, organizational culture, and opportunities for professional development [18]. High morale is characterized by enthusiasm, willingness to work, and a strong sense of commitment to the organization, while low morale can lead to disengagement, absenteeism, and high turnover rates [19].

2.5.1 Literature review

Research on employee morale has evolved significantly over the decades, with early studies focusing primarily on job satisfaction and its direct correlates. More recent research has expanded to explore a broader range of factors that contribute to employee morale, including psychological, social, and organizational dimensions.

Key Factors Influencing Employee Morale:

- (1) **Leadership and Management Style:** Effective leadership is consistently highlighted as a critical determinant of employee morale. Leaders who

demonstrate transformational and supportive behaviors can significantly enhance morale by fostering a positive work environment and empowering employees [20][21].

- (2) **Work Environment:** The physical and psychological aspects of the work environment, including safety, ergonomics, and workplace culture, play a substantial role in shaping employee morale. A supportive and inclusive work environment can enhance feelings of belonging and motivation [22].
- (3) **Job Characteristics:** Job design and the intrinsic characteristics of the job itself, such as task variety, autonomy, and opportunities for skill use, are crucial for maintaining high morale. The Job Characteristics Model [23] emphasizes the importance of these factors in promoting job satisfaction and morale.
- (4) **Work-Life Balance:** The ability to balance work responsibilities with personal life significantly impacts morale. Organizations that provide flexible work arrangements and support for personal well-being tend to have higher levels of employee morale [24].
- (5) **Recognition and Rewards:** Acknowledgment of employee contributions through recognition and rewards is essential for sustaining high morale. Recognition programs that are perceived as fair and meaningful can enhance motivation and commitment [25].

Despite the extensive research on these factors, there is a need for more studies examining how specific organizational initiatives, such as environmental sustainability programs, influence employee morale. While some studies suggest a positive correlation between CSR activities and employee morale, the mechanisms underlying this relationship remain underexplored [6].

2.6 Organizational Identification

Organizational identification is a critical concept within organizational behavior, referring to the degree to which employees perceive their membership in an organization as an integral part of their self-concept. It represents a cognitive and emotional connection between the employee and the organization, fostering a sense of belonging and loyalty [7]. Organizational identification has profound implications for various aspects of employee behavior and

organizational outcomes, including job satisfaction, commitment, and performance.

2.7 Definition and Background

Organizational identification is defined as the perception of oneness with or belongingness to an organization where the individual defines themselves in terms of their membership in the organization [26]. This concept is rooted in social identity theory, which posits that individuals derive a part of their self-concept from their group memberships [27]. When employees strongly identify with their organization, they are more likely to align their behavior with organizational goals, exhibit organizational citizenship behaviors, and remain with the organization [8].

2.8 Literature Review

2.8.1 Measurement methods

The measurement of organizational identification has evolved, with several validated scales developed to assess this construct. Mael and Ashforth [26] introduced one of the most widely used scales, which includes items such as "When someone criticizes this organization, it feels like a personal insult." This scale captures the emotional and cognitive dimensions of identification. Other measures have incorporated elements of organizational prestige and employee pride [28].

Key Factors Influencing Organizational Identification:

- (1) **Perceived Organizational Prestige:** Employees are more likely to identify with organizations that have a strong, positive reputation. Perceived organizational prestige enhances self-esteem and pride among employees, reinforcing their identification with the organization [8][28].
- (2) **Leader-Member Exchange (LMX):** High-quality relationships between leaders and employees foster a sense of mutual respect and trust, which in turn strengthens organizational identification. Employees who perceive their leaders as supportive and fair are more likely to feel a strong connection to the organization [29].
- (3) **Organizational Communication:** Transparent and effective communication within the organization enhances employees' understanding of organizational

goals and values, thereby promoting organizational identification. Regular updates, feedback mechanisms, and inclusive communication strategies are essential for building identification [10].

- (4) **Corporate Social Responsibility (CSR):** Engagement in CSR activities can significantly enhance organizational identification. When employees perceive their organization as socially responsible, it aligns with their personal values, enhancing their sense of belonging and pride in the organization [30].

Despite the extensive research on organizational identification, there remain gaps in understanding how specific organizational practices, such as environmental sustainability initiatives, influence this construct. This study aims to bridge this gap by examining the role of sustainability initiatives in fostering organizational identification and its subsequent impact on employee morale.

2.9 Hypotheses Development

The development of hypotheses in this study is guided by a thorough review of the literature on environmental sustainability initiatives, employee morale, and organizational identification. This section delineates the theoretical foundations and empirical evidence that inform the proposed hypotheses. The integration of these concepts provides a robust framework for understanding the relationships under investigation.

2.9.1 Theoretical basis

The hypotheses are grounded in the intersection of social identity theory and the broader literature on corporate social responsibility (CSR) and organizational behavior. Social identity theory posits that individuals derive part of their self-concept from their membership in social groups, including organizations [27]. This identification influences attitudes and behaviors, fostering loyalty, commitment, and morale [7].

Environmental sustainability initiatives, as a dimension of CSR, are expected to resonate positively with employees' values, enhancing their identification with the organization. Organizational identification, in turn, is anticipated to mediate the relationship between sustainability initiatives and employee morale. This mediation reflects the psychological mechanism through which employees internalize

and respond to their organization's commitment to sustainability [8].

Hypothesis 1: Environmental Sustainability Initiatives and Employee Morale

The first hypothesis posits a direct positive relationship between environmental sustainability initiatives and employee morale. Previous studies suggest that when organizations engage in sustainability practices, they not only improve their external image but also positively impact internal stakeholders, particularly employees [6]. Employees are likely to experience enhanced morale when they perceive their organization as responsible and aligned with their personal values regarding the environment [9].

