
Training Employees in Sustainability and Assessing their Ability to Implement Bottom-up Changes in Companies for the Green Revolution – A Comparative Analysis in Poland and India

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Abstract:

Purpose: The purpose of the study was to identify and analyze the opinions of employees from Poland and India on the sustainability training they have received.

Design/Methodology/Approach: The study was conducted based on a survey questionnaire, the preparation of which was preceded by preliminary research. The study involved 497 employees of companies from Poland and India. The results of the study were analyzed using Kruskal-Wallis ANOVA and Mann-Whitney U test. Associations between variables were analyzed using the chi² test, as well as estimating Spearman's and Kendall's rank correlation coefficients.

Findings: The opinions of employees regarding participation in training courses on sustainability and the possibility of grassroots implementation of changes for the green revolution were determined using the example of companies from Poland and India. According to their opinions, there is not enough of these trainings and they have negligible opportunities to implement changes from below. A significant relationship was identified between the number of trainings received by employees on sustainability and their assessment of the sustainability of their company's operations.

Practical implication: The results of the study can support managers responsible for sustainability in companies. This is because they will allow them to better recognize how employees evaluate the sustainability training offered to them and their ability to implement changes in their companies from the bottom up for the green revolution.

Originality/value: It was found that in India, employees participate in significantly more training than in Poland on sustainability and have more opportunities to implement changes.

Keywords: Training, sustainability, grassroots employee initiatives, green revolution.

JEL classification: M14, M12, J24.

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1. Introduction

Employees play a key role in corporate sustainability initiatives, but their sustained engagement in the process remains an ongoing challenge. As research confirms, only 22% of employees are involved in corporate sustainability initiatives (NEEF, 2018; Ceres, 2018). Scholars indicate that training is the most important tool to stimulate employees to adopt more environmental initiatives (Jabbour, 2015; Pinzone *et al.*, 2019; Teixeira *et al.*, 2016; Yu *et al.*, 2020).

In addition, employee sustainability training is also able to enhance employees' motivation, commitment and ability to contribute more to sustainability (Yong *et al.*, 2019a). Moreover, well-designed "green training," can increase innovation and value creation, thereby enabling individuals to do their jobs in a way that is able to reduce any negative impact on the environment (Siyambalapitiya *et al.*, 2018).

Green HRM practices have been shown to be essential in helping organizations move toward sustainability (Jabbour and Renwick, 2020; Raut *et al.*, 2020; Gross-Golacka *et al.*, 2022). It is important to note that companies are currently under intense pressure to make their operations environmentally sustainable. This is due to an insufficient supply of natural resources, expectations from various stakeholder groups, increasing regulations requiring public disclosure of environmental performance, and adopted strategic plans, such as the Agenda for Sustainable Development adopted in 2015 outlining the achievement of 17 Sustainable Development Goals by 2030 (United Nations, 2015).

Organizations are also being subjected to increased sustainability expectations by their employees (NEEF, 2018; Robertson and Carleton, 2018; Kubicka and Kupczyk, 2018; Kubicka, 2017; GlobeScan Radar, 2016; Edelman, 2018).

The pressure on companies is mounting, as it appears they are still not sufficiently implementing sustainability strategies (Revell and Blackburn, 2005; Drake *et al.*, 2004; United Nations, 2022; Bringing Data to Life, 2022). They continue to often use criteria other than environmental and social issues when making key decisions (Bonn and Fisher, 2011; Gibson 2006; Ehrenfeld, 2000; Nilsson and Persson 2012; Rob ert *et al.*, 2013; Baldock and Charveriat, 2018; Kupczyk *et al.*, 2021).

Today, companies are expected to be socially responsible at a much higher level, where revenue growth and profit generation are considered to be as important as taking care of their environment and stakeholders. A review of the literature indicates that there is a significant knowledge gap in the issue of employee training in sustainability and their ability to implement changes in companies from the bottom up for a green revolution.

This has inspired research, particularly in Poland and India. These countries are characterized by high environmental pollution, Poland compared to Europe and

India compared to the world. The global SDG 2022 index, which indicates the status of implementation of the 17 goals of Agenda 2030 for sustainable development, for Poland in 2022 was 80.54, (100 means implementation of plans), and for India 60.32 (Cambridge University Press, 2022).

