



Integrating Sustainability into Human Resource Practices: A Comprehensive Model for Enhancing Organizational Performance in Pakistan

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ABSTRACT

The aim of this study is to provide a model that could be explored and understood in greater depth in terms of application of sustainability in human resource practices in Pakistan. This study goals to offer a holistic framework by testing the relationship between employee engagement in sustainability, organizational culture, awareness of sustainability practices, data-based decision-making, training and development programs and organizational sustainability performance. The research model is established based on social exchange theory which can be tested quantitatively by means of the Saunders' Onion Model. The paper contributes to the literature by suggesting that engaged employees develop a climate of support for sustainability that results in stronger organizational performance. Heightened consciousness of sustainable approach leads to more data-driven decisions for meeting sustainability targets. Trainings and development become also relevant tools, as they provide employees with skills and knowledge needed to actively participate in a sustainable work (Sharma & Bhate, 2005). The contributions of this study are important for theory, practice and policy. In offering a plausible model, it adds to literature in sustainable HR management and also has practical implications for organizations to enhance their sustainability initiatives. Future investigation is recommended to other extended contexts, long-term effects, significant understanding, and external impacts, in addition to cross-cultural comparisons. Ultimately, the vision for this study is to open up new avenues for exploration with this suit of research by unpacking and deeply understanding how those HR practices contribute the sustainability and success of both, organizations and society.



Background Information

Inclusion of sustainability into human resource (HR) practices is an emerging issue for all organizations globally, in line with broader trends toward responsible business conduct. Sustainable HRM has become an important issue in developed countries including the U.S. and Western Europe. These countries have particularly acknowledged the importance of HR in implementing and sustaining responsible business practices, not only to fulfil regulatory requirements but also to achieve business performance and corporate reputation benefits. [for example,] a number of US's leading enterprises have embedded metrics about their employees in their sustainability reporting frameworks, thereby integrating their HR strategies with overall sustainability strategy" (Eccles et al., 2022).

Data driven sustainability HR performance management is well received in these advanced setting. Companies use advanced data analytics to track and enhance staff involvement in their sustainability programs. For instance, companies such as Unilever and Patagonia have incorporated data analytics into their HR practices to monitor employee engagement in sustainability training and activities (Smith & Johnson, 2023). These practices not only promote employee engagement, but they also support the overall sustainability goals of the organizations involved by aiding in the development of environmental and socially responsible organizations.

On the other hand, in some developing countries, the concept of HR sustainability is at an initial stage of development. Despite the fact that companies are increasingly recognizing the necessity of sustainability, organizations also tend to experience limitations in carrying out comprehensive sustainability programs.

Changing socio-economic factors are driving the changeover to a sustainable direction for countries in the likes of South Asia and sub-Saharan Africa, as they are globally. In such backgrounds, the organisations are usually more concerned about rudimentary conformity with environmental regulations on which their attention is usually influenced by the external demands of global market and stakeholder (Ahmed & Rahman, 2023).

But the possible applications of data-driven approaches in HR are great. Employment and HR practices in emerging economies have clear benefits, as their adoption in developing countries have been identified to increase staff morality, retention, which ultimately lead to higher productivity and performance (Khan & Ali, 2022).

“For example businesses in India are starting to implement data analytics to measure levels of employee engagement and effectiveness in their sustainability training programs. These efforts not only improve the company's sustainability picture, but engage a workforce that understands its societal and environmental footprint.

The introduction of sustainability in HR practices, in comparison to developed nations, is still in its early stages in Pakistan. But there is a sense of realization among Pakistani organizations regarding the need to synchronize HR strategies with sustainability target. Several reasons contribute to this recognition, including greater regulatory pressure, a corporate reputation more and more critical, and the desire to have a positive impact on some of today's societal challenges, such as climate change and social inequality.

Pakistan Business Council Pakistan Business council has brought to front sustainability as one of the strategies or key strategies that firms need in order (PBcSOI, 2023).

Recent efforts by multiple organizations in Pakistan confirm this trend. For instance, organizations such as Engro Corporation and Habib Bank Limited are taking steps towards incorporating sustainability in HR initiatives, such as training the employees on green environmental and corporate social responsibility. These programs are intended (by the company) to help employees think about how they might save Mama Earth. Further, data analytics is increasingly being used for tracking employee engagement in these programs as a means to accurately measure how effective their sustainability efforts are (Shahid et al., 2023).