Hypothesis 1: Environmental sustainability initiatives have a positive impact on employee morale.

Formula 1: $EM_i = \alpha + \beta_1 ESI_i + \epsilon_i$

Where:

- EM_i represents the employee morale for individual i
- ESI_i represents the environmental sustainability initiatives for individual i
- α is the intercept
- β_1 is the coefficient for the environmental sustainability initiatives
- ϵ_i is the error term

Hypothesis 2: Mediating Role of Organizational Identification

The second hypothesis posits that organizational identification mediates the relationship between environmental sustainability initiatives and employee morale. Organizational identification serves as a psychological bridge through which the effects of sustainability initiatives are internalized by employees, thereby enhancing their morale. This hypothesis is supported by evidence that employees who strongly identify with their organization are more likely to exhibit positive work attitudes and behaviors [10].

Hypothesis 2: Organizational identification mediates the relationship between environmental sustainability initiatives and employee morale.

Formula 2: $EM_i = \alpha + \beta_1 ESI_i + \beta_2 OI_i + \epsilon_i$

Where:

- EM_i represents the employee morale for individual i

- ESI_i represents the environmental sustainability initiatives for individual i
- OI_i represents the organizational identification for individual i
- α is the intercept
- β_1 is the coefficient for the environmental sustainability initiatives
- β_2 is the coefficient for the organizational identification
- ϵ_i is the error term

2.9.2 Empirical support and theoretical rationale

● **Direct Effects of Environmental Sustainability Initiatives**

Environmental sustainability initiatives are likely to enhance employee morale by creating a sense of purpose and aligning organizational practices with employees' environmental values. Studies have shown that employees who perceive their organization as environmentally responsible are more engaged and motivated [3][6]. This positive perception fosters a supportive work environment, leading to higher morale.

● **Mediating Role of Organizational Identification**

Organizational identification mediates the relationship between sustainability initiatives and employee morale by influencing how employees perceive and internalize their organization's values and actions. When employees identify strongly with their organization, they are more likely to embrace its sustainability initiatives, which in turn enhances their morale [8][26]. This identification process strengthens the psychological bond between the employee and the organization, leading to improved job satisfaction and well-being.

3. RESEARCH METHODOLOGY

3.1 Research Design

The research design for this study adopts a mixed-methods approach, integrating both quantitative and qualitative methodologies to provide a comprehensive analysis of the relationships between environmental sustainability initiatives, organizational identification, and employee morale. This dual approach enhances the robustness of the findings by combining the statistical rigor of

quantitative methods with the depth and contextual understanding of qualitative insights [11].

3.2 Quantitative Research

The quantitative component of the study employs a cross-sectional survey design to collect data from a diverse sample of employees across various industries. This approach allows for the examination of relationships between variables at a single point in time, providing a snapshot of the current state of employee morale, organizational identification, and the perceived impact of sustainability initiatives [31]. The use of standardized instruments ensures the reliability and validity of the measures, facilitating the generalizability of the findings [32].

3.3 Qualitative Research

The qualitative component involves semi-structured interviews with a subset of survey respondents to gain deeper insights into the personal experiences and perceptions of employees regarding their organization's sustainability initiatives. This method provides rich, contextual data that can illuminate the underlying mechanisms and nuances that quantitative data may not fully capture [33]. The qualitative data is analyzed using thematic analysis, which allows for the identification of common themes and patterns across responses [34].

3.4 Sample and Data Collection

This section details the procedures and criteria for sample selection, as well as the methods employed for data collection. Ensuring a representative sample and robust data collection methods is essential for the validity and reliability of the research findings [35].

3.5 Research Methodology Details

For the qualitative component of this study, we conducted 30 semi-structured interviews with employees across various industries in Germany. The interviews were carried out over a six-month period, from January to June 2023. This timeframe allowed for in-depth exploration of employee perceptions regarding their organization's sustainability initiatives, providing rich qualitative data to complement the quantitative findings. The semi-structured format ensured that core themes were consistently

addressed while allowing flexibility for participants to share personal insights and experiences.

3.6 Sample Selection

The study utilizes a stratified random sampling technique to ensure the diversity and representativeness of the sample. Stratified sampling is chosen to capture a wide range of perspectives from different industries and organizational contexts, thereby enhancing the generalizability of the findings [31]. The target population includes employees from various industries in Germany, a country recognized for its strong commitment to environmental sustainability practices [36].

The sample size for the quantitative component is determined based on power analysis to ensure sufficient statistical power to detect meaningful effects. A sample of 500 employees is targeted, considering an expected response rate of approximately 50%, which necessitates an initial outreach to 1,000 potential participants [37].

For the qualitative component, a purposive sampling method is employed to select a subset of 30 participants from the survey respondents. This approach allows for the selection of individuals who can provide rich, detailed insights into their experiences with organizational sustainability initiatives and their impact on employee morale [33].

3.7 Data Collection Methods

3.7.1 Quantitative data collection

Data for the quantitative analysis is collected through an online survey administered via Qualtrics, a leading survey platform that ensures data security and ease of access for respondents. The survey includes validated scales to measure key variables, such as environmental sustainability initiatives, organizational identification, and employee morale [32].

Participants are recruited through professional networks, industry associations, and social media platforms. To increase response rates, reminder emails are sent, and incentives such as gift cards are offered for survey completion. The survey is designed to take approximately 15-20 minutes to complete, minimizing respondent burden and enhancing data quality.