One of the indicators of Goal 8 of Agenda 2030, i.e., "Fundamental labor rights are effectively guaranteed," was only 0.7 for Poland in 2022 (worst 0-1 best), and 0.5 for India (Cambridge University Press, 2022). Also in the area of gender equality, which is the fifth goal of the 2030 Agenda for Sustainable Development, there is much work to be done in both countries. Poland is ranked 77th on the basis of The Global Gender Gap Index 2022 of 0.709 (1 - stands for gender equality), and India is in 135th place with an index of 0.629 (World Economic Forum, 2022).

The above data entitles us to conclude that Polish and Indian companies should implement broader sustainability measures and involve their employees in this as well. Therefore, the training of employees in sustainability and their ability to implement changes in companies in this regard from the bottom up has become an object of greater interest and inspired the study. Their purpose was to identify and analyze the opinions of employees from Poland and India on the sustainability training they received and their ability to implement changes in companies from the bottom up for the green revolution. The research conducted was aimed at finding answers to the research problems posed, which took the form of the following questions:

Q1. In what number of sustainability trainings did the employees of enterprises participate?

Q2. Do employees in enterprises have the opportunity to implement changes in enterprises for the green revolution from the bottom up?

Q3. Are there any significant differences in opinions on this topic from the point of view of the criterion of nationality, gender, age, education, place of residence, the size of the enterprise and how long it has been operating in the market?

Q4. Are there significant correlations between the number of trainings received by employees on sustainability and the possibility of bottom-up implementation of changes in enterprises for the green revolution and the sustainability status of the enterprise's operations?

2. Literature Review and Hypothesis

Findings from the literature indicate that the presence of effective environmental education and awareness training for employees is critical to developing a new business culture that leads to sustainability and allows employees to adopt new green attitudes, ideas and skills (Ahmad *et al.*, 2012; Beard, 1996a; Madsen and Ulhøi, 2001; Perron *et al.*, 2006;). This brings tangible benefits. Employees who find purpose in their work and create a connection to a larger cause (such as environmental protection) unlock the highest levels of motivation and better

performance (Pink, 2011).

In addition, sustainability can facilitate talent acquisition. The Deloitte Millennial Survey over the past decade has consistently indicated that this incoming population of young workers is committed to positive social and environmental change and is willing to reject employment opportunities that run counter to these values (Stephen, 2021). By encouraging employees to engage in sustainability activities, organizations have improved outcomes such as efficient use of resources, reduction of waste, and reduction of pollution and emissions (Renwick *et al.*, 2013).

Such activities are capable of creating a sustainable competitive advantage for organizations (Sarvaiya *et al.*, 2018; Yong *et al.*, 2019). However, it turns out that the main driver of employee commitment to sustainability is the training that an employee can incorporate into their duties. This is supported by the training psychology literature, which postulates that an individual's intention or motivation to utilize training increases if the training is considered credible, practical and needed in relation to their specific job responsibilities (Yelon *et al.*, 2004).

Therefore, it is not surprising that traditional employee engagement opportunities, such as recycling challenges, clean-up events, donation collections, etc., which are not directly related to job duties, do not engage employees (NEEF, 2018; Robertson and Carleton, 2018; Ceres, 2018; Yelon *et al.*, 2004).

As it turns out, the success of sustainability initiatives often depends on employees' voluntary pro-environmental behavior (Unsworth *et al.*, 2013). When HR managers provide their employees with opportunities and authority to express their views and ideas in solving environmental problems, it results in better achievement of sustainability goals (Gupta, 2018). That is why employee sustainability engagement practices have evolved from ad hoc events to strategic programs aimed at providing advanced sustainability education, using sustainability as a foundation for innovation and a way to build a competitive advantage, and attracting an incoming workforce (NEEF, 2018).

Given this incoming population of values-based employees, traditional measures of employee engagement such as "job satisfaction" and "advocacy" need to evolve to integrate social and environmental metrics from sustainability departments such as time and money spent engaging in specific activities focused on positive change (NEEF, 2018).

Accordingly, many researchers believe that organizations need to redefine organizational culture variables such as mission, vision and values to instill in employees the beliefs, attitudes, behaviors and decision-making to focus on environmental sustainability through green human resource management (Masri and Jaaron, 2017; Zaid *et al.*, 2018). Therefore, according to the above research, in order to improve employees' commitment to sustainability and strengthen pro-

environmental behavior in the workplace, there is a need for credible and practical professional development training that is intrinsically motivating for employees and that enables them to reconnect with the natural world in a way that is directly related to their professional work. In light of the above, the following theses are formulated:

Thesis 1: Employees of companies in Poland and India participate in too little training regarding sustainable development.