Moreover if we observe in Pakistan, the concept like corporate social responsibility (CSR) become very common in the environment, which forced organizations to think in respect of human resources management strategies. A growing number of companies are actually embracing sustainability metrics as part of their performance appraisals, tying employee performance to their impact on sustainability goals. Such transition not only helps in cultivation of a sustainable organizational culture but also intensifies the utility of HR practices (Raza & Iqbal, 2022). If employees' personal goals are united with sustainability goals, they will work in an organization that is not only more involved, but one that looks to the long-term success of the organization.

Pakistan's education sector has also started witnessing this increased focus on sustainability. Schools and schools of business around the globe are integrating these kinds of topics into their academic offerings, producing a new crop of HR professionals ready to tackle these issues. Sustainable business practices are becoming a key area of programmatic growth, enriching the pool of knowledge set and capabilities required for the effective management of sustainability in organizations (Khan & Raza, 2023). As these educational programs take effect, they may drive the adoption of sustainability in HR practices in a variety of sectors.

The government of Pakistan also acknowledges the role of development in sustainability. Measures to encourage sustainable business practices are being implemented and may have a considerable impact on HR strategies within the private sector. For instance, the Pakistan Environmental Protection Agency initiated programs to promote environmentally friendly business operations, highlighting workforce participation in sustainability efforts (Government of Pakistan, 2023).

As Pakistani businesses progressively develop their HR initiative toward sustainability, data analytics is bound to gain greater prominence. The opportunity to gather and understand data on employee engagement in sustainability initiatives is useful information for companies seeking to raise their level of sustainability performance. Through data, associations can track trends, assess the success of their efforts, and make data-driven decisions that lead to better sustainability results.

Problem Statement

In the world over, the challenge remains for organizations to mainstream sustainability in their operations, including human resource (HR) management. Environment and social issues and economic sustainability are increasingly felt, and businesses, as a result, have an importance role in practicing sustainable management, to mitigate its negative effect and to achieve CSR. The United Nations Sustainable Development Goals (SDGs) have emphasized the need for organizations to make a positive contribution to global challenges such as climate change,

depletion of resources, and social injustice (United Nations, 2023). To address this, a number of the developed world's businesses are executing holistic, all-encompassing sustainability strategies and employing data analytic tools to inform HR strategies that can help lift both business and employee performance.

To meet these challenges, organizations worldwide have implemented a variety of approaches. A large number of these have adopted corporate social responsibility frameworks that connect business agendas with responsible practices.

One example is firms in the European Union that have embedded sustainability in business strategies and employee participation in sustainability activities and have a culture of accountability (Eccles et al., 2022). In addition, companies use data analytics to track their progress and evaluate the impact of their sustainability programs, providing them insight to make more sustainable choices and improve upon their operations (Smith & Johnson, 2023). These approaches provide a reference point to all companies around the world, in terms of the potential advantages of embedding sustainability into HR management.

As a case of Pakistan, sustainability in HR practices is in its embryonic stage. Challenges The country faces its own unique set of challenges, from measly requirements to poverty, poor infrastructure and environmental destruction. Pakistan is among the most climate vulnerable countries in the world, burdened by significant impacts on agriculture, water, and wellbeing, as assessed in the Pakistan Economic Survey (2022). Such challenges highlight the need for organizational adoption of sustainable practices aimed at reducing risks and building resilience.

At present, most of the Pakistani firms encounter problems because of lack of knowledge or because of limited availability of resources for the implementation of best sustainable policies. "While there is a growing awareness of the importance of sustainability, few companies have fully aligned HR practices to this new reality, with companies still heavily dependent on traditional HR management practices that frequently downplay the environmental and social dimensions of performance management." (Khan and Ali 2022) On top of this, without regulation to implement sustainable practices, this only confuses matters. The Pakistan Business Council 2023) has underlined that in order gain competitive edge and to support in the attainment of national development targets, companies must integrate sustainability in their business practices.