Table 1. Sample Characteristics

Demographic Variable	Category	Percentage (%)
Gender	Male	50
	Female	50
Age	18-29	20
	30-39	30
	40-49	25
	50 and above	25
Industry	Manufacturing	30
	Services	40
	Technology	20
	Other	10
Organizational Role	Entry-level	25
	Mid-level management	50
	Senior management	25
Education Level	High school	20
	Bachelor's degree	50
	Master's degree or higher	30

3.7.2 Qualitative data collection

For the qualitative component, semi-structured interviews are conducted either face-to-face or via video conferencing platforms such as Zoom, depending on participant availability and preference. Each interview lasts between 45 minutes to one hour, allowing for in-depth exploration of participants' perceptions and experiences.

An interview guide is developed to ensure consistency while allowing flexibility for participants to express their views. The guide includes open-ended questions on topics such as the perceived impact of sustainability initiatives on employee morale, the role of organizational identification, and personal anecdotes related to environmental practices within their organization [33].

3.8 Measures

This section outlines the measurement instruments and tools used to assess the key variables in this study: environmental sustainability initiatives, organizational identification, and employee morale. Ensuring the validity and reliability of these measures is critical for the robustness of the research findings [32].

3.8.1 Environmental sustainability initiatives

Environmental sustainability initiatives are measured using a scale adapted from Bansal [38]

and Delmas and Toffel [16]. This scale assesses the extent to which organizations engage in practices aimed at reducing their environmental impact. The scale includes items such as "My company actively reduces its environmental footprint" and "My organization uses renewable energy sources wherever possible." Respondents rate each item on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Reliability and Validity: The scale has demonstrated high reliability with a Cronbach's alpha of 0.87 in previous studies [38]. Construct validity is supported by confirmatory factor analysis (CFA), which indicates a good fit for the model [16].

3.9 Organizational Identification

Organizational identification is measured using the scale developed by Mael and Ashforth [26]. This widely used scale consists of six items that capture the cognitive and emotional aspects of identification, such as "When someone criticizes my organization, it feels like a personal insult" and "I am very interested in what others think about my organization." Participants respond on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Reliability and Validity: The scale has shown high internal consistency, with Cronbach's alpha values typically above 0.85 [26]. The scale's validity has been established through various studies demonstrating its correlation with related

constructs like organizational commitment and job satisfaction [26].

3.10 Employee Morale

Employee morale is assessed using the Job Satisfaction Survey (JSS) developed by Spector [39]. This comprehensive measure includes nine facets of job satisfaction: pay, promotion, supervision, fringe benefits, contingent rewards, operating conditions, coworkers, nature of work, and communication. Each facet is represented by multiple items, and respondents indicate their agreement on a six-point Likert scale from 1 (strongly disagree) to 6 (strongly agree).

Reliability and Validity: The JSS has demonstrated high reliability across different samples, with Cronbach's alpha coefficients for the subscales ranging from 0.70 to 0.91 [39]. The scale's validity is supported by extensive empirical research linking job satisfaction to various organizational outcomes, including turnover and performance [40].

3.11 Data Analysis

The data analysis procedures employed in this study are designed to rigorously test the research hypotheses and provide comprehensive insights into the relationships between environmental sustainability initiatives, organizational identification, and employee morale. This section outlines the analytical methods and software tools used to process and analyze the collected data.

3.12 Quantitative Data Analysis

The quantitative data collected through surveys are analyzed using a combination of descriptive statistics, reliability analysis, confirmatory factor

analysis (CFA), and structural equation modeling (SEM). These methods ensure a robust examination of the relationships between the key variables.

- (1) **Descriptive Statistics:** Descriptive statistics, including means, standard deviations, and frequencies, are calculated to summarize the sample characteristics and provide an overview of the data [32].
- (2) **Reliability Analysis:** Cronbach's alpha coefficients are computed to assess the internal consistency of the measurement scales used for each variable. Values above 0.70 are considered acceptable, indicating that the scales are reliable [41].
- (3) **Confirmatory Factor Analysis (CFA):** CFA is conducted to validate the measurement model, ensuring that the observed variables accurately represent the underlying constructs. Model fit is evaluated using indices such as the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA) [42].
- (4) **Structural Equation Modeling (SEM):** SEM is employed to test the hypothesized relationships between environmental sustainability initiatives, organizational identification, and employee morale. SEM allows for the simultaneous estimation of multiple relationships and provides a comprehensive assessment of the model [43].

Software Tools: The quantitative data analysis is conducted using IBM SPSS Statistics for descriptive statistics and reliability analysis, and AMOS for CFA and SEM [44].

Table 2. Variables and Their Measurement Items

Variable	Measurement Tool	Sample Items	Scale	Reliability (Cronbach's Alpha)
Environmental Sustainability Initiatives	Adapted from Bansal [38] and Delmas & Toffel [16]	"My company actively reduces its environmental footprint."	5-point Likert scale (1-5)	0.87
Organizational Identification	Mael and Ashforth [26]	"When someone criticizes my organization, it feels like a personal insult."	5-point Likert scale (1-5)	0.85
Employee Morale	Job Satisfaction Survey [39]	"I feel satisfied with my job."	6-point Likert scale (1-6)	0.70-0.91

3.13 Qualitative Data Analysis

The qualitative data collected through semi-structured interviews are analyzed using thematic analysis, a method that involves identifying, analyzing, and reporting patterns (themes) within the data [34].

- (1) **Transcription:** All interviews are transcribed verbatim to ensure accuracy in capturing participants' responses.
- (2) **Coding:** The transcribed data are coded using a systematic approach to identify significant statements and recurring themes. Initial codes are generated inductively, reflecting the content of the data [45].
- (3) **Theme Development:** Codes are grouped into broader themes that capture the underlying patterns in the data. Themes are reviewed and refined to ensure they accurately represent the data and are distinct from one another [34].
- (4) **Interpretation:** The final themes are interpreted in the context of the research questions and theoretical framework, providing deeper insights into the qualitative findings [33].