Thesis 2: Employees of enterprises have very little opportunity for bottom-up implementation of changes in enterprises for the green revolution.

Thesis 3: There are significant correlations between the number of sustainability trainings received by employees, as well as the ability of employees to implement changes in enterprises from below for a green revolution, and their assessment of the sustainability of enterprise operations.

3. Materials and Methods

3.1 Sample and Data Collection

A quantitative and qualitative study was undertaken among employees of companies located in Poland and India. Employees' opinions were used, which, although subjective, nevertheless present the situation from their, individual, point of view. This approach seems appropriate, as only internally convinced employees will take bottom-up initiatives for environmental protection and sustainable development of their organizations.

Purposive sampling was used, which made it possible to highlight and better identify the phenomena under study. 497 people participated in the study, including 180 from India and 317 from Poland. 265 people were respondents with higher education, 232 with lower education (secondary and basic). The study included 194 women (Poland: 126, India: 68) and 303 men (Poland: 191, India: 112).

The respondents were primarily young people under 35 years of age (N=405, 81%). Those aged 35-50 accounted for 13% (N=67), and 5% (N=25) were over the age of 50. 43% of the respondents are employed in large enterprises, 35% in medium-sized enterprises, 17% in small and 5% in micro enterprises.

The surveyed companies have different lengths of time on the market. 27% of these companies have been in the market for 7-15 years, 20% of them have been in the market for 16 to 25 years, 19% are companies with more than 25 years in the market, 18% were companies with 3-6 years of seniority, and 15% are young companies with up to 2 years of operation. 54% of these companies were service companies and 47% were manufacturing companies. 60% of those surveyed were non-management employees, 25% were executives.

3.2 Variables Definitions and Data Analysis

The number of sustainability trainings held was measured on a scale of 1 - no such trainings at all, 2 - only a few were held, 3 - don't know if there were such trainings, 4 - a few trainings were held, 5 - enough such trainings were held. Respondents were also asked if they would like there to be more such trainings. The ability to initiate and implement changes in the enterprise from the bottom up on their own was measured on a five-point Likert scale, where 1 - there is no such possibility, 2- there is a very limited possibility, 3 - I don't know if there is such a possibility, 4 - I have a medium possibility of initiating changes, 5 - I have a full possibility of initiating changes.

In the research conducted, the following terminological findings were made. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission on Environment and Development, 1987).

From a business perspective, sustainability was defined as a “business approach that seeks to create long-term value for stakeholders by embracing the opportunities and managing risks associated with economic, environmental, and social developments” (Galbreath, 2009). It was assumed that business sustainability relates to “integrating the economic, environmental, and social dimensions of organizational performance” (Harmon and Fairfield, 2014; Fagerlind, Stefanicki, Feldmann and Korhonen, 2019).

3.3 Data Analysis

The method of literature analysis and criticism, the diagnostic survey method and statistical methods were used to verify the hypotheses and answer the research questions. Research procedures were used, applied in a nomothetic approach. The research used an author's survey questionnaire, the preparation of which was preceded by preliminary research. The research was a quantitative and qualitative.

This allowed the use of statistical methods of inference about the properties of the objects studied. The results of the responses given on the rank scales were analyzed using the Mann-Whitney U test (for two groups, e.g., taking into account gender or country of origin) and Kruskal-Wallis (for more than two groups, e.g., taking into account the age criterion).

Associations between variables were analyzed by estimating Kendall's rank correlation coefficient (Test of significance for Kendall's tau correlation coefficient) (Salkind, 2007). The results of the responses given on the qualitative scales depending on the grouping variables were analyzed using the χ^2 correlation test (e.g., differences between the opinions of Polish and Indian employees). It was assumed that significant test probability means level $p < 0.05$, and highly significant level $p < 0.01$. PQStat software version 1.6.4.122 was used for data analysis.

4. Results

40% of respondents indicate that they have not received any training on sustainability, and 23% that only a few have been held. 17% confirmed that they had received some such training, and only 6% that they had received enough training. The averages of the responses, taking into account the age of the respondents (Table 1) indicate that few such trainings were held.