The Pakistani context is also rooted in cultural limitations. Conventionally, business practices often favor short-term financials returns, undermining long-term sustainability targets. This attitude discourages the use of sustainable HR and reduces the involvement of employees in sustainability (Shahid et al., 2023). Consequently society may lose out on possibilities to develop radical and innovative practices, improve corporate reputation, enhance employee morale, or generate more sustainable outputs.

If that wasn't bad enough, HR performance management is highly lacking in data-driven methodologies. In Pakistan, most of the firms does not put too much emphasis on monitoring employee engagement through data analysis regarding sustainability. Hence, they are unable to quantify the efficacy of their programs, or determine where they can improve. Raza and Iqbal (2022) note that lack of credible data collection techniques compels the organizations to make uninformed decisions related to their sustainability efforts.

In this context, it is in fact heartening to note that a few organizations in Pakistan are moving towards establishing sustainable HR. Briarock Foundation is providing CSR strategy workshops

for enhancing professional capacity on sustainability and corporate social responsibility to staffers of Engro Corp and Habib Bank Ltd. These efforts are designed to help create a culture of sustainability and engage more staff in sustainability work. But the number of these efforts is still small and other companies need to follow suit to have a more significant impact.

Research Gap

Research gap on sustainability integration in human resource practices in Pakistan The research gap of the integration of sustainability in human resource related practices in Pakistan can be divided into the following three categories; 1.2.1.

Literature Gap

Although literature is developing on sustainability in human resource management much of it is concentrated on developed countries; there is still a wide gap to understand the specific challenges and opportunities of sustainability facing organizations in developing countries, particularly Pakistan (Khan & Ali, 2023). In particular, the literature at large has a tendency to ignore the contribution of employee engagement and knowledge in predicting sustainability performance within the Pakistan industry. The absence of local investigations hampers the generalizations of findings to Pakistani environment, thus it is essential to extend research to investigate how cultural, economic, and regulatory environments affect sustainability practices in HR (Ahmed & Rahman, 2023).

Theoretical Gap

Theoretical frameworks in explaining how to embed sustainability in HR practices are usually based on Western contexts and do not capture the nuances of sustainability in the developing countries (Raza & Iqbal, 2023). Contemporary theories often focus on CS and do not adequately consider mediating agents such as organizational culture and training to be more relevant to the Pakistani scenario. This theoretical void suggests a need for better appreciation of how these mediating variables intertwine with independent ones such as employee engagement and awareness to shape sustainability performance.

Methodological Gap

From a methodological perspective also, the majority of the extant literature utilizes quantitative methods and the qualitative address is considerably scant, playing only a minor role as a pendent of the quantitative works when it comes to unpacking the lived experiences and perceptions of the phenomena pertaining to sustainability practices (Shahid et al., 2023). Moreover, samples in research work at Pakistan were usually small or specific to an industry and the findings are not generalizable to other industries. The need of the hour is for a thorough mixed methods approach to understand the complex interplay of factors that contribute to sustainability in HR practices and this requires the voices of qualitative along with the numbers of quantitative data to tape the problem (Khan & Raza, 2023).

Conceptual Model

Explanation of Relationships

Employee Commitment to Sustainability Programms → Organizational Culture:

A greater number of employees engaged in sustainability activities creates a supportive environment for sustainability.

Organizational Culture → Performance of the Organization for Organization's Sustainability:

Organizational culture strengthening increases the general level of sustainability performance by involving employees in sustainable activity.

Sustainability Practices Awareness → Data-Driven Decision-Making:

Heightened visibility of sustainability challenges empowers business leaders to leverage data as they make decisions.

Disruption → Organizational long-termism performance: phase 1: From Data-Driven Decision-Making to Practical Actions for Organizational Sustainability:

Sustainable decision-making an organization's capability to reach its sustainability goals is enhanced by informed data-driven decisions.

Training and Development Programs → Organizational Sustainability Performance:

Good training improves employees' abilities and understanding, and subsequently their involvement and sustainability impacts.

Summary of Variables

Independent Variables (IVs)

Employee Involvement in Sustainability Activities

Knowledge of Sustainable Practices

Data-Driven Decision-Making

Mediating Variables (MVs)

Organizational Culture

Training and Development Programme

Dependent Variable (DV)

Organizational Sustainability performance

Research Objectives

1. To evaluate the influence of employee participation in sustainability initiatives on corporate culture and ultimate sustainability performance.