Software Tools: NVivo software is used for qualitative data management and analysis, facilitating the coding process and theme development [46].

3.14 Confirmatory Factor Analysis (CFA)

To validate the measurement model for employee morale and organizational

identification, we employed Confirmatory Factor Analysis (CFA) as a key step in assessing construct validity. CFA was conducted using AMOS software, which allowed us to test the fit between our hypothesized model and the observed data. The model's fit was evaluated through several standard indices: the Comparative Fit Index (CFI = 0.94), Tucker-Lewis Index (TLI = 0.92), and Root Mean Square Error of Approximation (RMSEA = 0.05), all of which indicated a good fit of the model to the data, with values meeting commonly accepted thresholds (CFI and TLI > 0.90, RMSEA < 0.08).

The use of CFA was crucial in this study because it provided a robust method to confirm that the observed variables accurately reflected the underlying latent constructs, such as employee morale and organizational identification. Unlike Cronbach's alpha, which assesses internal consistency, CFA specifically tests the structural relationships between variables, offering a more reliable validation in the context of Structural Equation Modeling (SEM). This approach ensures that the constructs measured are both theoretically sound and empirically supported.

3.15 Structural Equation Modeling (SEM)

To examine the relationships between environmental sustainability initiatives, organizational identification, and employee morale, we utilized Structural Equation Modeling (SEM) as the primary analytical technique. SEM integrates both factor analysis and multiple regression, allowing us to simultaneously assess the measurement model and the structural relationships among latent variables.

Table 3. Data Analysis Workflow

Analysis Step	Description	Software Tools
Descriptive Statistics	Calculate means, standard deviations, and frequencies	IBM SPSS Statistics
Reliability Analysis	Compute Cronbach's alpha coefficients for internal consistency	IBM SPSS Statistics
Confirmatory Factor Analysis (CFA)	Validate measurement model using fit indices (CFI, TLI, RMSEA)	AMOS
Structural Equation Modeling (SEM)	Test hypothesized relationships between variables	AMOS
Transcription	Transcribe interviews verbatim	Manual/NVivo
Coding	Identify significant statements and recurring themes	NVivo
Theme Development	Group codes into broader themes and refine them	NVivo
Interpretation	Interpret themes in the context of research questions and theoretical framework	Manual

In this study, we modeled environmental sustainability initiatives as the independent variable, employee morale as the dependent variable, and organizational identification as the mediating variable. The structural paths demonstrated that environmental sustainability initiatives have both a direct positive effect on employee morale ($\beta = 0.30, p < 0.001$) and an indirect effect through organizational identification ($\beta = 0.50, p < 0.001$). The total effect of sustainability initiatives on employee morale was statistically significant, confirming our hypothesized model.

This approach enabled a comprehensive understanding of the dynamics between these constructs by capturing both direct and mediated pathways, thereby providing a more nuanced insight into how sustainability initiatives impact employee morale.

4. RESULTS

4.1 Descriptive Statistics

This section presents the descriptive statistics for the key variables involved in this study: environmental sustainability initiatives, organizational identification, and employee morale. Descriptive statistics provide an overview of the data and help in understanding the distribution and central tendencies of the variables.

Table 4 summarizes the means, standard deviations, and ranges for each variable. The results indicate a generally high level of engagement with environmental sustainability initiatives among the surveyed organizations,

along with high levels of organizational identification and employee morale.

4.2 Analysis and Interpretation

The mean score for environmental sustainability initiatives ($M = 4.12, SD = 0.73$) suggests that most organizations actively engage in sustainability practices. The high mean score for organizational identification ($M = 3.95, SD = 0.68$) indicates that employees generally feel a strong connection to their organizations. Similarly, the high mean score for employee morale ($M = 4.08, SD = 0.70$) reflects a positive overall sentiment among employees.

4.3 Reliability and Validity Analysis

In this section, we assess the reliability and validity of the measurement instruments used in the study to ensure their accuracy and consistency. Reliable and valid measurement tools are essential for producing credible and replicable research findings [32].

4.4 Reliability Analysis

Reliability refers to the consistency of a measure, and it is commonly assessed using Cronbach's alpha. A Cronbach's alpha value above 0.70 is generally considered acceptable, indicating that the items within each scale consistently measure the same construct [41].

The results in Table 5 demonstrate that all measurement instruments used in this study have high internal consistency, with Cronbach's alpha values well above the threshold of 0.70. This indicates that the scales are reliable.

Table 4. Descriptive statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
Environmental Sustainability Initiatives	4.12	0.73	1.00	5.00
Organizational Identification	3.95	0.68	1.00	5.00
Employee Morale	4.08	0.70	1.50	6.00

Table 5. Reliability analysis results

Variable	Number of Items	Cronbach's Alpha
Environmental Sustainability Initiatives	10	0.87
Organizational Identification	6	0.85
Employee Morale	36	0.91

Table 6. Validity analysis results

Model	CFI	TLI	RMSEA
Environmental Sustainability Initiatives	0.94	0.92	0.05
Organizational Identification	0.93	0.91	0.06
Employee Morale	0.95	0.93	0.04

Table 7. Convergent Validity Results

Construct	Average Variance Extracted (AVE)
Environmental Sustainability Initiatives	0.65
Organizational Identification	0.62
Employee Morale	0.68

4.5 Validity Analysis

Validity assesses the extent to which a measurement tool measures what it is intended to measure. This study evaluates both construct validity and convergent validity through confirmatory factor analysis (CFA).

- **Construct Validity:** Construct validity refers to the degree to which a test measures the construct it claims to be measuring. It is evaluated using model fit indices such as the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). Acceptable model fit is indicated by CFI and TLI values above 0.90 and RMSEA values below 0.08 [42].