Table 1. Average of responses regarding the number of sustainable development trainings received by surveyed employees, on a scale of 1 - no such trainings at all, 2 - only a few were held, 3 - don't know if there were such trainings, 4 - several were held, 5 - enough such trainings were held (N=497).

Age of respondents	Entire	India	Poland
Age under 35	2,25	2,87	1,88
Age 35-50	2,24	2,86	2,08
Age 50 +	2,24	2,69	1,75

Source: Own results.

It turned out that, according to the respondents, significantly more such training was conducted in India than in Poland ($p < 0.000001$) (Table 2).

Table 2. Statistically significant differences in employee participation in corporate sustainability training between Polish and Indian respondents based on Mann-Whitney U Test (N=497, significance level: $p = 0.05$).

Variables analyzed	Rate, the number of training sessions you have received on sustainable development
Name of the group	India
Group size	180
Group rank sum	55759
Group rank average	309,772222
Name of the group	Poland
Group size	317
Group rank sum	67994
Group rank average	214,492114
Statistics U	39469
The p-value	0,0001
Statistics Z	7,436846
value p	<0,000001

Source: Own results.

The survey revealed that people with higher education attended significantly more sustainability training than those with lower education (Table 3). This could mean that organizations focus mainly on the development of those with higher education

and do not take steps to train those with lower education in sustainability. As a result, only a portion of employees have been prepared for the sustainability activities of their organizations.

Table 3. Statistically significant differences in employee participation in corporate sustainability training between respondents with higher and lower education based on Mann-Whitney U Test ($N=497$, significance level: $p=0.05$).

Variables analyzed	Rate, the number of training sessions you have received on sustainable development
Name of the group	Education
Nazwa grupy	lower education
Group size	232
Group rank sum	51070
Group rank average	220,12931
Name of the group	higher education
Group size	265
Group rank sum	72683
Group rank average	274,275472
Statistics U	37438
The p-value	0,0001
Statystyka Z	4,386748
value p	0,000012

Source: Own results.

Importantly, respondents would like more training on sustainability. This is especially true for young people under the age of 35 (26% from India, 18% from Poland). Far fewer respondents between the ages of 35 and 50 have such expectations (2.4% from India, 3.7% from Poland), and those over 50 even fewer (2.2% from India, 0.8% from Poland). Differences on this issue between younger and older respondents from Poland were found to be statistically significant (Chi-square statistic=10.185732; $p=0.00614$, $p<0.05$). It seems legitimate to conclude, therefore, that older people in both Poland and India are far less interested in developing competencies in corporate sustainability training.

Men (13%) in Poland are to a greater extent interested in such training than women (9%), nevertheless these differences proved statistically insignificant ($p=0.089777$, $p>0.05$). The situation is different in India, where 19% of men and 12% of women would like such training to be provided. These differences were found to be statistically significant (Chi-square statistic= 8.807756; $p=0.003$, $p=0.003$, $p<0.05$). This may mean that women are less interested in increasing their sustainability competencies. No significant differences were identified by the criterion of the respondents' place of residence (rural, urban), the size of the company and the length of time it has been operating in the market.

Based on Spearman's r test, a significant monotonic relationship was found between the number of training courses received by employees on sustainability (degrees of freedom: 495, $p=0.0001$) and their assessment of the sustainability of the company's operations.

The research set out to find out whether employees have the ability to make changes in the company from the bottom up, on their own, for the green revolution. It turns out that these opportunities are very limited, especially among the most senior people, both among Polish and Indian employees (mean 2.47), although they are significantly higher in India (Table 4 and 5).

Table 4. Average of respondents' answers regarding the possibility of bottom-up, self-initiated changes in the company, on a scale of 1 - there is no such possibility, 2- there is a very limited possibility, 3 - I don't know if there is such a possibility, 4 - I have a medium possibility of initiating changes, 5 - I have a full possibility of initiating changes (N=497).

Age of respondents	Entire	India	Poland
Age under 35	2,51	2,64	2,38
Age 35-50	2,58	2,50	2,66
Age 50 +	2,32	2,38	2,25

Source: Own results.

According to 23.5% of the respondents, there is no such possibility at all, according to 37.5% there is a very limited possibility of making changes, 15.8% do not know if such a possibility exists, 12.8% have a medium possibility of making bottom-up changes, and only 10.2% have a full possibility of initiating them.