2. To assess levels of sustainability awareness amongst staff and management, and the impact on data-based business decisions.
3. To understand how data analytics utilization in making decisions enhances the degree of organizations' sustainability performance.
4. To investigate the influence of organizational culture in the relationship between employee engagement and sustainability performance.
5. To explore the effects of training and development focused on sustainability to employee engagement and consciousness, which will influence sustainability outcomes.
6. To offer meaningful suggestions to Pakistani organizations to improve sustainability through HRM.

Literature Review

HR practices are now identified as an essential element contributing to organizational sustainability performance by incorporating sustainability into HR practices. This is a literature review on the associations between employee engagement in sustainability initiatives, organizational culture, and sustainability consciousness with regard to detecting sustainability practices, data-driven decision making, and training and development programs, alongside organizational sustainability performance. Every link is based on recent empirical findings; determine hypotheses from the literature.

Employees' involvement in activities → Organizational Culture

Employee participation in sustainability efforts is an important aspect of organizational culture. Research by Lee et al. (2023), "when employees participate in sustainability-related programs they create a culture that values environmental and social responsibility." Sustainable practices become a topic which engaged staffs would be more likely to champion, and in turn helps to strengthen a sustainability culture within the organization. This is also evidenced in a study by Bansal and DesJardine (2022) where a firm that is more actively engaging employees in its sustainability programs will likely develop norms and values in support of this behavior.

Evidence demonstrates that a strong culture of sustainability can positively impact organizational commitment and employee morale, highlighting the significance of this relationship. For example, an examination of Korean firms by Kim and Park (2023) suggests that firms with a culture that promotes employee involvement in sustainability are likely associated with increased in job satisfaction and reduced turnover. This question leads us to the following conjecture.

The first hypothesis is:

H1: When employees engage in the practice ESM/sustainability, the organizational culture is affected positively.

Organizational Culture → Organizational Sustainability Performance

Institutionalizing organizational culture that affects sustainability performance has been well recorded. Stronger corporate culture assist in the achievement of sustainability performance. Wright et al. (2022) concluded that companies with a strong sustainability culture tend to embrace, and are therefore more likely to continue with, sustainable innovations. These companies are often far more innovative and nimble which is vital not only for the status quo, but for longevity.

Furthermore, Zhang et al. (2023) emphasize that the culture of sustainability mitigates the differences between employee sustainability behavior and the goals of sustainability programs. This involves more engagement in sustainability programs and a larger appetite for implementing sustainability actions in day-to-day operations. The relationship between culture and performance is essential; those organizations with a culture of sustainability are likely to be more successful in its sustainability goals. Thus, we propose:

H2: There is a Positive Impact of Organizational Culture on Organizational Sustainability Performance

Cognizance of Sustainable Operations → Analytics-Based Decision Making

It is important to have knowledge of sustainability as best practices for data driven decisions. Gupta and Kumar (2023) stress that firms that are more cognizant about the significance of sustainability are likely to be in a better place in order to use data analytics in their decision making. This awareness is an understanding of trends in sustainability, regulatory trends and the sustainability implications of the organization's practices on the environment and society.

Chen and Zhang (2023) also found that a company's data-driven sustainability strategy is significantly more effective when awareness is raised within an organization's employees and management. This partnership emphasizes the need to develop a knowledgeable workforce which is skilled in collaborating with data analytics. Accordingly, we propose:

H3: Sustainability practice is positively associated with data driven decision making.

Data-Driven Decision-Making → Organizational Sustainability Performance

Data-driven decision-making data-driven decision-making, for sustainability performance improvement is becoming more and more important. More data-savvy companies are more likely to make substantial progress on their sustainability path. This is further supported by work of Johnson and Lee (2022) who found that data-driven decision-making helps an organisation know what to improve and when and how they are progressing towards the sustainability ambition.

Additionally, Chen et al. (2023) concluded that firms that use data analysis more efficiently are more effective in implementing their sustainability efforts. This highlights how data plays a key role in making decisions, allowing organizations to make decisions that are conducive to their sustainability targets. Thus, we hypothesize:

H4: Organizational culture has a positive mediating effect in between data driven decision making and organizational sustainability performance.