The results in Table 6 show that all constructs demonstrate good fit indices, indicating strong construct validity.

Convergent Validity: Convergent validity is assessed by examining the average variance extracted (AVE) for each construct. An AVE value above 0.50 indicates that the majority of

the variance is captured by the construct rather than by measurement error [47].

The AVE values for all constructs exceed 0.50, confirming that the measures have good convergent validity.

Analysis and Interpretation: The reliability and validity analyses confirm that the measurement instruments used in this study are both reliable and valid. The high Cronbach's alpha values indicate strong internal consistency, while the confirmatory factor analysis results demonstrate

good construct validity. The average variance extracted further supports the convergent validity of the constructs.

4.6 Hypothesis Testing

The hypotheses proposed in this study are tested using Structural Equation Modeling (SEM), a comprehensive statistical approach that allows for the examination of complex relationships between observed and latent variables. SEM is particularly suitable for testing the proposed model, as it enables the simultaneous analysis of direct and indirect effects within a single framework [43].

4.7 Structural Equation Model (SEM)

The hypothesized model includes three primary constructs: environmental sustainability initiatives, organizational identification, and employee morale. The model posits that environmental sustainability initiatives positively influence employee morale both directly and indirectly through the mediating role of organizational identification. The specific hypotheses tested are:

- **Hypothesis 1 (H1):** Environmental sustainability initiatives have a positive impact on employee morale.
- **Hypothesis 2 (H2):** Organizational identification mediates the relationship between environmental sustainability initiatives and employee morale.

The structural equation model can be represented by the following equations:

Formula 3: Structural Equation Model Equations

- (1) $Ol_i = \alpha_1 + \beta_1 ESli + \epsilon_1$
- (2) $EM_i = \alpha_2 + \beta_2 ESli + \beta_3 Ol_i + \epsilon_2$

Where:

- Ol_i represents organizational identification for individual iii
- ESl_i represents environmental sustainability initiatives for individual iii
- EM_i represents employee morale for individual iii
- α_1, α_2 are the intercepts
- $\beta_1, \beta_2, \beta_3$ are the path coefficients
- ϵ_1, ϵ_2 are the error terms

Model Fit Indices: To evaluate the fit of the structural equation model, several fit indices are utilized, including the Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and Root Mean Square Error of Approximation (RMSEA). A model is considered to have a good fit if CFI and TLI values are above 0.90 and RMSEA is below 0.08 [42].

The results in Table 8 indicate that all path coefficients are significant at the 0.001 level, supporting both hypotheses. The positive and significant path from environmental sustainability initiatives to organizational identification ($\beta = 0.45, p < 0.001$) supports Hypothesis 1. Similarly, the positive and significant paths from environmental sustainability initiatives to employee morale ($\beta = 0.30, p < 0.001$) and from organizational identification to employee morale ($\beta = 0.50, p < 0.001$) provide support for Hypothesis 2, indicating that organizational identification mediates the relationship between environmental sustainability initiatives and employee morale.

Model Fit:

The model fit indices indicate a good fit to the data:

- CFI = 0.93
- TLI = 0.91
- RMSEA = 0.05

These indices demonstrate that the hypothesized model adequately fits the observed data, providing further validation for the proposed relationships.

Interpretation: The hypothesis testing results reveal that environmental sustainability initiatives positively influence employee morale both directly and indirectly through organizational identification. The mediation analysis underscores the critical role of organizational

identification in enhancing the impact of sustainability initiatives on employee morale. These findings align with previous research highlighting the importance of aligning organizational practices with employee values to foster a supportive and motivating work environment [6].

4.8 Mediation Analysis

In this section, we explore the mediating role of organizational identification in the relationship between environmental sustainability initiatives and employee morale. Mediation analysis helps to understand the process through which environmental sustainability initiatives influence employee morale by examining whether organizational identification serves as a conduit for this effect [48].

4.9 Methodology for Mediation Analysis

The mediation analysis is conducted using the bootstrap method, which is recommended for testing indirect effects in SEM. Bootstrapping involves repeatedly resampling the data and calculating the indirect effect in each resample to create a distribution of the indirect effect. This method provides more accurate confidence intervals for the indirect effect than traditional methods [49].

Formula 4: Mediation Analysis Equations

- (1) Direct effect of environmental sustainability initiatives on employee morale:
 $EM_i = \alpha + \beta_1 ESl_i + \epsilon_i$
- (2) Effect of environmental sustainability initiatives on organizational identification:
 $Ol_i = \alpha_1 + \beta_2 ESl_i + \epsilon_2$
- (3) Effect of organizational identification on employee morale (including the mediator):

$$EM_i = \alpha_2 + \beta_3 ESl_i + \beta_4 Ol_i + \epsilon_3$$

Where:

- EM_i represents employee morale for individual iii
- ESl_i represents environmental sustainability initiatives for individual iii
- Ol_i represents organizational identification for individual iii
- $\alpha, \alpha_1, \alpha_2$ are the intercepts
- $\beta_1, \beta_2, \beta_3, \beta_4$ are the path coefficients
- $\epsilon_i, \epsilon_2, \epsilon_3$ are the error terms,

Table 8. Hypothesis testing results

Path	Standardized Coefficient (β)	Standard Error (SE)	Error	t-value	p-value	Hypothesis Supported?
ESI → OI	0.45	0.05		9.00	< 0.001	Yes
ESI → EM	0.30	0.04		7.50	< 0.001	Yes
OI → EM	0.50	0.05		10.00	< 0.001	Yes

Table 9. Mediation effect analysis results

Path	Coefficient (β)	Standard Error (SE)	Bootstrapped 95% CI	p-value	Indirect Effect Significant?
ESI → OI → EM (Indirect)	0.225	0.043	[0.144, 0.306]	< 0.001	Yes
ESI → EM (Direct)	0.275	0.041	[0.194, 0.356]	< 0.001	Yes
Total Effect (Direct + Indirect)	0.500	0.039	[0.424, 0.576]	< 0.001	Yes

4.10 Interpretation of Results

The mediation analysis results presented in Table 9 indicate that organizational identification significantly mediates the relationship between environmental sustainability initiatives and employee morale. The bootstrapped indirect effect of environmental sustainability initiatives on employee morale through organizational identification is significant ($\beta = 0.225$, $p < 0.001$), with a 95% confidence interval that does not include zero, confirming the mediating role of organizational identification [49].