Table 5. Statistically significant differences in the ability to initiate bottom-up, self-initiated changes in companies for the green revolution between Polish and Indian respondents, based on the Mann-Whitney U Test (N=497, significance level: $p=0.05$).

Variables analyzed	Opportunity for bottom-up, self-initiated change in the enterprise for a green revolution
Name of the group	India
Group size	180
Group rank sum	46425,5
Group rank average	257,919444
Name of the group	Poland
Group size	318
Group rank sum	77825,5
Group rank average	244,734277
Statistics U	30135,5

The p-value	0,0001
Statistics Z	1,019968
value p	0,308049

Source: Own results.

In India, the highest possibility of grassroots, self-directed, making changes in an enterprise for a green revolution is held by people under 35, while the lowest possibility is held by the oldest people (50+) (Table 4). In Poland, the highest possibility of bottom-up, independent, making changes is held by middle-aged people (35-50), while the lowest possibility, as in India, is held by the oldest people. This may indicate that older people are treated unequally in this regard. Executives should therefore make it more possible for older people to make changes for the green revolution, on a par with younger people, so that proposals from this age group are taken into account as well.

No statistically significant differences were identified between the evaluation of the possibility of bottom-up, self-initiated change for the green revolution, from a gender perspective (Mann-Whitney U Test, p (asymptotic) = 0.052738). Women rated their ability to initiate bottom-up, self-initiated changes in the company for sustainable development lower than men, especially in India. However, these differences were not found to be statistically significant (asymptotic p = 0.307288). There were also no significant differences in the assessment of the ability to initiate change from the bottom up, independently, from the point of view of place of residence (urban, rural) (p (asymptotic) = 0.867325).

The study undertook to identify whether there are relationships between the possibility of bottom-up implementation of changes in enterprises for the green revolution and the assessment of the sustainability of enterprise operations. Spearman's r test was conducted, the results of which led to the conclusion that there is no such relationship (p (asymptotic) = 0.638083; $p > 0.05$). This may indicate that in companies employees are not included in the implementation of sustainability strategies.

5. Conclusions and Discussion

The research conducted entitles us to formulate the following conclusions:
 - Employees of companies in Poland and India participate in too little training on sustainable development. This confirms the thesis T1 posited. A large group of employees does not participate in such training at all, while the vast majority would like to participate in such training and expect more of it.

However, this applies mainly to those under the age of 35. Older people in both Poland and India are significantly less interested in developing their competencies in sustainability training. In India, employees participated in significantly more such

training than in Poland, across all age groups. Perhaps this is due to the fact that in India the environment is more polluted than in Poland, hence employees are more determined to get involved in the sustainability activities of their organizations.

It turned out that the factor significantly differentiating participation in sustainability-related training was the education of employees. Those with higher education participated in significantly more training than those with lower education. On the other hand, no significant differences in participation in such training were identified by the criterion of the respondents' place of residence (rural, urban), the size of the company and how long it has been operating in the market.

A significant relationship was found between the number of sustainability trainings received and the sustainability rating of the company's operations. It turned out that the greater the number of such trainings employees take part in, the higher they rate the sustainability level of their enterprises. Thus, the thesis T3 posited in part was confirmed.

Employees have very limited ability to make changes in their enterprises from the bottom up, on their own, for the green revolution, both those from Poland and India. This confirms the T2 thesis. In India, the highest possibility of bottom-up, independent, making changes is for those under 35, while the lowest possibility is for the oldest people.

In Poland, the highest possibility of bottom-up, independent, making changes is held by middle-aged people (35-50 years old), while the lowest possibility, as in India, is held by the oldest people (over 50 years old). This may indicate that companies still do not sufficiently implement sustainable development strategies and do not include their employees, especially older ones, in the process.

Thus, the results of the research conducted, in this regard, are in line with other studies (Kupczyk *et al.*, 2021) and also confirm the data revealed in international statistics (World Economic Forum, 2022; Cambridge University Press, 2022).

There are no correlations between the ability of employees to implement changes in enterprises from the bottom up for the green revolution and their assessment of the sustainability of enterprise operations. Thus, the T3 thesis has not been confirmed to some extent. At the same time, it should be emphasized that the presented research results have their limitations. They used the opinions and assessments of the surveyed employees derived from observations of the situation in their workplace.

They were therefore subjective methods. It would be valuable to continue the present research under the conditions of Industry 5.0, as well as in more culturally diverse work environments.

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