Education and training → Organizational sustainability performance

Training and development programs are essential for improving the performance of an organization in terms of sustainability. Studies suggest that successful training provides employees with the competencies and the knowledge required to incorporate more sustainable behavior. Thompson et al. (2023) suggested that when companies invest in sustainability courses, their employees are more likely to be involved and work better on these initiative/engagement.

Further, Smith & Brown (2022) note that ongoing training encourages that employees become more sustainability conscious while increasing commitment towards sustainability objectives. Training and education initiatives expand capabilities at both the individual level and the organization level. This relationship implies that appropriately designed training program can have major implications for organizational sustainability results. Therefore, we propose:

H5: Training and development programs influence organizational sustainability performance positively.

Intermediary Role of Organizational Culture

Organizational culture plays an important role as a mediating variable between employee engagement on sustainability and organizational sustainability performance. An enabling culture increases the effectiveness of employee engagement initiatives, which would accelerate the acceptance of responsible practices. Research by Wright et al. (2022) show that the degree of an organization's sustainability culture has a significant positive influence on the success of its sustainability goals.

Moreover, Bansal and DesJardine (2022) showed that a positive organizational culture can reinforce engagement initiatives of employees. This indicates that the development of a sustainability-aware culture is fundamental to fully realize the potential of voluntary labor and organizational sustainability initiatives. So we can speculate:

H6: Organizational culture mediates the relationship between employee involvement in sustainability initiatives and Organizational sustainability performance.

Mediating Role of Training and Development Initiatives

Among other AERA, training and development initiatives act as a mediator between sustainability awareness and organizational sustainability performance as well. Companies that focus on training are better positioned to increase employee knowledge of and participation in sustainability efforts. Research by Shahid et al. (2023) states that active educational program result in higher degrees of employees' knowledge, and this leads to positive effects on pollution prevention, though.

Furthermore, Thompson et al. (2023): Institutions that have strong training programs are more effective at ensuring employees effectively perform their sustainability related tasks. This suggests that trainings are needed to connect awareness with actual sustainability-oriented behaviors. Thus, we propose:

H7: Training and development efforts mediate the relationship between awareness of sustainability practices and the sustainability performance of the organization.

Underpinning Theory

The Social Exchange Theory (SET) is a solid foundational theory that is congruent with the theoretical model for integrating sustainability into human resource practices. SET proposes that social behavior is an exchange relationship, where people try to maximize the rewards they receive and minimize the costs they incur in their interactions (Blau, 1964).

Application of the Social Exchange Theory

Employees as Agents of Change

Enabling employees to go green with their organizations Enabling employee and organization learning Through SET's initiatives with organizations, a mutual exchange relationship is created which employees feel valued and appreciated. This may increase their commitment and motivation to engage in sustainability initiatives (Cropanzano; Mitchell, 2005).

Organizational Culture

A pro-sustainability organizational culture can be viewed as a type of social capital. When employees feel they are valued and rewarded for their sustainability contributions, it creates a culture of continued participation in sustainability (Wright et al., 2022).

Consciousness and Data-Based Decision Making

The awareness of sustainability practices is likely to result in informed decisions, as employees are able to exchange knowledge with one another, which can further facilitate the decision-making process (Gupta & Kumar, 2023).

Training and Development

Employee skill development through training has been considered as one of the investments by the firm, and is expected to increase employees' loyalty and reciprocation in the form of increased performance and job involvement (Thompson et al., 2023).

Organizational Performance: Flexibility:_orientations and postures): Sustainable Competitive Advantage:

In the end, relationships developed through SET have the potential to enhance an organizations sustainability performance because a spirit of give and take can motivate organizations to work together toward shared sustainability goals (Bansal & DesJardine, 2022).

Proposed Research Methodology

The Saunders Onion Model will serve as the study's framework to 1) present the research methodology to determine the link between employee engagement in sustainability practices, organizational culture, perception of knowledge of sustainability practices, data driven decision making, and training and development to that of sustainability performance of organizations in Pakistan. Saunders Onion Model represents an orderly concept of research design, which involves layers of philosophy, approach, strategy, choices, time horizon, and technique (Saunders et al., 2019).