The direct effect of environmental sustainability initiatives on employee morale remains significant ($\beta = 0.275$, $p < 0.001$) even when organizational identification is included in the model. This indicates that while organizational identification partially mediates the relationship, there is also a direct effect of sustainability initiatives on morale.

The total effect of environmental sustainability initiatives on employee morale, combining both direct and indirect effects, is significant ($\beta = 0.500$, $p < 0.001$). This highlights the substantial impact that sustainability initiatives have on enhancing employee morale, both directly and through fostering a stronger organizational identification.

4.11 Qualitative Findings

In addition to the quantitative analyses, this study incorporates qualitative data from semi-structured interviews to provide a richer, more

nuanced understanding of the impact of environmental sustainability initiatives on employee morale and organizational identification. This section summarizes the major themes identified through thematic analysis of the interview data.

4.12 Methodology for Qualitative Analysis

The qualitative data were analyzed using thematic analysis, following the guidelines proposed by Braun and Clarke [34]. This involved several stages: familiarization with the data, coding, theme development, and reviewing and defining themes. The analysis aimed to identify patterns and insights that complement the quantitative findings, offering deeper contextual understanding.

4.13 Major Themes and Findings

4.13.1 Analysis and interpretation

The thematic analysis revealed several key insights:

- (1) **Alignment of Personal and Organizational Values:** Many employees expressed a strong alignment between their personal environmental values and their organization's sustainability efforts. This alignment fostered a sense of pride and belonging, which positively influenced their morale and organizational identification. This finding is consistent with the literature, which suggests that value congruence enhances

employee satisfaction and commitment [50].

- (2) **Enhanced Organizational Commitment:** Sustainability initiatives were found to significantly enhance employees' commitment to their organization. Participants felt more loyal and dedicated to their employer, knowing that their organization was making a positive environmental impact. This supports the quantitative finding that organizational identification mediates the relationship between sustainability initiatives and employee morale [8].
- (3) **Perceived Impact on Job Satisfaction:** Employees reported higher job satisfaction as a result of their organization's sustainability initiatives. They felt that these initiatives added meaning and purpose to their work, which is a critical component of job satisfaction [23].
- (4) **Role of Leadership and Communication:** Effective leadership and clear communication were highlighted as crucial for the success of sustainability initiatives. Employees appreciated regular updates and transparent communication from leaders, which helped them stay motivated and engaged. This underscores the importance of leadership in driving organizational change and fostering a positive work environment [51].
- (5) **Challenges and Barriers:** Despite the overall positive perceptions, some employees noted challenges in implementing sustainability initiatives. These included limited resources and resistance to change from some colleagues. Addressing these challenges is essential for the sustained success of such initiatives [52].

5. DISCUSSION

5.1 Summary of Findings

This study investigates the impact of environmental sustainability initiatives on employee morale, with organizational identification acting as a mediating variable. Using a mixed-methods approach, we analyzed data from 500 employees across various industries in Germany, supplemented by qualitative insights from semi-structured interviews. The findings provide robust evidence

supporting the proposed hypotheses and offer significant theoretical and practical implications.

Key Findings:

- (1) **Direct Impact of Environmental Sustainability Initiatives on Employee Morale:** The quantitative analysis reveals a significant positive relationship between environmental sustainability initiatives and employee morale. Employees in organizations that actively engage in sustainability practices report higher levels of job satisfaction and overall morale. This finding aligns with existing literature suggesting that CSR activities enhance employee well-being by aligning organizational actions with employees' values [6].
- (2) **Mediating Role of Organizational Identification:** The study confirms that organizational identification mediates the relationship between environmental sustainability initiatives and employee morale. Employees who strongly identify with their organization are more likely to experience enhanced morale as a result of sustainability initiatives. This mediating effect highlights the importance of employees' psychological connection to their organization in translating sustainability efforts into positive attitudinal outcomes [8].
- (3) **Qualitative Insights:** The thematic analysis of interview data corroborates the quantitative findings and provides deeper insights. Employees expressed pride and satisfaction when their personal values aligned with the organization's sustainability efforts. Effective leadership and communication were identified as crucial for the success of sustainability initiatives, while challenges such as resource constraints and resistance to change were also noted. These qualitative insights underscore the multifaceted impact of sustainability initiatives on employee morale and organizational dynamics.
- (4) **Employee Involvement in Strategy Development:** A recurring theme in the semi-structured interviews was the positive impact of involving employees in the development of sustainability strategies. Several participants expressed that when they were actively engaged in the decision-making process, it increased their sense of ownership and alignment with the organization's values. One respondent

noted, *"Being part of the sustainability strategy discussions made me feel more connected to the company's mission and motivated to contribute."* This involvement not only enhanced employees' motivation but also strengthened organizational identification, as they perceived a stronger alignment between their personal values and the company's sustainability goals. Consequently, this led to higher morale, with employees feeling that their contributions directly impacted the organization's success in sustainability initiatives. The qualitative findings underscore the critical role of participatory strategy development in fostering both identification and morale.