Research Philosophy

A positivist philosophy that is generally used in quantitative studies will guide the study. Positivism focuses on the application of objective measures and statistical analyses to comprehend social issues (Bryman, 2016). This design is in accordance with the study aim to reveal data-driven linkages between variables that are generalizable. In following a positivist approach, the study will be guided by the statistical validation of relationships and hypotheses formed from the literature.

Research Approach

A deductive method will be used, which will begin with the available theories as SET as the research framework and hypotheses about the variables investigated. This process involves the development of specific hypotheses from literature, from theory-based thinking (SET) and then testing these hypotheses through quantitative data analysis (Creswell, 2017). The healthier the culture of the organization, the higher level of employee engagement the employee training programs will be and the more awareness of and the more data-driven decision making are involved in making sure that the sustainability performance stays favorable.

Research Strategy

The study will use a survey design that is appropriate for obtaining quantitative data from a large sample. Surveys are useful for the collection of standardized data which can be analyzed for relationships between variables (Fowler, 2014). A structured questionnaire would be designed to measure the independent, mediating and dependent variables to ensure that the data obtained would be reliable and valid.

Target, Sampling and Source Population

This study will target the manufacturing and service organizations located in urban regions of Pakistan and in different cities including Karachi, Lahore and Islamabad. These are commercial cities where different industries are now realizing and adopting sustainability concerns (Khan & Ali, 2023). A stratified random sampling method will be used so that various strata of population are included which makes the results more generalize-able (Etikan et al., 2016).

Data Collection Techniques

Information will be collected using self-administered questionnaires from employees and management within the organizations. The survey will capture Likert-scale responses related to perception of employee engagement, knowledge of company sustainability initiatives, corporate culture, fact-based decision-making, training and development, and proof of sustainability. This technique is useful in collecting quantitative data that can be easily analyzed statistically (Dillman et al., 2014).

Data Analysis

Data analysis will use SPSS and AMOS to test the hypotheses. Descriptive statistics will present the data, while inferential statistics (linear regression, and structural equation modeling, SEM) will be used to test the associations between the factors (Hair et al., 2019). This examination will enable stronger and more generalizable conclusions about the strength and importance of the relationships and will help to illustrate the mechanisms through which HR practices may foster sustainability in organizations.

Ethical Considerations

Ethical implications will be critical in this study. All participants will be asked to give their informed consent and be informed about the research aims and their right to confidentiality and

anonymity of the session. This study will follow ethical guidelines established by relevant institutional review boards, and participation will be voluntary (Creswell, 2022).

Conclusion of the study

The present research attempts to investigate sustainability integration in HR practice in Pakistan with the help of the association of the employees' engagement with firm-level sustainability initiatives, organizational culture, mindfulness, data-driven decision, training & development, and organizational performance of sustainability. Basing the research approach on the Saunders Onion Model, the methodology section is designed to provide an integrated understanding of these factors from a quantitative perspective. The literature review specifically identifies a supportive organizational culture, one that encourages the pursuit of sustainability through employee involvement, as a key element. Supposedly, committed employees should become advocates for doing what is right; thus promoting sustainable business practices and consequently increased sustainable performance overall. This study is within the organizations in urban areas, e.g., Karachi, Lahore, Islamabad etc., that the study will be conducted by using stratified random sampling in this study for representation. Data can be obtained using a self-administered questionnaire and analyze the relationship between these variables using statistical techniques, including regression and structural equation analysis.

Through exploring these relationships through a robust methodology, the current research seeks to fill an important gap in the literature, and addresses the reality of these relationships within the context of Pakistan. The results will make a significant contribution to the literature and offer practical implications for organizations interested in improving their sustainability practices with effective HR policies.

Overall, this study's aim of developing a model that it is imperative for HR to bring sustainability into their practices; indeed, focusing on efforts on building employee engagement and knowledge, along with quality training, is essential to achieving the organization's sustainability aspirations. The findings obtained from this study will be useful for the future studies and the field application to the development of sustainable business environment in Pakistan.

Implications of the Study

Specifically, this research will contribute to a coherent framework to incorporate sustainability aspects into HR system, having important implications for both theory and practice. Through examining the interconnection between employee engagement, organizational culture, awareness of sustainability practices, data driven culture, training and development programs (T&D) and organizational sustainability performance, this study offers the detailed framework for organizations, to expand on their pursuit toward sustainability issues.

Theoretical Implications

The draft model is a significant addition to the sustainability literature, providing to the literature of sustainability of HR management, variables in order to understand the performances of sustainability in organization. Using the Social Exchange Theory, the study highlights the notion of Mutuality – between employee engagement and organization culture and seeks to further our knowledge of how social activities within organizations influence sustainability practices (Blau, 1964; Cropanzano and Mitchell, 2005). This rationale invites future scholars to investigate other

variables and settings to contribute to the further discussion on the role of HR practices in sustainability (Wright et al., 2022).

Practical Implications

One practical implication of the study is that this research provides actionable information for firms seeking to enhance their sustainability performance. Through showing employees the value of engagement in sustainability activities, companies can develop policies that encourage a culture of sustainability, encouraging employees to become more involved in sustainability programs (Bansal & DesJardine, 2022). Moreover, the research underscores the importance of promoting the adoption of sustainable practices which could facilitate the data-driven decision making (Gupta & Kumar, 2023).

Training and learning activities for the employees appear as material antecedents in the model, which implies that organizations should focus their resources towards trainings in order to provide staff with knowledge and competencies to engage into sustainability practices. This is coincident with the results of Thompson et al. (2023), who claim that on-going training leads to greater employee commitment and performance in corporate sustainability. By paying attention to these dimensions, organizations can establish a more well-informed and committed workforce and thus achieve better sustainability results.

Policy Implications

The implications of the study have a bearing on policy makers also. Policymakers can introduce frameworks to promote the adoption of sustainable HRM practices by organizations by acknowledging the importance of sustainability in HRM practices. This could involve corporate rewards for higher sustainability performance or guidelines to encourage employee involvement in those sustainability initiatives. Anyway, these are the type of things that will encourage the right atmosphere for the businesses to be more sustainable.

Future Directions

The study provides a springboard for further examination of sustainability embedded into HR practices and suggests several future research opportunities too. These instructions are intended to help clarify the model's aspects and expand its use.

Expanded Contextual Research

Future research could investigate whether the proposed model really works well in various industries and other types of organizations except for manufacturing and service sectors. An examination of a variety of sectors including, agriculture, technology and healthcare, may offer insight on how different organizational cultures and employee demographics impact the adoption of sustainable practices. This would make the results more generalizable and would allow comparisons between different settings (Khan & Ali, 2023).

Longitudinal Studies

Longitudinal studies are needed to test whether the effects of employee engagement and training programs on DP performance can be sustained in the long term. Such research would be able to follow changes over time and thereby be better able to elucidate the extent to which sustained

employee engagement and ongoing education influences organizational culture and sustainability performance. Such an approach would serve to illuminate which effects were causal and which were lasting consequences of interventions (Thompson et al., 2023).

Qualitative Insights

Qualitative methods (interviews, focus groups) would enhance understanding of how employees perceive and experience sustainability initiatives. As one qualitative method, QSR provides depth information on specific issues that may otherwise be lost in quantitative data provides a more complete understanding of interactions between organizational culture and employee engagement to lead to sustainability (Creswell, 2022).

Exploring External Influences Open-ended responses for potential outside factors are summarized here.

In addition, research may further investigate how external forces, including regulation, market forces, and community expectations, impact the relationships that emerge from the model. Insight into the influence of these external drivers can assist in organizing and managing the implementation of sustainability initiatives and in increasing its effectiveness (Wright et al.

Integration of Technology

Future research should investigate how digital tools and platforms affect data-driven decision-making and sustainability practices, as technology advances. Examining how firms use technology to improve employee engagement and sustainability outcomes may be useful for unlocking best practices in contemporary HR management (Gupta & Kumar 2023).

Cross-Cultural Comparisons

Comparative research can shed some light on how cultural differences shape the efficacy of sustainability and HR practices. Benchmarking organizations in different countries can discern best practices and identify cultural influences, for better or worse, on sustainability. This study might foster a worldwide understanding of HRM sustainability by sharing ideas and strategies across cultures.

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