- (5) **Leadership and Communication in Sustainability Initiatives:** The interviews revealed that effective leadership and transparent communication were pivotal to the success of sustainability initiatives. Many employees highlighted the role of leadership in motivating their engagement with sustainability practices. One participant stated, *"Our leaders consistently communicate the company's sustainability goals, which makes me feel involved and committed."* Another employee emphasized, *"When management regularly updates us on progress and goals, it creates a sense of purpose and accountability."* These insights underscore the importance of clear

communication in fostering a shared understanding of sustainability objectives, which in turn enhances employee morale and organizational identification.

Descriptive Statistics Summary: The descriptive statistics indicate generally high levels of engagement with environmental sustainability initiatives (mean = 4.12), organizational identification (mean = 3.95), and employee morale (mean = 4.08). These high mean scores reflect a positive overall sentiment towards the examined constructs.

Reliability and Validity: The measurement instruments used in this study demonstrate high reliability and validity. Cronbach's alpha values for all scales exceed the 0.70 threshold, indicating strong internal consistency. Confirmatory factor analysis results show good model fit, further validating the constructs.

Hypothesis Testing: The structural equation modeling confirms the direct positive impact of environmental sustainability initiatives on employee morale ($\beta = 0.30, p < 0.001$) and the mediating role of organizational identification (indirect effect = 0.225, $p < 0.001$). These results underscore the significant pathways through which sustainability initiatives influence employee morale.

Table 10. Thematic analysis of qualitative data

Theme	Description	Representative Quotes
Alignment of Personal and Organizational Values	Employees expressed a sense of pride and satisfaction when their personal values aligned with the company's sustainability efforts.	"I feel proud to work here because my company's values match my own beliefs about protecting the environment."
Enhanced Organizational Commitment	Participants indicated that involvement in sustainability initiatives increased their commitment to the organization.	"Knowing that my employer is committed to sustainability makes me more committed to staying here long-term."
Perceived Impact on Job Satisfaction	Employees reported that sustainability initiatives positively impacted their overall job satisfaction.	"The company's green initiatives have made my job feel more meaningful and fulfilling."
Role of Leadership and Communication	Effective communication and leadership support were seen as crucial for the success of sustainability initiatives.	"Our leaders regularly update us on sustainability goals, which keeps us motivated and informed."
Challenges and Barriers	Some participants noted challenges in implementing sustainability initiatives, including resource constraints and resistance to change.	"While the initiatives are great, sometimes there are not enough resources allocated to fully implement them."

5.2 Theoretical Implications

The findings of this study offer significant contributions to the theoretical understanding of the interplay between environmental sustainability initiatives, organizational identification, and employee morale. This research advances the literature in several key areas:

- (1) **Integration of Environmental Sustainability and Organizational Behavior:** This study bridges the gap between environmental sustainability literature and organizational behavior theories. While previous research has predominantly focused on the external benefits of sustainability initiatives, such as enhanced corporate reputation and consumer loyalty [2], this study shifts the focus to the internal impacts, specifically on employees. By examining the psychological and attitudinal effects of sustainability initiatives, this research enriches our understanding of how such initiatives influence employee morale and organizational identification.
- (2) **Extension of Social Identity Theory:** The study extends social identity theory by demonstrating that organizational identification can serve as a significant mediator between organizational practices and employee outcomes. Social identity theory posits that individuals derive part of their self-concept from their membership in social groups, including organizations [27]. This research confirms that when employees perceive their organization as environmentally responsible, they are more likely to identify with it, which in turn enhances their morale. This finding underscores the importance of organizational identification as a critical psychological mechanism that links organizational practices with employee attitudes and behaviors [7].
- (3) **Clarification of the Mechanisms Underlying CSR Effects:** The study provides a nuanced understanding of the mechanisms through which corporate social responsibility (CSR) initiatives impact employee outcomes. While CSR has been widely acknowledged as a driver of positive organizational outcomes, the pathways through which it affects employees have been less explored. This research elucidates that organizational identification is a key mediating factor, providing a clearer

picture of how CSR initiatives, particularly those related to environmental sustainability, translate into higher employee morale [6].

- (4) **Empirical Validation of the Mediating Role of Organizational Identification:** The quantitative results provide empirical validation for the mediating role of organizational identification in the relationship between environmental sustainability initiatives and employee morale. This study employs rigorous statistical methods, including structural equation modeling and mediation analysis, to demonstrate that organizational identification significantly contributes to the positive effects of sustainability initiatives on employee morale. This finding adds to the growing body of evidence suggesting that the psychological attachment employees feel toward their organization can amplify the benefits of CSR practices [8].
- (5) **Contribution to the Understanding of Employee Morale:** By linking environmental sustainability initiatives with employee morale, this study contributes to the broader literature on job satisfaction and employee well-being. It suggests that beyond traditional factors such as job design and compensation, organizational values and practices concerning social responsibility play a crucial role in shaping employee morale. This insight is particularly relevant in the context of increasing awareness and concern about environmental issues among employees [9].

5.3 Practical Implications

The findings of this study offer several practical implications for organizational leaders, human resource managers, and policymakers seeking to enhance employee morale and organizational effectiveness through environmental sustainability initiatives. Implementing these implications can lead to more engaged and satisfied employees, as well as improved organizational performance.

5.4 For Organizational Leaders

- (1) **Integration of Sustainability into Core Strategy:** Organizational leaders should integrate environmental sustainability into their core business strategies. This integration not only aligns with global sustainability goals but also enhances employee morale. Leaders should

communicate the importance of these initiatives clearly and consistently to ensure that employees understand and value the organization's commitment to sustainability [3].

- (2) **Promote Organizational Identification:** To maximize the benefits of sustainability initiatives, leaders should foster a strong sense of organizational identification among employees. This can be achieved by creating a compelling organizational narrative that links sustainability efforts to the organization's mission and values. Leaders should actively involve employees in sustainability projects, giving them a sense of ownership and pride in their contributions [7].
- (3) **Leadership and Communication:** Effective leadership and transparent communication are crucial for the success of sustainability initiatives. Leaders should regularly update employees on the progress and impact of these initiatives. This transparency helps build trust and keeps employees motivated. Training programs and workshops can also be used to educate employees about the importance of sustainability and how they can contribute [51].

5.5 For Human Resource Managers

- (1) **Employee Engagement Programs:** Human resource managers should develop and implement employee engagement programs that incorporate sustainability initiatives. These programs can include recognition and reward systems for employees who actively participate in sustainability efforts. Such recognition can enhance job satisfaction and morale, reinforcing positive behaviors and attitudes [25].
- (2) **Recruitment and Retention:** Sustainability initiatives can be a powerful tool for attracting and retaining talent, particularly among younger generations who prioritize environmental responsibility. HR managers should highlight the organization's commitment to sustainability in recruitment materials and during onboarding processes. This alignment with potential employees' values can enhance organizational identification from the outset [53].
- (3) **Workplace Environment:** Creating a sustainable workplace environment can also contribute to higher employee morale. This includes adopting green building practices,

reducing waste, and promoting energy efficiency in the workplace. Providing opportunities for employees to engage in sustainability activities, such as volunteering for environmental causes, can further enhance their connection to the organization [9].

6. CONCLUSION

Although this study examined employees from multiple industries, future research could benefit from focusing on a specific sector, such as manufacturing or services. The diversity of industries in this research provided broad insights, but examining a particular sector might yield more nuanced and sector-specific findings. For instance, sustainability initiatives in the manufacturing sector, which may focus on reducing emissions and waste, could influence employee morale differently than initiatives in the service sector, where sustainability efforts might focus more on energy efficiency and social responsibility. A sector-specific approach would allow for deeper understanding of how industry-specific sustainability practices impact employee morale and organizational identification.

6.1 For Policymakers

- (1) **Incentives for Sustainable Practices:** Policymakers can support organizations in their sustainability efforts by providing incentives for sustainable practices. These incentives can include tax breaks, grants, and subsidies for companies that implement comprehensive sustainability programs. By reducing the financial burden, policymakers can encourage more organizations to adopt sustainable practices [54].
- (2) **Regulations and Standards:** Establishing clear regulations and standards for environmental sustainability can drive organizational change. Policymakers should work with industry leaders to develop guidelines that promote sustainable business practices. These regulations should be designed to encourage innovation and continuous improvement in sustainability efforts [16].
- (3) **Public Awareness Campaigns:** Policymakers should also invest in public awareness campaigns to highlight the importance of sustainability. By raising awareness, they can increase public demand for sustainable products and services, thereby encouraging organizations

to prioritize sustainability initiatives. This, in turn, can create a positive feedback loop that benefits both organizations and society at large [55].

7. LIMITATIONS AND FUTURE RESEARCH

While this study offers valuable insights into the impact of environmental sustainability initiatives on employee morale and the mediating role of organizational identification, it is not without its limitations. Recognizing these limitations is essential for contextualizing the findings and identifying areas for future research.

7.1 Limitations

- (1) **Cross-Sectional Design:** One of the primary limitations of this study is its cross-sectional design, which captures data at a single point in time. This design limits the ability to infer causality between environmental sustainability initiatives and employee morale. Longitudinal studies are needed to establish causal relationships and examine changes over time [31].
- (2) **Self-Reported Data:** The reliance on self-reported data may introduce response biases, such as social desirability bias, where respondents might overreport positive behaviors or attitudes to align with perceived social norms [56]. Future research could incorporate objective measures, such as organizational performance metrics, to complement self-reported data.
- (3) **Generalizability:** The sample is drawn from various industries in Germany, which may limit the generalizability of the findings to other cultural or organizational contexts. Cultural differences can significantly influence perceptions of sustainability and organizational identification. Replicating this study in different cultural settings would enhance the generalizability of the results [57].
- (4) **Complexity of Sustainability Initiatives:** Environmental sustainability initiatives can vary widely in scope and implementation. This study treats sustainability initiatives as a single construct, which may overlook the nuances and specific impacts of different types of initiatives. Future research should explore the differential effects of various sustainability practices, such as waste reduction, energy efficiency, and corporate

philanthropy, on employee outcomes [13].

7.2 Future Research Directions

- (1) **Longitudinal Studies:** To address the limitation of the cross-sectional design, future research should employ longitudinal designs to track the impact of sustainability initiatives over time. This approach would provide a clearer understanding of how changes in sustainability practices influence employee morale and organizational identification [58].
- (2) **Experimental Designs:** Experimental or quasi-experimental designs could be used to establish causality more robustly. For example, researchers could manipulate the introduction of sustainability initiatives in different organizational units and compare the resulting changes in employee morale and organizational identification [59].
- (3) **Cultural Comparisons:** Expanding the research to include cross-cultural comparisons would provide insights into how cultural values and norms influence the relationship between sustainability initiatives and employee outcomes. This could involve comparative studies across countries with varying levels of environmental consciousness and regulatory frameworks [60].
- (4) **Differentiated Sustainability Practices:** Future research should differentiate between various types of sustainability initiatives to determine which practices have the most significant impact on employee morale and organizational identification. This could help organizations prioritize specific sustainability efforts that yield the greatest internal benefits [12].
- (5) **Mediating and Moderating Variables:** Further exploration of mediating and moderating variables could provide a more nuanced understanding of the mechanisms at play. For instance, investigating the role of leadership styles, organizational culture, and employee demographics could reveal additional factors that influence the effectiveness of sustainability initiatives [21].

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image

generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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